NEW YORK STATE | Office of General Services | Department of Environmental Conservation | NY Power Authority | NYSERDA

Greening New York State

EIGHTH PROGRESS REPORT ON STATE GREEN PROCUREMENT AND AGENCY SUSTAINABILITY

FISCAL YEAR 2018–19

Andrew M. Cuomo, Governor | RoAnn M. Destito, Commissioner | Basil Seggos, Commissioner
Doreen M. Harris, Acting President and CEO | Gil Quinones, President and CEO

Message from the Chairs

Throughout Governor Andrew M. Cuomo's administration, he has directed agencies to lead by example and adopt a holistic range of green practices, from reducing energy use and waste to protecting pollinators. His efforts reached a new level in 2019 with enactment of the historic Climate Leadership and Community Protection Act (CLCPA), the most ambitious and comprehensive climate law in the country. It puts New York on a path to carbon neutrality while ensuring benefits for disadvantaged communities and creating tens of thousands of new jobs.

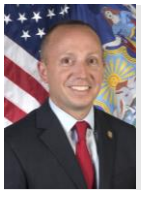
A series of laws, executive orders (EOs), and policies have created a strong framework to support agencies as they strive to adopt sustainable practices. They include EO 4, EO 166, EO 88, EO 18, the "New Efficiency: New York" whitepaper, and CLCPA Section 7.1, which directs agencies to reduce greenhouse gas emissions. To coordinate and harmonize agency sustainability efforts, the Governor has launched the GreenNY Council, a multiagency working group led by our four agencies, and charged it with helping agencies implement all the State's lead-by-example directives. The Council will also serve as a key resource to support the State's strategy for reducing agency greenhouse gas emissions.

"Greening New York State: Eighth Progress Report on State Green Procurement and Agency Sustainability" documents the State's accomplishments during FY 18–19 and provides a road map for further achievement. Under the "Build Smart NY 2020" program, launched by Governor Cuomo under EO 88 in 2012, large State facilities have reduced Source Energy Use Intensity by 22.6%, exceeding the Governor's goal of reducing such energy use 20% by 2020. In FY 18–19 alone, these improvements saved an estimated $65 million and reduced CO_2 emissions by more than 293,000 tons. NYPA will continue to lead these efforts under the new "Build Smart NY 2025" program, which will help agencies meet the Governor's goal of reducing energy use at State facilities by 11 trillion British thermal units (Btu) by 2025.

OGS, NYSERDA, and DEC will continue New York's historic leadership in the areas of green purchasing, renewable energy generation, and waste reduction. In FY 18–19, the OGS Green Procurement Team expanded its offerings for solar products by developing a new contract for Community Solar and issuing a periodic recruitment for Photovoltaic Systems. When combined with the Solar Power Purchase Agreements contract, issued in 2017, purchasers will now have multiple options to generate solar power. To date, almost 50 MW of capacity have been awarded through these contracts, with construction expected to occur in 2020.

Agencies have also made considerable strides to incorporate sustainability into their day-to-day operations. All executive agencies and 73% of authorities have virtually eliminated the purchase of bottled water, avoiding the litter and waste associated with single-use plastics. The purchase of copy paper has dropped 60% since reporting first began, reducing the amount of waste generated. Efforts to protect pollinators, reduce pesticide use, and adopt green cleaning practices have reduced the use of hazardous chemicals in the workplace.

We are proud of these successes, but our work is not done. Our hopes for the future rest on the dedication of Sustainability Coordinators and Teams across the state, who tirelessly work to implement energy and sustainability projects tailored to each agency's unique mission. Together, we will continue to work toward the Governor's goal of creating a greener, cleaner, and more prosperous economy for New York.



Basil Seggos,
Commissioner,
Department of Environmental Conservation

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Executive Summary

Parks trains and uses their own staff to install solar panels and captures the savings to fund more sustainability projects.

The vision of a vibrant, innovative, and sustainable economy underlies GreenNY, the State's lead-by-example climate and sustainability program. The program's most remarkable characteristic is that it is holistic, covering all aspects of agency action, including energy efficiency, renewable energy, green transportation, waste reduction, recycling, toxics use reduction, water conservation, green infrastructure, sustainable landscaping, habitat protection, and green procurement. In the past year, the four agencies collectively charged with implementing the State's lead-by-example directives, the ***Department of Environmental Conservation*** (DEC), the ***New York State Energy Research and Development Authority*** (NYSERDA), the ***Office of General Services*** (OGS), and the ***New York Power Authority*** (NYPA), have banded together to form the GreenNY Council to help agencies meet the Governor's ambitious climate and sustainability goals.

Progress Toward a Green New York

The past 11 reporting years, from fiscal year (FY) 08–09 to FY 18–19, have seen steady progress toward a greener New York. This, the first report issued by the GreenNY Council, tracks an increased range of diverse accomplishments.

- Under the Build Smart NY program, large State facilities have reduced Source Energy Use Intensity by 14.4% since 2010, and through the implementation of 158 projects committed to by the end of 2019, will decrease energy use 22.6%, **achieving Executive Order (EO) 88's goal of reducing such use 20% by 2020**.
- In FY 18–19 alone, ***energy efficiency improvements saved the State an estimated $65 million*** and reduced CO_2 emissions by more than 293,000 tons.
- ***Copy paper purchasing decreased 60% since FY 08-09***, saving the State $34.8 million in the first 8 years of the Cuomo administration, $64.1 million since reporting began, and $8.7 million in FY 18–19.
- ***100% of executive agencies have virtually eliminated the purchase of bottled water***, and 73% of authorities have also eliminated or restricted use to special circumstances, such as soldiers in the field.

- ***The purchase of 100% post-consumer recycled content, processed chlorine-free copy paper has doubled since FY 09–10***, from 22% to 48% of all copy paper purchased in FY 18–19.
- ***The recycling rate for FY 18–19 is 66%***, compared to 50% first measured in FY 08–09, and ***the number of agencies composting has more than doubled since FY 12–13***.
- The State's green procurement program expanded to a larger share of overall purchasing, with ***$114 million in green products purchased in FY 18–19,*** up $7 million from the previous year.
- ***Almost 10 million kWh of solar energy were generated*** for agency use in FY 18–19, a 10% increase from the previous year.
- ***20% of employees use public transit***, an amount four times higher than the national average of 5.1%.

A significant majority of agencies continue to embrace a wide range of practices to reduce their use of materials, toxic chemicals, energy, and water, and key leaders are generating renewable energy, protecting pollinators, and practicing sustainable landscaping. In FY 18–19, agencies reported the following levels of sustainable activity:

- ***All State facilities*** covered by EO 88 have completed their required energy audits.
- ***96% of all buildings*** covered by EO 88 are now submetered for electricity, and 90% are submetered for all energy use.
- ***92% of agencies*** use two-sided printing all or a majority of the time.
- ***88% of agencies*** use electronic means to provide documents to the public, and ***84%*** use such means to receive documents from the public, all or a majority of the time.
- ***78% of agencies*** (including those in leased spaces and not directly responsible for cleaning) use green general-purpose cleaning products, and ***79%*** use disinfectants and sanitizers that meet GreenNY specifications, at all or a majority of their facilities.
- ***71% of agencies*** (including those in leased space and not directly responsible for pest management) use Integrated Pest Management (IPM) at all or a majority of their indoor facilities, and ***47%*** use non-chemical means of pest control for turf and ornamentals at all or a majority of their facilities.
- ***60% of agencies*** promote the use of the 511NY Rideshare system to help staff find a carpooling partner.
- ***53%*** use high-efficiency plumbing fixtures in all (28%) or a majority (25%) of their facilities, a 12 -percentage-point increase compared to previous years.
- The majority (***54%*** and up) use sustainable landscaping practices at some or most of their facilities, including composting on-site, preserving and using native vegetation, and less mowing.
- ***40%*** include sustainable landscaping, green infrastructure, and sustainable stormwater management in the design and construction of new and existing facilities.

Experience has shown that agencies with the most successful climate and sustainability programs have a full-time Sustainability Coordinator or a multidisciplinary sustainability coordination team; hold regular meetings between the Coordinator, team, and agency leadership; have a sustainability plan or robust project list; regularly engage and train staff; and have funding to implement projects and meet sustainability goals.

Of the 68 entities reporting in FY 18–19, 82% have a designated Sustainability Coordinator, and 44% have a sustainability team. At seven agencies, the Coordinator serves in a full-time capacity. Sustainability plans for many of these agencies can be accessed here, and past Greening New York State Reports with additional information on activities and projects can be viewed here.

New and Noteworthy Initiatives in FY 18–19

- ***State University of New York College of Environmental Science and Forestry*** (SUNY ESF) hired a full time Sustainable Facilities Manager to oversee all 50 of their grounds and custodial staff.
- ***Financial Services*** saved approximately $3.9 million by reusing furniture during a recent renovation.
- ***Nissequogue State Park*** cut pesticide use and saved more than $800 by introducing beneficial insects.
- The ***City University of New York*** (CUNY) ***Bronx Community College*** switched to using fine mesh screens for polishing terrazzo floors, eliminating wax and stripper. The floors shine as well as waxed floors, with better durability.
- ***SUNY Downstate*** replaced 5,000 florescent bulbs with LEDs, saving $125,000 to $150,000 annually.
- The ***Metropolitan Transportation Authority Metro-North Railroad*** (MTA Metro-North) became the first railroad in North America to achieve International Organization of Standardization (ISO) 50001, Energy Management Systems certification, which has helped it reduce both electric and diesel use.
- The New York State ***Bridge Authority*** installed a solar array at the Kingston-Rhinecliff Bridge, which generated more than 50,000 kWh in FY 18–19 and will provide roughly 26% of the Authority's electricity going forward.
- The ***Office of Parks, Recreation and Historic Preservation*** (Parks) announced two new solar projects on the east end of Long Island, totaling over 1.2 MW.
- Participation in ***Green Your Commute Day*** increased, with 2,768 employees offsetting 41.2 tons of carbon emissions in 2019—almost twice the offsets achieved in 2018. Year-over-year data also shows an increase in the frequency with which staff are choosing a green commute year-round.
- The ***Battery Park City Authority*** (Battery Park City) implemented new purchasing guidelines for equipment, requiring project managers to pursue non-fossil fuel powered options first.
- A number of agencies increased the State's electric vehicle charging capacity: ***NYPA*** installed charging stations for fleet and employee use at all their facilities; ***OGS*** continued the installation of 58 ports in Albany for employee charging; ***Parks*** installed 40 stations at facilities across the state; and ***SUNY New Paltz*** installed 20 ports on campus.
- ***SUNY Binghamton*** and ***SUNY Morrisville*** partnered with local utility company NYSEG to install new low-flow plumbing fixtures in their residential dorms free of charge.
- ***SUNY Purchase*** installed a bioswale that will capture, treat, and filter over 26,500 cubic feet of surface water runoff from the campus' impervious surfaces. Staff and students also established a beehive and Native Species Garden, which houses 20 raised beds of native, pollinator-promoting species.
- ***DEC*** managed 100 acres of Long Island's unique Central Pine Barrens ecosystem to restore tree health and increase resistance to southern pine beetles.
- ***Parks*** surveyed more than 33,000 acres of land for the invasive spotted lanternfly. As of 2019, New York was free of an active infestation.
- ***NYPA*** continued to conduct habitat improvement projects for species such as sturgeon, osprey, and Blanding's turtle in partnership with the U.S. Fish and Wildlife Service and ***DEC***. The authority is also installing gardens and wildflower meadows that increase pollinator habitat and connectivity.
- To avoid the purchase of bottled water, ***NYPA*** is working with its procurement staff to create purchasing controls for catered meetings and events.

Buying Green

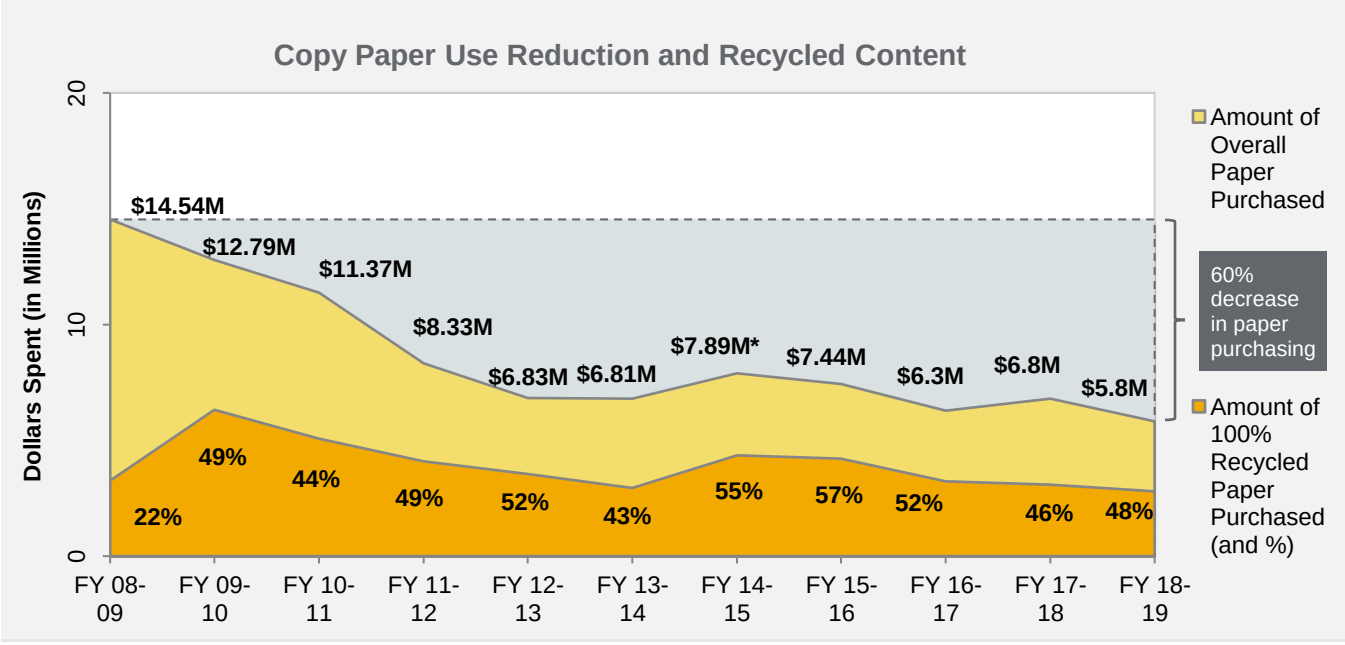
New York's green purchasing program received its third award for excellence in sustainable electronics procurement from the Green Electronics Council in 2019. Ten centralized state contracts offer exclusively green products, including *Solar Power Purchase Agreements*, *Electric Vehicle Supply Equipment*, *Five Compartment Compostable Plates*, and *Environmentally Preferable Cleaning Products*. In addition, numerous additional contracts offer green products, such as outdoor furniture and floor coverings.

To date, New York has finalized 57 green specifications covering a broad and diverse array of over 100 products and services, including computers, cleaning products, lighting, pest management, and sustainable landscaping. Many of these specifications are among the most protective in the country. In 2019, ten specifications received final approval, including "Imaging Equipment," "Paint," and "Trash Bags."

Close to all agencies reporting (97%) consulted GreenNY specifications when making purchases at least some of the time in FY 18–19, and 74% did so all or a majority of the time. In 2019, a new "GreenNY" icon was added to the OGS eMarketplace to identify products that meet those specifications. It has been added to all product offerings associated with an all-green centralized contract, and all green products offered by the State's preferred sources. The long-term goal is for all products that meet New York's green specifications to be labeled with the GreenNY icon, making it easy for agencies to find green products and track green spending.

Reducing and Recycling Waste

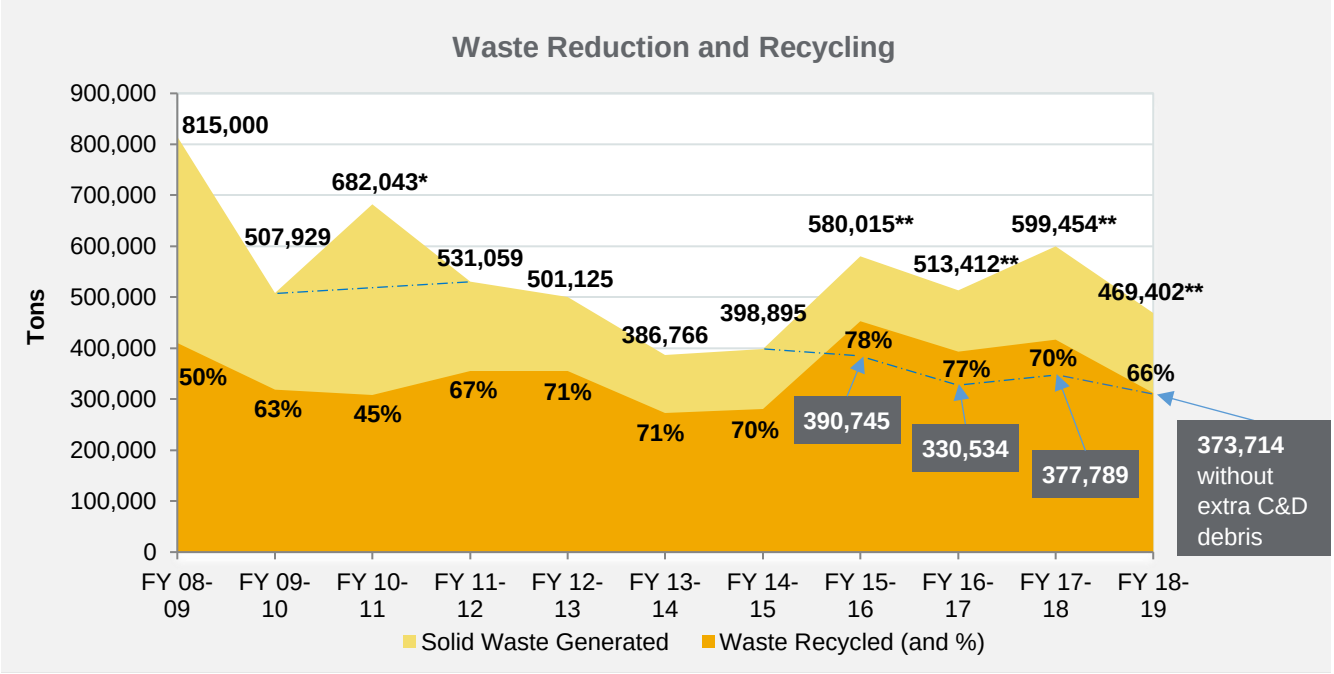
The GreenNY program has significantly impacted how State agencies generate and handle waste. Most agencies adopted paper use reduction practices in the past 10 years, resulting in a 60% decrease in copy paper purchasing in FY 18–19 as compared to FY 08–09. These actions saved $34.8 million in FYs 11–12 through 18–19, and a total of $64.1 million since reporting began. They will continue to save approximately $8 million per year going forward. Almost half (48%) of dollars spent on copy paper in FY 18–19 ($2.8 million) went to purchase 100% post-consumer recycled content, processed chlorine-free paper, a 26 percentage-point increase from the 22% spent on such paper in FY 08–09.



*The modest increase in paper purchased in FY 14–15 is primarily due to an increase in agencies reporting compared to previous years. In FYs 15–16 and 16–17, paper use declined even though the number of reporting agencies remained higher than 14–15. In FY 17–18, the number of agencies reporting increased again, helping account for the modest rise in paper use. In FY 18–19, the number of agencies reporting declined slightly, but remained higher than 15–16 and 16–17, indicating that trend of decreased paper use is real and significant.

Overall, the State continues to maintain an encouraging waste reduction trend and robust recycling rates. FY 18–19 saw a decrease in overall waste generation to 469,402 tons. This decrease, like other large fluctuations over the years, was largely due to a drop in the generation of construction and demolition debris (C&D) by two large agencies responsible for maintaining transportation infrastructure: The ***Metropolitan Transportation Authority*** (MTA) and the ***Department of Transportation*** (DOT). The figure for this year includes 187,977 tons of C&D generated by these two agencies, which is 95,698 tons less than they generated in FY 14–15. When the latter number is subtracted from the total, the overall amount of waste generated for FY 18–19 is 373,714 tons, a 1% decrease from the previous year's total without excess C&D.

An encouraging story told by the data is the remarkable progress made in recycling C&D. ***MTA*** adopted an ambitious C&D recycling goal in 2014 and continues an aggressive program; it recycled 116,169 tons in FY 18–19. ***DOT*** reported 34 lane miles (71,808 tons) of cold-in-place asphalt recycling in 18–19.



*The large increase in waste generated in FY 10–11 is primarily due to MTA reporting 200,000 tons more waste (most likely C&D) as compared to the previous or following years. **The increases in FYs 15–16 through 18–19 are due to MTA and DOT reporting significantly more tons of C&D generated than in 14–15. The blue dashed lines indicate the amount generated when those increases are subtracted. In FY 10–11, the increase was disposed, not recycled, while in FYs 15–16 through 18–19, the bulk of the increase was recycled.

The number of agencies composting has more than doubled since FY 12-13. ***SUNY***, ***Parks,*** and the ***Department of Corrections and Community Supervision*** accounted for 92% of the material composted in FY 18–19.

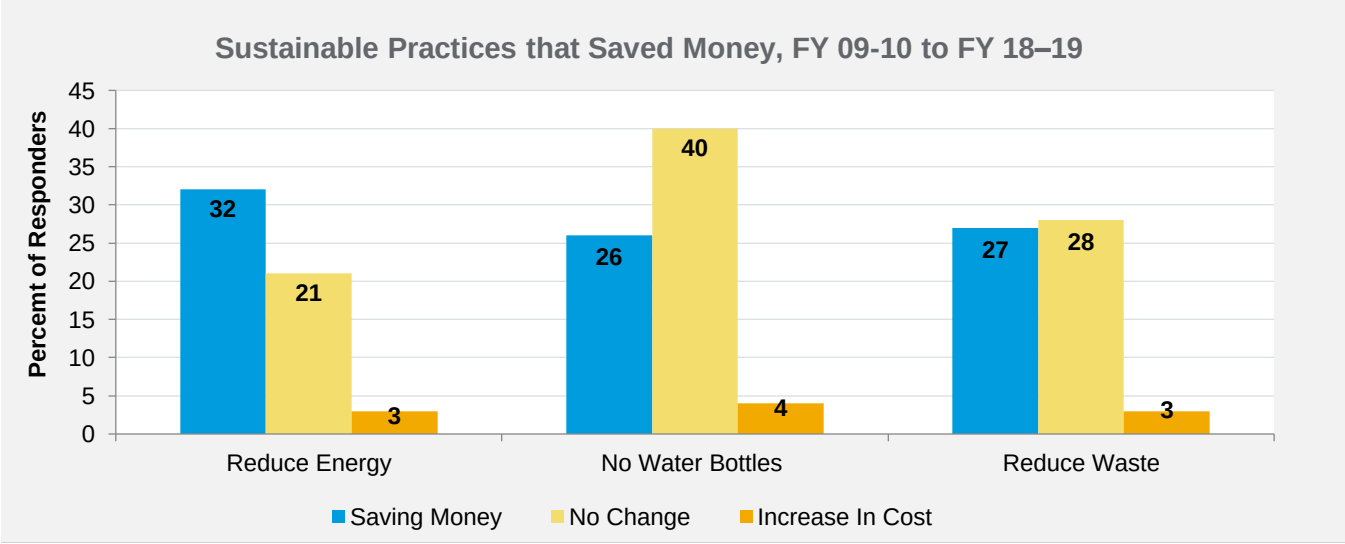
The executive agencies covered by EO 18 have virtually eliminated the purchase of bottled water. Fifteen executive agencies continue to use bottled water under special circumstances, such as for soldiers on active duty. Eighty percent of authorities and other reporting entities not covered by EO 18 have elected to comply anyway, restricting bottled water use to special circumstances or eliminating its use entirely.

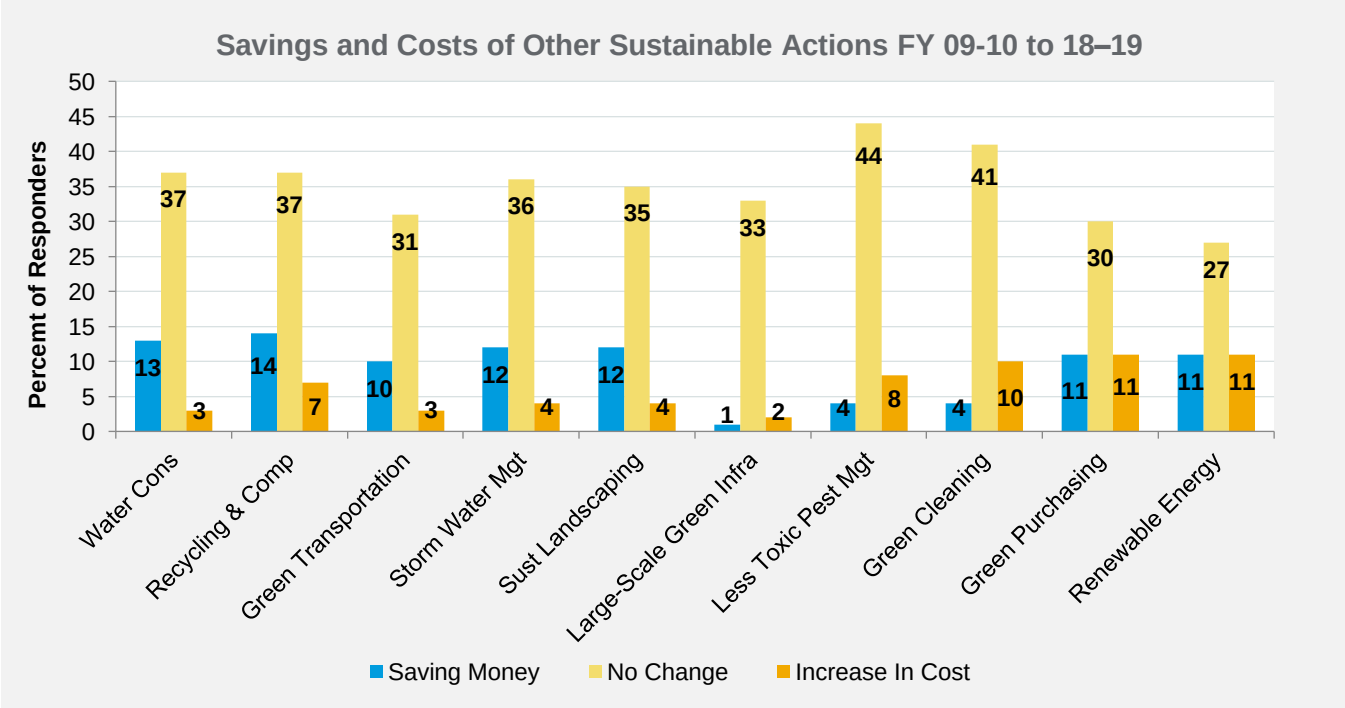
Saving Money

On average for FY 09–10 through FY 18–19, agencies reported saving money through energy reduction (32%), waste reduction and reuse efforts (27%), and eliminating the purchase of bottled water (26%).

Most reported either a reduction or no change in costs due to the implementation of projects across GreenNY's other areas of focus: recycling and composting (51%), water conservation (50%), less-toxic pest management (48%), stormwater management (48%), green cleaning (45%), green purchasing (41%), green transportation (41%), sustainable landscaping (47%), renewable energy (38%), and large-scale green infrastructure (34%). Significantly fewer agencies (2% to 11% depending on the activity) experienced increases in costs.

This data again shows that sustainable practices do not typically cost more, and that reducing energy use and waste can save money. While many energy projects require up-front, capital investment, most save money over time. Other types of projects, including green cleaning and green procurement, do not cost more and often yield important co-benefits, such as improved health and comfort of staff, visitors, or residents.





Success Stories, Challenges, and Lessons Learned

A number of agencies with smaller staffs have successfully used multidisciplinary teams, drawn from multiple divisions across their agency, to lead sustainability efforts, including the ***Council on the Arts***, the ***Development Authority of the North Country*** (DANC)***,*** the ***Capital District Transportation Authority***, and the ***Central New York Regional Transportation Authority***.

Roughly one-third of the State's facilities are leased, and the GreenNY Council is working with real property staff from ***OGS*** and the ***Dormitory Authority of the State of New York*** (DASNY) to make it easier for agencies to implement sustainability projects in third-party leased and managed space. One key to success is regular communication. A number of agencies, including the Department of ***Tax and Finance***, the New York ***Insurance Fund***, and the Department of ***Financial Services*** have successfully implemented projects in leased space.

Waste audits continue to be the most effective way to obtain data for reduction and recycling efforts, especially in leased space. ***Battery Park City*** made a formal commitment to going zero waste and did a comprehensive waste audit. ***DANC*** used pictures of recyclables found in the trash during their audit to train staff. ***DEC*** continues to perform waste audits at least once a year and invite staff from other agencies to participate.

Agency experiences prove that better signage and uniform bin type, color, and placement make the collection of materials for recycling and composting more convenient and effective. Many agencies, including ***NYSERDA***, ***NYPA***, the ***Division of Housing and Community Renewal*** (Homes and Community Renewal), the ***Environmental Facilities Corporation***, and the ***Justice Center for the Protection of People with Special Needs*** (Justice Center), have successfully boosted recycling rates by updating their collection strategies and using behavior change techniques.

Agency reports also show the effectiveness of less-toxic products and practices. Green general-purpose cleaning products and less-toxic disinfectants perform as well as conventional products and cost the same or less. Integrated Pest Management (IPM), which uses chemicals only as a last resort, is widely practiced in indoor spaces, and non-chemical means of pest control have been successfully adopted by many agencies for turf and ornamental plantings. Even special facilities, like all the golf courses in ***Parks'*** system, successfully use IPM.

While sustainable practices do not cost more in the long run, they can require the investment of capital, operations funding, or staff time up-front. An innovative way to capture savings and fund ongoing sustainability projects is being spearheaded by ***Parks***. Their sustainability team uses rebates from ***NYSERDA*** for renewable energy and efficiency projects to fund new projects, not all of which are related to energy. ***Parks*** has also focused on training their own staff to install renewable energy systems, a practice that has paid for itself in savings and fueled their steady and impressive increase in on-site solar electric generation over the last four years.

OGS and their partners on the GreenNY Council are working to make it easier for purchasers to find green products and track green spending. Actions include the development of all green contracts, launch of the new GreenNY icon, and training and outreach events for purchasers.

A number of agencies, and notably many ***SUNY*** and ***CUNY*** campuses, have avoided the purchase of bottled water by successfully tackling the challenge of providing tap water for meetings and large events. ***CUNY Lehman*** provides chilled tap water dispensers to event attendees. ***CUNY York*** and ***SUNY Potsdam*** use filtered tap water stations and no longer sell single-use plastic water bottles on campus.

Achieving the Promise of Sustainability

Students present their ideas on sustainable development in the finals of the World's Challenge, hosted by ***SUNY Buffalo's*** Sustainability program and Blackstone LaunchPad. (© Meredith Forrest Kulwicki)

In 2019, Governor Cuomo launched a bold suite of proposals to fight climate change, defend public health and the environment, and create a cleaner, greener, and more prosperous New York. His Green New Deal is the most aggressive climate agenda in the nation and puts the State on a path to being entirely carbon-neutral across all sectors of the economy, including power generation, transportation, buildings, industry, and agriculture. The Climate Leadership and Community Protection Act (CLCPA) enacted in July 2019, codifies that agenda. It is the most ambitious and comprehensive climate and clean energy legislation in the country, mandating that at least 70% of New York's electricity come from renewable energy sources, such as wind and solar, by 2030, and that the state's power system be 100% carbon neutral by 2040. It also requires the most aggressive greenhouse gas reductions of any major economy: 40% below 1990 levels by 2030, and 85% by 2050.

Section 7.1 of the Act calls on state agencies, authorities, and other entities ("agencies" or "entities") to lead by example and "assess and implement strategies to reduce their greenhouse gas emissions." Other bold actions taken by the Governor in the last year include enactment of a ban on expanded polystyrene foam in food containers and loose packaging, a ban on the sale of single-use plastic bags, and a law regulating the use of harmful chemicals in children's products. With the passage of these and other important measures, the Governor is calling on all State agencies, along with all New Yorkers, to renew their commitment to aggressively lower greenhouse gas emissions, avoid waste and toxic chemicals, and make their day-to-day activities and purchasing more sustainable. New York can and should set an example of leadership for the rest of the nation, and ultimately the world.

Fortunately, a series of laws, executive orders (EOs), and policies have created a strong framework to support agencies as they strive to reduce their greenhouse gas emissions and adopt sustainable practices. In addition to

the CLCPA, they include Executive Order No. 4 (EO 4), EO 166, EO 88, EO 18, and the "New Efficiency: New York" whitepaper issued in April 2018.

EO 4 directs the approximately 73 State agencies, authorities, and other entities covered by the Order to incorporate sustainability into all aspects of their operations. To accomplish this, agencies are required to implement a Sustainability and Environmental Stewardship Program and assign an employee to serve as Sustainability and Green Procurement Coordinator ("Sustainability Coordinator"). EO 4 also created an Interagency Committee on Sustainability and Green Procurement ("Interagency Committee") co-chaired by the Commissioners of the ***Office of General Services*** (OGS) and the ***Department of Environmental Conservation*** (DEC), and charged it with several tasks, including preparation of an annual report.

EO 166 calls on all affected State entities (the same 73 entities covered by EO 4) to take action to meet the State's greenhouse gas reduction goals by reducing emissions from all operations, buildings, and vehicle fleets. It is led by the ***New York State Energy Research and Development Authority*** (NYSERDA) and ***DEC***.

GREENNY COUNCIL

CHAIRS:

- *NYSERDA, DEC, OGS* and *NYPA*

CORE MEMBERS:

- *Division of Budget (DOB)*
- *Dormitory Authority of the State of New York (DASNY)*
- *Empire State Development (ESD)*
- *Environmental Facilities Corporation (EFC)*
- *Department of Health (DOH)*
- *Long Island Power Authority (LIPA)*
- *Office of Parks, Recreation and Historic Preservation (Parks)*
- *State University of New York (SUNY)*
- *Department of Transportation (DOT)*

EO 88 required the same entities to reduce Source Energy Use Intensity in State-owned and -managed buildings 20,000 square feet or greater by at least 20% by 2020 from a baseline of the average EUI of such buildings for FY 10–11. It established the ***New York Power Authority*** (NYPA) as the administrator of "Build Smart NY 2020," an initiative created to help State facilities satisfy the Order's requirements. This program has now been superseded by "Build Smart NY 2025" and the "New Efficiency: New York" whitepaper, which directs agencies to reduce site energy use 11 trillion Btu by 2025 (from the baseline year of 2015). This new program directs agencies to track and reduce energy use in all buildings greater than 5,000 square feet and covers leased space in addition to State-owned space.

EO 18 directs executive agencies to "eliminate the expenditure of State funds for the purchase of bottled water." It is led by ***OGS***.

To coordinate and harmonize agency sustainability efforts, Governor Cuomo has launched the GreenNY Council, a multiagency working group led by the ***Department of Environmental Conservation*** (DEC), the ***Office of General Services*** (OGS), the ***New York State Energy Research and Development Authority*** (NYSERDA), and the ***New York Power Authority*** (NYPA) and charged it with helping agencies implement all the State's lead-by-example directives. The Council will also serve as a key resource to support the State's strategy for reducing agency greenhouse gas emissions.

In addition to the four agency Chairs, the Council consists of all agencies who are charged with leading by example under CLCPA and the State's agency sustainability, climate, and green procurement directives. Core support is provided by the existing members of the EO 4 Interagency Committee (the ***Division of the Budget***, the ***Dormitory Authority of the State of New York***, ***Empire State Development,*** the ***Environmental Facilities Corporation***, the ***Department of Health***, and the ***Department of Transportation***) augmented by the ***State University of New York***, the ***Long Island Power Authority***, and the ***Office of Parks, Recreation and Historic Preservation***.

Together, Council members have worked diligently over the past year to leverage resources, create guidance, harmonize reporting, and make it easier for agencies to achieve the Governor's urgent and ambitious climate and sustainability goals. An integrated reporting form for the State's lead-by-example directives was launched in July

2019 and forms the basis for this report. The Council is also working collaboratively to make it easier for agencies located in space owned or leased through third parties to adopt sustainable practices.

Agency reporting under EO 4, EO 166, EO 88, EO 18, and Build Smart NY has now been consolidated into one, joint, annual "GreenNY" reporting form, issued to agencies each July, and data is submitted to NYPA through the New York Energy Manager. For FY 18–19, a total of 68 agencies reported under all the State's climate and sustainability directives. This summary compiles those reports. Prior progress reports for EO 4 and EO 18 can be found on the GreenNY website, which includes more detailed information and case studies on every aspect of sustainable operations and purchasing. Prior reports for Build Smart NY 2020 can be found here.

The Benefits of Sustainability

New York State government is comparable in size to a Fortune 500 company, with a considerable environmental footprint and remarkable purchasing power. Currently, New York State government:

- Operates more than 16,000 facilities totaling more than 200 million square feet, with an estimated annual utility bill of $400-500 million;
- Generates approximately 400,000 tons of solid waste per year;
- Operates more than 25,000 vehicles; and
- Spends approximately $8 billion per year on the purchase of commodities, services, and technology.

Agencies who manage significant State assets and influence market actors play a central role in lead-by-example efforts. In addition to members of the GreenNY Council mentioned above, key agencies include: the ***City University of New York*** (CUNY), the ***Metropolitan Transportation Authority*** (MTA), the ***Office of Mental Health*** (OMH), the ***Department of Corrections and Community Supervision***, the ***Port Authority of New York and New Jersey*** (Port Authority***), Homes and Community Renewal***, and the ***Office For People With Developmental Disabilities*** (OPWDD).

Increasing sustainability in State government is a win-win for both the environment and the economy, because it significantly reduces pollution and waste while saving taxpayer dollars. Key benefits include reducing energy use and greenhouse gas emissions, materials use, and toxic chemical use; and conserving water and other natural resources. Each has the potential to avoid or mitigate the impacts of climate change, reduce pollution, cut waste, protect public health, maintain biodiversity, and reduce the costs of treating drinking water and managing toxic materials and waste. Government can learn from efforts in the private and nonprofit sectors (e.g., from winners of New York State's Environmental Excellence Awards), and in turn be a model for others.

In addition to the directives listed above, there are many State initiatives related to climate, efficiency and the environment that both inform and are supported by agency sustainability efforts. Key initiatives include:

- The ***Multi-State ZEV MOU* and *Action Plan***, which directs agencies to purchase zero-emission vehicles (25% of purchases by 2025) and provide charging infrastructure for employees;
- New York's ***Beyond Waste*** sustainable materials management plan, which establishes a goal of reducing waste disposed from 4.1 to 0.6 pounds per person per day by 2030;
- New York's ***Green Cleaning Program***, which requires agencies and schools to use green products; and
- The ***Environmental Protection Fund***, which supports land acquisition, waterfront revitalization, municipal recycling, pollution prevention, and more.

For more information, see the GreenNY Fact Sheet on Key State Climate and Sustainability Initiatives.

Operating Green

DEC's Region 4 Stamford Office is a flagship for sustainability. Staff in the region have installed a pollinator garden, solar array, and compost tumblers. The Office also uses electric vehicles and has electric vehicle charging stations.

New York benefits from the services of a wide range of government agencies with diverse facilities, including office space, highways, hospitals, prisons, parks, forests, fish hatcheries, golf courses, group homes, and universities. Each are required to reduce greenhouse gas emissions and adopt sustainable practices in ways that work in the context of their unique mission.

Notably, New York's vision of sustainable operations is holistic, covering all areas of potential impact, including waste reduction, reuse, recycling and composting; toxics use reduction; energy efficiency; renewable energy; transportation; water conservation; green infrastructure, sustainable stormwater management, sustainable landscaping, and species and habitat protection.

This chapter presents performance metrics and cost information for each area of lead-by-example activity. It shares how agencies have navigated challenges to achieve success, and highlights noteworthy new initiatives begun, underway, or completed in the reporting period.

An overarching theme of climate and sustainability work is "continuous improvement." Each year, agencies discover more about what is possible and how to accomplish it. Each step forward paves the way for continued progress.

Engaging the Green Team: People, Planning and Money

Battery Park City has sought to democratize sustainability by empowering all employees.

Based on ten years of experience, the GreenNY Council has found that agencies with two or more of the following assets have the most successful climate and sustainability programs:

- A ***full-time Sustainability Coordinator*** or ***multi-staff coordination team.***
- ***Regular meetings*** between the agency's sustainability team and agency leadership.
- A ***sustainability plan*** or ***project list***, and a robust method for completing this ***annual report***.
- Regular ***engagement*** and ***training*** of staff.
- ***Funding*** to implement projects and meet sustainability goals.

Findings

In FY 18–19, 68 agencies reported the following about their sustainability structure:

- 56 agencies (82%) have a designated Sustainability Coordinator. At seven agencies (10%), the Coordinator serves full-time, including ***CUNY***, the ***Jacob K. Javits Center*** (Javits Center), ***MTA***, ***NYPA***, and ***Parks.*** The majority (72%) have a part-time Coordinator, who spends an average of 11% of their time on sustainability.
- 30 agencies have a sustainability team, up from 20 in the last reporting period.
- Seven agencies have both a dedicated capital budget and a dedicated non-personnel services (NPS) budget for sustainability.
- 68% use the resources on the GreenNY website and Sharepoint site and participate in webinars and activities offered by the GreenNY Council.
- 54% connect with agency staff on a regular basis to promote and cultivate greater awareness.

For the purposes of the statistics above, ***SUNY*** and ***CUNY*** each file one report covering all their campuses. Seven ***SUNY*** campuses, including ***Albany***, ***Cortland***, ***ESF***, ***Geneseo***, ***New Paltz***, ***Purchase***, and ***Oswego*** have full time Sustainability Coordinators or staff equivalent to a full-time position. Part-time Coordinators at the other campuses spend an average of 32% of their time on sustainability. Each of ***CUNY's*** 19 campuses have a designated sustainability executive and plan. These robust numbers help explain the high level of performance achieved at many campuses as highlighted in this report.

Success Stories, Challenges, and Lessons Learned

Through annual reporting, agencies share stories, build a community of practice, and help the GreenNY Council identify and address common needs.

Making the Most of the Staff You Have

A number of agencies with smaller staffs have successfully used multidisciplinary teams, drawn from multiple divisions across their agency, to lead sustainability efforts, including the ***Council on the Arts***, with an official team of 3 staff and an "unofficial" team of 28 staff—their entire agency; ***DANC,*** whose Executive Director appointed representatives from each of their Divisions to their sustainability team; the ***Capital District Transportation Authority***, whose team includes maintenance, finance, planning, facilities, and procurement staff; and the ***Central New York Regional Transportation Authority***, whose Coordinator works with their entire procurement team to assess staff purchasing requests and make sustainably conscious decisions.

Larger agencies have also benefited from the establishment of multidisciplinary teams. The ***Department of Motor Vehicles'*** team includes facilities, procurement, fleet, and budget staff. The ***Javits Center*** has a core team of 3, and a larger team of 20 who meet quarterly. Their in-house catering company also has a green team of 10 who routinely engage their cleaning managers to boost buy-in. ***NYPA*** has convened working groups for all program areas with subject matter experts representing all relevant departments.

Establishing a direct line of communication between sustainability staff and executives is key to empowerment and building momentum. ***CUNY's*** innovative "Boots to Suits" program, established in 2016, provides a unique educational opportunity for members of the senior administration to understand the benefits of energy-efficient systems and the technicalities of maintaining them through meetings and tours with facilities staff.

Planning for Success

Planning is a powerful tool for achieving buy-in, creating momentum, and measuring performance. Sustainability plans for ***CUNY***, ***MTA***, ***DANC***, and many ***SUNY*** campuses, as well as a list of New York agency sustainability coordinators, can be accessed here.

SUNY Binghamton created a five-year sustainability plan with the help of students and the Association for the Advancement of Sustainability in Higher Education's (AASHE) STARS program (a self-reporting platform for measuring performance), making it easier to embed sustainability into all university operations. Because ***CUNY's*** sustainability team had worked with them to design and execute Demand Response plans,15 CUNY colleges were instrumental in helping to stave off blackouts in Queens and Brooklyn when the City was hit with a four-day heatwave in July 2019.

Funding

While sustainable practices do not cost more money in the long run, they can require the investment of time, capital, or operations funding up-front. Many agencies still find it challenging to capture the savings associated with sustainability improvements in order to re-invest them in additional worthy and cost-saving projects.

One of the most innovative ways to capture savings is being spearheaded by ***Parks***. Their Sustainability Team uses rebates from ***NYSERDA*** for renewable energy and energy efficiency projects to fund new projects. As Parks builds more solar arrays, the sustainability fund grows, and the agency has been able to expand its sustainability program to new projects and spheres of focus, not all of which are related to energy. Other agencies that are capturing rebates to fund new projects include ***SUNY Downstate*** and ***SUNY Oneonta***. ***SUNY New Paltz's*** Energy Manager position is funded largely through ***NYSERDA*** grants.

SUNY Albany funds projects in a variety of ways, including small seed money for pilots, capital earmarks for larger projects, and grants. ***SUNY Binghamton*** established a green revolving fund that uses energy savings from previous years to invest in new projects, including LED lighting, water-efficient fixtures, and fine-tuning heating, ventilating, and air conditioning (HVAC) controls. ***CUNY*** remains a leader with their Sustainability Investment Fund, a revolving fund that supports long- and short-term projects. Savings from energy efficiency are used to pay back the fund to support future projects.

Engaging the Whole Agency

For any agency to meet its sustainability goals, staff and other stakeholders, such as facility users, students, and residents, must all be aware of and, to the extent possible, invested in them.

The Operations and Engagement Subcommittee continues to offer tools to boost engagement. These include a well-subscribed monthly lunchtime webinar series on green practices, such as textile recycling and climate-friendly refrigerants; periodic webinars, including recent offerings on OGS' new community solar contract and sustainable swag; and the GreenNY Forum, a quarterly conference call and annual in-person gathering of Coordinators and Teams. In September 2019, more than 60 attendees from 35 agencies met at the ***Javits Center*** to share best practices. ***DEC*** Commissioner Basil Seggos gave a keynote speech.

Lead by Example Highlight:

Mainstreaming Sustainability

*The Chief of Staff for **SUNY ESF** is also the college's Chief Sustainability Officer. In FY 18–19, the position of Facilities Manager, which oversees 50 employees, was restructured to **Sustainable Facilities Manager**, leading to a dramatic increase in the college's ability to meet the State's climate and sustainability goals.*

NYSERDA engages staff in a variety of ways, including content in all-staff meetings and their employee handbook, a regular column in the agency staff newsletter, brown-bag lunches, presentations to management, signage, and special events. Their Sustainability Coordinator reports that "success comes from being able to sprinkle a little sustainability in a lot of places." People learn in different manners, so it is important to use a variety of methods for education and engagement. ***DANC*** also created a training program for new-hire orientations.

Parks continues to train their own staff and members of the Excelsior Conservation Corps in solar installation. These trained staff and Corps members are then used to build solar projects instead of private contractors, which lowers project costs 40-60%. ***SUNY ESF*** is using a ***NYSERDA*** grant for operations and maintenance training.

Battery Park City has sought to democratize sustainability by empowering all employees. Staff are engaged through internal meetings, a Sharepoint newsletter, and a dedicated email address so any staff person can provide ideas to lessen the agency's environmental impact. ***CUNY*** has created brief training videos for staff on how to use the new building management systems designed to reduce energy and save costs.

Communicating for Success in Leased and Managed Space

Location in leased space continues to raise unique challenges. The need to work with a separate agency, as well as a landlord, adds additional layers of people who must be consulted and ultimately sign-off on proposed projects. The challenges can be particularly acute for small agencies located in large, shared office buildings.

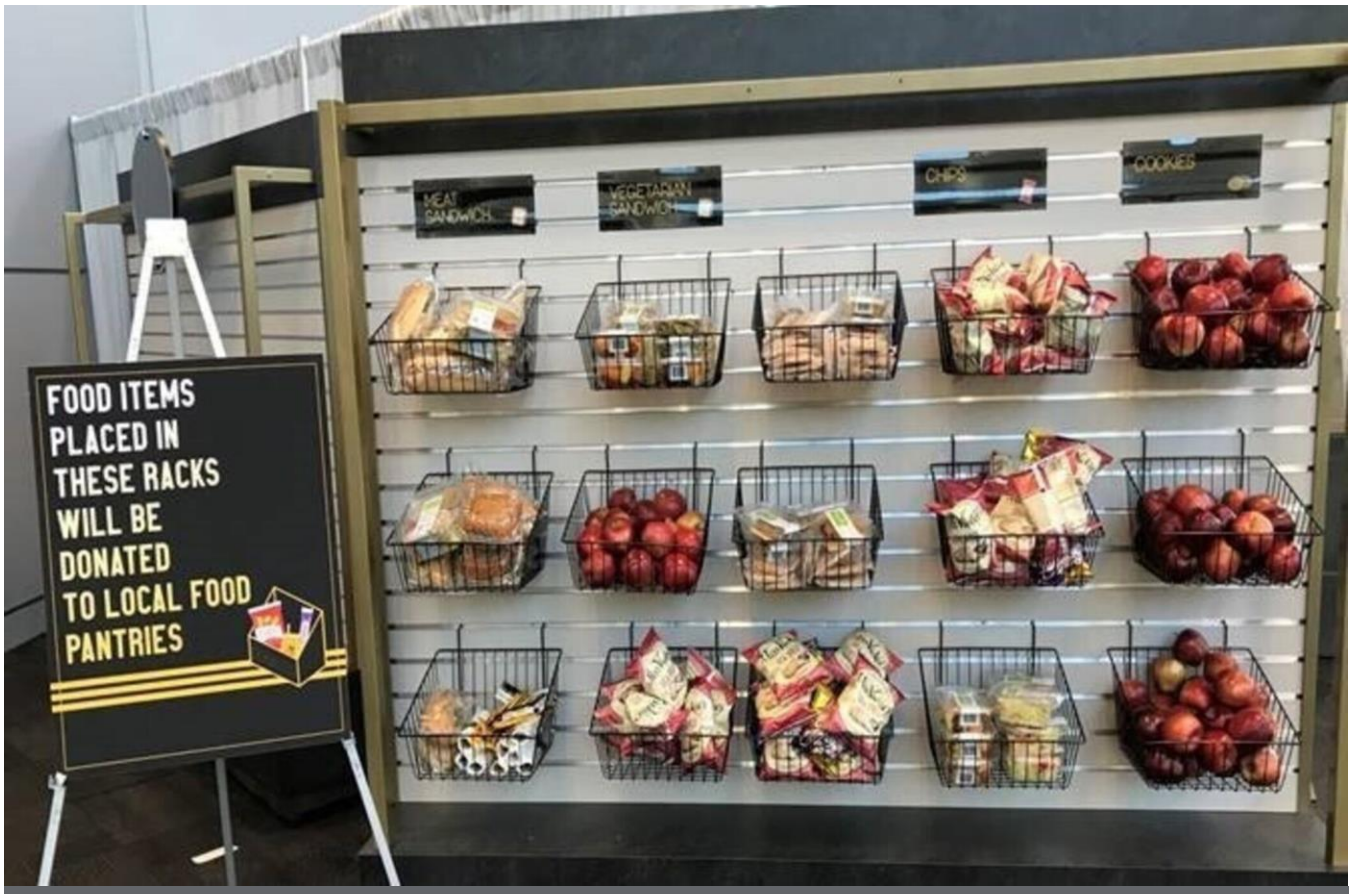
The GreenNY Council has been working with ***OGS*** and ***DASNY*** real property staff to develop a guide on how to pursue sustainability improvements in leased and managed space. One key to success is regular communication. Sustainability Coordinators are encouraged to work with their facility managers, designated tenant representatives, and ***OGS*** or ***DASNY*** real property staff to establish a regular schedule of consultation and problem solving. Discussions in the earliest stages of new lease development are particularly important.

Tax and Finance reports that interaction with ***OGS*** real property staff is often a catalyst for new green initiatives. Large projects have been successfully implemented in partnership with ***OGS*** and facility landlords when leases are being renewed. The ***Insurance Fund*** has successfully tied sustainability upgrades to larger renovation projects in both owned and leased space, including the replacement of old lighting with LEDs.

New and Noteworthy Initiatives in FY 18–19

- ***SUNY ESF*** hired a full-time Sustainable Facilities Manager to oversee all grounds and custodial staff (see *Lead-by-Example Highlight*, above).
- ***NYPA*** created a Sustainability Advisory Council and developed a 2019–2023 Sustainability Plan. The Council consists of vice-presidents from each of NYPA's 24 departments, as well as a senior vice-president sponsor. Each is responsible for ensuring their department supports the implementation of projects identified in the plan. The scope of NYPA's sustainability program has expanded considerably, and staff members have been added to manage new program areas.
- ***CUNY Brooklyn*** created a new Sustainability Coordinator position and is considering becoming a reporting member of AASHE STARS.
- ***Financial Services*** added more staff to their sustainability team and all three members attended the GreenNY Forum in 2018 and 2019. The team is working with the agency's communications office to increase engagement with staff.
- ***Homes and Community Renewal*** successfully married sustainable operations to the agency's mission in the development of a new workspace for 450 staff. The space models the sustainability standards that must be met by external business partners funded by the agency. Features include: LED lighting, high-efficiency cooling and heating, low-flow plumbing, increased use of natural light, and bottle-filling stations on every floor.
- The ***Department of Labor*** has a clause in all new leases that requires landlords to install LED lighting.
- ***SUNY Purchase*** elevated their Sustainability and Outreach Committee to a standing committee of the College Senate, ensuring that sustainability will be embedded in campus-wide decisions moving forward.
- ***SUNY Buffalo*** is working with a consultant to create an Integrated Collaborative Energy and Climate Action Plan that will allow users to interact with climate emissions data and create a clear map of "how" reductions can be achieved and "who" at UB should be responsible for specific efforts.
- ***NYSERDA*** began including sustainability in intern and new employee training. The presentations were well received and help staff understand how sustainable behaviors align with NYSERDA's mission.
- ***NYPA*** will launch an enterprise-wide educational program in 2020 on the science of climate change and strategies the agency is using to address it.
- ***SUNY Binghamton*** is working on a "Living Building Challenge" project, which will engage students with environmental professionals in the community to convert an existing residential building into an energy and water positive facility using sustainably sourced materials.
- The Capital Region Job Corps used the solar array built by ***Parks*** at Peebles Island to train students.
- The ***Javits Center*** sent a survey to all staff to gather baseline data on attitudes, behaviors and knowledge around sustainability topics.

Waste Reduction and Reuse



The Javits Center's new food rescue program allows event attendees to place unwanted items from their boxed lunches in racks for donation to local food pantries and soup kitchens.

Findings

FY 18–19 saw a 22% decrease in overall waste generation compared to FY 17–18—to 469,402 tons. The majority of this decrease is due to two agencies, ***MTA*** and ***DOT***, undertaking fewer construction projects and generating less C&D debris. When excess C&D debris is excluded from the picture, the overall amount of waste generated for FY 18–19 is 373,714 tons, a 1% decrease from the previous year's total excluding excess C&D. Overall, the total waste generated by reporting agencies has decreased 42% from the total of 815,000 tons reported in the first progress report for FY 08–09.

Qualitative reports in FY 18–19 support this continuing and encouraging downward trend. The descriptions of waste reduction activities by agencies are significantly more ambitious than in previous years. Agencies are leveraging statewide waste prevention programs, such as the OGS State Surplus Property Program, and developing their own agency- and facility-specific policies and programs to reduce and reuse waste.

With the adoption of waste prevention techniques, such as double-sided printing and the use of electronic documents, agencies have significantly reduced the overall amount of paper purchased and consumed. In FY 18–19, 63 agencies reported purchasing 187,651 boxes of copy paper for $5.8 million. 48% of these dollars went towards purchasing 100% post-consumer recycled content copy paper, and 26% went towards purchasing at least 30% post-consumer recycled content copy paper. The overall amount spent on copy paper per year has fallen by an impressive 60% since FY 08–09 when agencies reported spending $14.54 million on copy paper.

In FY 18–19, agencies reported on their use of the following waste reduction strategies:

- 92% use two-sided printing either all (43%) or a majority (49%) of the time, an increase of 10 percentage points in agencies doing so all of the time compared to FY 17–18.
- 88% use electronic means to provide documents and information to the public either all (29%) or a majority (59%) of the time, an increase of seven percentage points in agencies doing so a majority of the time.
- 84% use electronic means to receive documents and information from the public either all (22%) or a majority (62%) of the time, an overall increase of 2 percentage points and an increase of 2 percentage points in those agencies do so all of the time.
- 73% use electronic means, other than email, to share documents and information with and among employees either all (19%) or a majority (54%) of the time.
- 42% use the OGS Surplus Property Program before purchasing new supplies either all (18%) or a majority of the time (24%).
- 54% use the OGS Surplus Property Program to repurpose items that are no longer used either all (29%) or a majority of the time (25%).
- 46% have an office supply reuse program in place at all (31%) or a majority (15%) of their facilities, an increase of seven percentage points in the number of agencies reporting reuse programs at all their facilities.

In addition to these waste reduction strategies, avoiding single-use plastic water bottles remains a high priority in New York. A summary of efforts to eliminate the purchase of bottled water can be found on page 48 of this report.

Savings and Costs

On average over the past 10 years, a significant number of agencies reported saving money through waste reduction, while most of the rest reported no change in costs. The agencies reporting savings had more comprehensive waste reduction, reuse, recycling and composting programs. Only a few reported an increase in costs. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges, and Lessons Learned

Reusing Office Supplies, Furniture & Equipment

As an increased number of agencies showed their strong commitment to reuse by establishing reuse centers at their facilities, others took their commitment further by developing tracking and marketing mechanisms, such as electronic lists shared throughout the organization to inform staff about available materials. For example, some ***Parks*** regions use a regional asset inventory tracking system to help individual parks acquire gently used items for reuse. ***SUNY Cortland*** tracks surplus furniture through an internal website, while the ***New York State Police*** takes photos of offices in need of renovation and uses them to seek reusable furniture and supplies across the agency.

Many agencies also benefit from the OGS Surplus Property Program, which facilitates the reuse of furniture, equipment and supplies by agencies across the state or sells them to the private sector. During their recent relocation process, ***Homes and Community Renewal*** prioritized reuse, collecting surplus supplies, furniture and equipment in a central location for redistribution. Remaining items were passed on to the OGS Surplus Property Program.

Several ***SUNY*** campuses, including ***SUNY Albany***, continue to conduct annual move-out programs at the end of the school year to collect unwanted items from students and donate them to the community. ***SUNY Downstate*** has saved more than $51,000 through their furniture reuse program.

While reuse is widely successful, some agencies report that it can be difficult to avoid waste when making bulk purchases to save money. Clear communication between departments can help redistribute excess supplies from bulk purchases. Keeping an up-to-date internal inventory and sending out regular announcements about extra supplies can also prevent waste.

Waste Audits

Conducting a detailed waste audit continues to be the most effective way to obtain data on the composition and quantity of waste generated. Every year, agencies report positive experiences with audits, stating that the data gathered has given them valuable insight into their waste management practices. In FY 18–19, 12% of agencies reported conducting waste audits at all their facilities, while 35% conducted waste audits for at least some of their facilities. A Waste Audit Guidebook and other resources are available on the GreenNY website.

- ***Battery Park City*** made a formal commitment to going zero waste, and their new Zero Waste Committee did a comprehensive waste audit at 75 Battery Place. The results informed a new waste reduction plan, and intermittent audits have been used to track progress and identify areas for improvement.
- ***DANC*** updated their sustainability training with pictures of recyclables found in the trash during their waste audits, along with explanations of the right way to recycle.
- ***DEC*** continues to perform a waste audit at least once a year at its Albany headquarters and some regional offices. Staff from other agencies are welcome to participate as a training exercise, and DEC continues to offer technical assistance to individual agencies upon request.

New and Noteworthy Initiatives in FY 18–19

Among the waste reduction strategies introduced in FY 18–19, there is a continuing trend toward creative new ways to reuse unique materials and reduce food waste. Sustainability Coordinators are encouraged to contact the agencies listed below to better understand the potential for adopting these actions in their own operations.

Lead by Example Highlight:

Saving Money through Reuse

*The **Department of Financial Services** saved approximately $3.9 million by reusing furniture during a recent renovation, rather than purchasing new furniture.*

Avoiding Single-Use Plastics and Paper Use

Several agencies reported implementing initiatives to make the shift away from single-use plastics and goods. The Sustainability Department at ***NYPA*** has stocked kitchens at most sites with reusable dishware to prevent the purchase or use of single-use items. They also conducted a campaign to encourage the adoption of zero-waste event practices. The GreenNY website provides information and resources on conducting green meetings and zero-waste workplace events. ***Parks*** implemented a Single-Use Plastic Prevention Policy that banned the sale and distribution of various single-use plastic items in all State Parks.

Other new and noteworthy waste prevention initiatives include the following:

- Science departments at ***CUNY Kingsborough Community College*** are now using Open Educational Resources to replace textbooks, exams, and printed syllabi to reduce paper use. Students have online access to all materials and can save money by not having to purchase textbooks.
- ***DANC*** reduced paper use and costs by adopting paperless processing for 100% of their payroll transactions.
- The ***Public Employment Relations Board*** implemented a rule change to allow a pilot for e-filing.

Creative Reuse and Repair

Agencies developed several creative reuse and repair initiatives to prevent waste in FY 18–19. By prioritizing the use of reusable products rather than single-use, and repairing available materials and supplies, agencies can reduce their purchasing costs as well as prevent waste.

- ***Financial Services*** reused furniture during a recent renovation rather than purchasing new furniture, saving approximately $3.9 million.
- Several State Parks use creative techniques to prevent waste: ***Cayuga Lake*** uses microfiber rags for cleaning instead of single-use, disposable rags; ***Taughannock Falls*** works with a local youth organization to refurbish barbeque grills and extend their useful life; and ***Shirley Chisholm State Park*** opened a thriving Bike Library loan program made up entirely of reclaimed, recycled, or repaired bikes through a partnership with Bike NY.
- ***NYSERDA*** repairs all furniture in-house rather than purchasing new furniture whenever possible. ***DHR*** also repairs existing inventory before purchasing new products.
- ***SUNY Albany*** has created a new reuse outlet for donated professional attire called Purple Threads, where students can get attire for jobs, interviews, and professional presentations free of charge.
- As part of an ADA (Americans with Disabilities Act) landscape beautification project, ***CUNY Medgar Evers*** pulverized and repurposed the site's existing sidewalks into concrete gravel.

Food Waste Reduction and Diversion of Surplus Edible Food

To prevent excess food from going to waste and support populations struggling with food insecurity, several agencies have implemented policies to divert edible food to on-site food pantries and local emergency food relief organizations. This reporting year:

- 14 agencies (20%) reported employing practices to reduce wasted food at all (6%), most (4%), or some (10%) of their facilities; and
- 11 agencies (16%) had a food donation program in place at all (4%), most (3%), or some (9%) of their facilities.

The Food Recovery Network chapters at ***SUNY ESF*** and ***SUNY Purchase*** recover, repackage, and donate wholesome, extra food from campus dining locations to on-campus and community food pantries. ***CUNY Law*** continues to send out community alerts when excess food is available after events, reducing the amount of uneaten edible food.

New and noteworthy initiatives to reduce food waste and divert edible food include the following:

- The campus sustainability team at ***SUNY Purchase*** conducts food waste audits throughout the year at the main Dining Hall. Results are shared with students to raise awareness of food waste.
- The ***Javits Center*** partnered with their new in-house dining and hospitality brand, *Cultivated*, to expand their food rescue program. Event attendees place unwanted items from their boxed lunches in a designated collection area, which are then donated to local food pantries and shelters.

Recycling, Composting, and Special Waste

The results from ***DEC's*** 2019 waste audit, including messages crafted from food scraps, will be used in to educate staff and the public about composting.

Findings

Reports for FY 18–19 continue to document a robust and encouraging trend of high recycling rates by State agencies. In the last five reporting years, 60% or more of the solid waste generated by agencies was recycled or composted, compared to a 50% rate of recycling in FY 08–09.

In FY 18–19, agencies recycled 296,056 tons of materials, down 25% from the previous year. The overall recycling rate decreased 4 percentage points to 66%. This decrease was due to a 22% decrease in total waste generated, driven largely by a significant drop in the generation of C&D debris by two large agencies responsible for maintaining transportation infrastructure: ***MTA*** and ***DOT***—95,698 tons less than they generated in FY 14–15. Due to ambitious recycling programs adopted by both agencies, the majority of the C&D they generate has been recycled in recent years. As a result, the drop in C&D generation for this year also caused a drop in the recycling rate. ***MTA's*** strong program continued, however, with 116,169 tons of C&D debris recycled in FY 18–19.

The total amount of organic material composted in FY 18–19 remained about the same for a total of 15,521 tons. Food scrap composting, a subset of this number, decreased by 583 tons from the previous year to 7,201 tons. These numbers still represent an increase of 8% over the 14,625 tons of total organic material composted in FY 14–15, and a 3% increase over the amount of food scraps composted in 14-15.

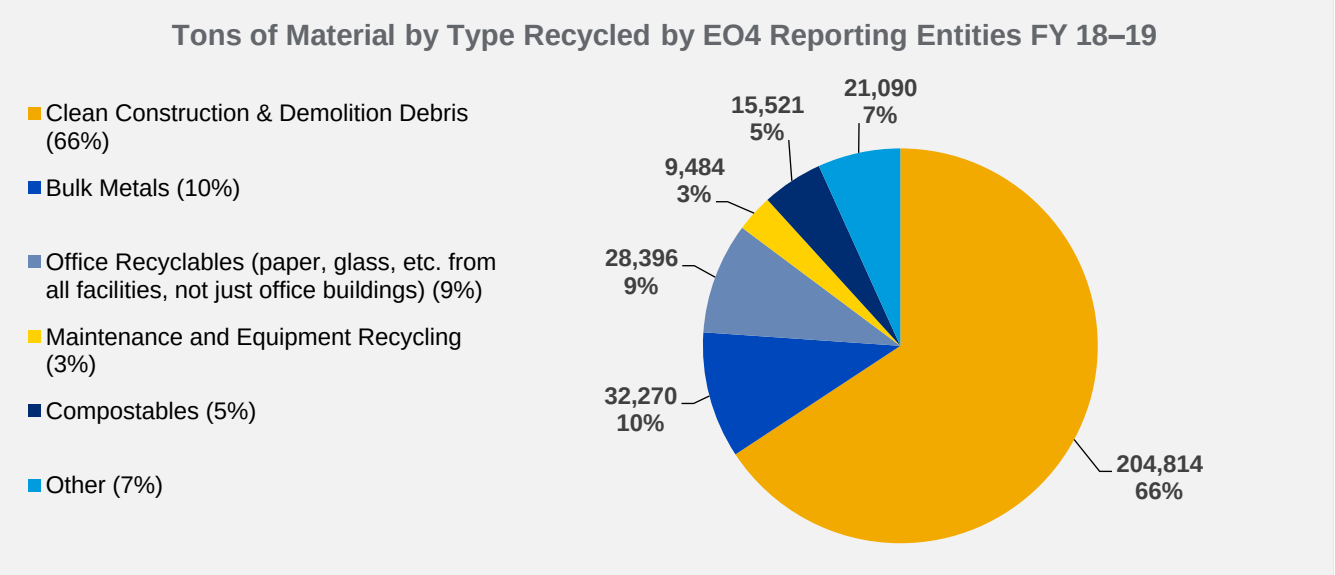
Diverting organic waste and food scraps that cannot be donated to recycling or anaerobic digestion reduces methane generation in landfills and sequesters significant amounts of elemental carbon, all while producing a beneficial amendment that improves soil health and reduces the need for energy-intensive fertilizers and hazardous pesticides.

In FY 18–19 the number of agencies that reported composting (16) was about the same as last year (17). The number of agencies composting has doubled since FY 12–13, in which 8 agencies reported composting. ***SUNY***, ***Parks*** and the ***Department of Corrections and Community Supervision*** accounted for 92% of material composted in FY 18–19. A number of agencies, such as ***Parks*** and ***Battery Park City,*** composted their organic waste on-site and used the finished compost on-site for large gardens, turf repair and mulch, and tree plantings.

Total Waste Generated and Percent Recycled

	Total Tons of Waste Generated	Tons of Materials Recycled	Percent Recycled
FY 2008–09	815,000	410,500	50%
FY 2009–10	507,929	318,181	63%
FY 2010–11	682,043*	308,566	45%*
FY 2011–12	531,059	355,865	67%
FY 2012–13	501,125	355,226	71%
FY 2013–14	389,510	273,712	70%
FY 2014–15	398,895	280,172	70%
FY 2015–16	580,015**	452,962	78%**
FY 2016–17	513,412**	393,136	77%**
FY 2017–18	599,454**	417,101	70%**
FY 2018–19	469,402**	311,576	66%**

*The large increase in waste generated in FY 10–11 is primarily due to MTA reporting 200,000 tons more waste (most likely C&D debris) as compared to the previous or following years. **The increases in waste generated in FYs 15–16, 16–17, 17–18 and 18–19 are due to MTA and DOT reporting significantly more tons of C&D debris generated as compared to 14–15. In FY 10–11, the increased waste was disposed of, not recycled, while in FYs 15–16 through 18–19, the bulk of the increase in materials generated was recycled, maintaining the State's impressive recycling rate.



The pie chart above provides a breakdown of the total quantity of materials recycled by agencies, on average, in FY 18–19. Because waste types are split out by weight, "office recyclables" (paper, bottles, and cans) amount to significantly less than non-office recyclables, which weigh more. 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.

Savings and Costs

On average over the past 10 years, most agencies reported a reduction or no change in costs as a result of recycling efforts. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges, and Lessons Learned

Improved Recycling & Composting Collection Strategies

It has been proven that better signage, bin type and color, and bin placement go a long way toward making recycling and food scraps diversion more convenient and effective. Many agencies have invested in updating their collection strategies to boost recycling and organics diversion rates. Other agencies have implemented behavior change techniques and education programs to increase employee engagement and acceptance of recycling and composting programs. Some of these strategies include:

- ***CUNY Staten Island*** hosted the Turn and Learn Compost workshop, in which more than 300 pounds of pre-consumer food scraps from the cafeteria and leaves from the grounds were used to teach students about composting.
- ***Homes and Community Renewal*** strategically located recycling bins in more prominent locations to drive improved recycling habits in their new workspace.

In addition to innovative changes to recycling programs, composting initiatives continue to take off across the state. Several ***SUNY*** campuses, including ***Cortland***, ***Alfred State***, ***Poly***, and ***ESF***, have started diverting food scraps for composting.

A number of agencies have successfully addressed the challenge of cross-contamination of recyclables and trash through educational campaigns on proper waste sorting. For instance, the ***Environmental Facilities Corporation*** and the ***Justice Center*** reported that signage above recycling stations that reminds employees about what goes where has reduced cross-contamination.

Lead-by-Example Highlight:

Make It Easy to Be Green!

Agency experiences prove that better signage and uniform bin type, color, and placement make collecting recyclables more convenient and effective. Many agencies, including ***NYSERDA***, ***NYPA***, ***Homes and Community Renewal***, *the* ***Environmental Facilities Corporation,*** *and the* ***Justice Center*** *have successfully boosted diversion rates by updating their collection strategies.*

Agencies in leased space with multiple tenants continue to find it challenging to obtain exact weights of waste produced and diverted. A waste audit, described in more detail on page 11 of this report, is the best approach to measuring diversion rates in such situations. The data gathered in a one-day audit can be used to extrapolate an annual estimate for rest of the year.

Special Wastes

The GreenNY reporting form for FY 17–18 and FY 18–19 asked agencies to report on their disposal and recycling of special wastes, including rechargeable batteries, fluorescent lamps, mercury-added consumer products, and electronics. All agencies that handle such items report having proper disposal or recycling mechanisms in place.

Many agencies have facilities located in space owned by ***OGS*** or leased from a third party which manages their special wastes, and do not need to handle such wastes directly. Some agencies that frequently generate high volumes of certain types of special wastes have contracts with third-party vendors to recycle or dispose of it safely. Others reported having Hazardous Waste Disposal Contracts or Universal Waste Management Plans in place to manage all their special wastes. A few agencies that do not generate large amounts of special waste take advantage of ways to properly dispose of or recycle such wastes through local businesses such as Home Depot and Lowe's, municipal drop-off locations and events, or mail-in programs to manufacturers.

Above and Beyond

Many agencies are working to identify more ways to recycle their waste, beyond the items regularly collected by their haulers. These agencies report recycling items such as glasses, DVDs, Tyvek envelopes, and water filters as well as used oil, antifreeze, scrap metal, used tires, automotive batteries, and lightbulbs. ***CUNY Brooklyn College*** has installed a textile recycling bin on campus and the battery and electronics recycling program at ***CUNY Hunter College*** continues to be a great success.

Agencies that find creative ways to deal with materials that may be hard to recycle can inspire others. This report helps agencies identify ideas that can be adapted and implemented at their own facilities.

New and Noteworthy Initiatives in FY 18–19

- ***NYPA*** reported that their effort to standardize office recycling stations at all their facilities is now 90% complete and has gained impressive employee acceptance. That success has led to the start of conversations about reducing waste overall and shifting to a zero waste-to-landfill program in the future.
- A few months after hiring their new Sustainable Facilities Manager, ***SUNY ESF*** launched a campus-wide office composting program and entirely reorganized their office recycling system.
- ***CUNY Brooklyn's*** pilot office recycling project resulted in a 36% increase in the college's recycling rate and promoted awareness across the campus community.
- ***SUNY Poly*** partnered with the county waste authority on a pilot project to divert institutional food waste for anaerobic digestion. ***SUNY Farmingdale*** launched a pilot composting program with their food vendor and the Sustainable Gardens program, and ***Alfred State*** diverted food prep waste from the dining halls to be composted at the College Farm.
- In a great example of collaborative local action, organic yard waste from ***SUNY Alfred State*** was composted with leaves from the Town of Alfred and the finished compost was used on campus.

Reducing Hazardous Chemical Use

MTA Long Island Railroad has agreements with local gardening groups to beautify some of its train stations. The agreements stipulate that pesticides and herbicides shall not be used.

A majority of agencies have successfully adopted practices that reduce the use of hazardous chemicals, including green cleaning and least-toxic pest management. Agency experiences prove that less-toxic products and practices are as effective as their conventional counterparts and cost the same or less.

Pest Management

Most agencies continue to use Integrated Pest Management (IPM) to prevent indoor pests. IPM is a set of practices focused on monitoring, good sanitation, and structural controls, with least-toxic pesticide use as a last resort. The newly amended "Pest Management for Indoor Spaces" specification provides guidance for agencies.

A plurality of agencies continue to solely use non-chemical means to control pests on their lawns and grounds, as required by the specification "Pest Management for Outdoor Spaces." This specification also requires previously exempt special facilities, such as golf courses and utility rights-of-way, to practice IPM or Integrated Vegetation Management (IVM), which applies the same practices to the control of unwanted plants. Agencies must also avoid purchasing nursery stock treated with insecticides.

Findings

For the first time in FY 17–18, *all* agencies, not just those responsible for pest management (either directly or through contractors) were asked about the use of IPM and non-chemical means of pest control at their facilities. Understandably, the level of reported performance dropped somewhat in the first reporting year, but FY 18–19 saw an increase in performance across the board, an encouraging trend. The GreenNY Council continues to believe it is important for agencies in leased or managed space to be aware of and advocate for the adoption of least-toxic pest management practices, as they can improve the well-being of facility users.

In FY 18–19, agencies reported that:

- 71% use IPM at all (46%) or a majority (25%) of their indoor facilities, an increase of 6 percentage points since last year.
- 47% use non-chemical means of pest control at all (28%) or a majority (19%) of their outdoor facilities, an increase of 3 percentage points since last year.
- 37% of agencies with exempted outdoor facilities, such as golf courses and rights-of-way, reported using IPM or IVM at all (22%) or a majority (15%) of such facilities, a small increase from last year.
- 40% of agencies avoided nursery stock treated with insecticides at all (22%) or a majority (18%) of their facilities, the same amount as last year.

Savings and Costs

On average over the past ten years, most agencies reported a reduction or no change in costs as a result of practicing IPM, IVM, or non-chemical means of pest control. In FY 18–19, no facilities reported an increase in costs. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Lead by Example Highlight:

Avoid Hazards and Save Money

Nissequogue State Park *cut their use of pesticides by introducing beneficial insects. The insects stay around to help from year to year, so the park doesn't have to purchase pesticides or additional insects, saving more than $800 annually.*

Success Stories, Challenges, and Lessons Learned

Agency reports continued to document widespread adoption of IPM, IVM, and non-chemical means of pest management over the past ten years, with some agencies reporting the exclusive use of such approaches, including ***OGS***, ***Parks***, ***NYPA***, and ***NYSERDA***. ***OGS*** has been a leader on the use of IPM in public buildings for the past 31 years. All the golf courses in ***Parks'*** system use IPM on turf grass, a progressive model first developed at Bethpage State Park. Parks has found that less toxic products have higher efficacy and lower costs. ***CUNY Lehman*** reports that cryogenic control continues to be a safer, more cost-effective, and higher performing alternative to eliminating bedbugs than the use of pesticides.

New and Noteworthy Initiatives in FY 18–19

- The ***United Nations Development Corporation*** reported that using IPM has enabled them to eliminate the use of toxic pesticides at their facilities.
- ***MTA Long Island Railroad*** has agreements with local gardening groups to beautify areas around some of its train stations. The agreements stipulate that pesticides and herbicides shall not be used to maintain plantings and that the gardens should be managed as sustainably as possible (e.g., by using native plants).
- ***SUNY New Paltz*** launched a biodiversity initiative in 2018 and adopted a campus pollinator habitat plan, which recommends purchasing plants from nurseries that do not treat stock with insecticides.

- A park in ***Parks' Genesee Region*** has created a homemade chemical-free carpenter bee control system. Physical traps are hung at buildings where damage is occurring. ***Rockefeller Park*** uses white vinegar to control weeds around walkways, the ***Niagara Region*** uses flame weeding where practical, and some parks in the ***Saratoga Region*** use boiling water or vinegar for weed control. ***Heckscher Park*** continued to use organic pesticides such as EcoVia for tick reduction.

Green Cleaning

When it comes to green cleaning, New York agencies have a sparkling reputation built on avoiding the use of products with toxic ingredients. Those efforts benefit both staff and the general public who use State facilities.

Findings

For the last two fiscal years, *all* agencies, not just those responsible for performing or contracting for cleaning services at their facilities, were asked about the use of green cleaning products and practices. The level of performance remained generally consistent, which is encouraging. In FY 18–19, agencies reported that:

- 78% use general purpose green cleaning products that meet the State's GreenNY specifications at all (47%) or a majority (31%) of facilities. The number of agencies reporting use at all facilities increased 5 percentage points, an encouraging trend.
- 79% use disinfectants and sanitizers that meet GreenNY specifications at all (50%) or a majority (29%) of facilities. This high level of performance is encouraging for the first year of reporting on these products.
- 82% use green cleaning practices that minimize the amount of chemical products used (such as walk-off mats, microfiber mops, and controlled dilution systems) at all (54%) or a majority (28%) of their facilities, an 11 percentage point increase from last year, which brings this trend up to previous performance levels.
- 72% use floor finishes and finish removers that meet GreenNY specifications at all or most facilities.
- 75% use fragrance-free products at all or most of their facilities, a 4 percentage-point increase.

Savings and Costs

On average over the past 10 years, a plurality of agencies reported either a reduction or no change in cost as a result of adopting green cleaning practices. Less than 3% reported an increase in costs. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges, and Lessons Learned

The majority of agencies have successfully adopted green cleaning practices that serve as a model for others.

- ***NYSERDA*** uses a multipurpose green cleaning product that also acts as a degreaser on many different surfaces, allowing them to avoid the cost of purchasing multiple products. Through training, staff have learned how to use the product properly and have reduced expenses.
- ***Parks*** staff at ***Oquaga Creek*** expanded the use of Ecolution® cleaning products and dilution systems, which resulted in greater efficiency, fewer spills, and less waste.
- ***SUNY Morrisville*** has adopted policies to reduce chemical use campus-wide, including the use of green cleaning products and floor finishes.
- ***SUNY Oswego*** increased their use of green cleaning products by 50%.

Facilities can narrow their search for an effective green cleaner by consulting OGS's list of approved green cleaning products, which includes general purpose cleaners but not disinfectants, and the OGS' Environmentally Preferable Cleaning Products contract, which also includes disinfectants. All cleaning products and disinfectants that meet GreenNY specifications must meet rigorous performance requirements.

New and Noteworthy Initiatives in FY 18–19

New projects to reduce the use of hazardous chemicals were undertaken by a plurality of agencies in FY 18–19. A number displayed creative approaches to reducing the environmental impacts of cleaning operations:

Lead-by-Example Highlight:

Floors Shine without Chemicals

CUNY's Bronx Community College *switched to using fine mesh sanding and polishing screens on their terrazzo floors, eliminating the use of wax and stripper. The polished floors shine as well as waxed floors and have better durability.*

- ***CUNY's Bronx Community College*** recently switched to using fine mesh sanding and polishing screens on their terrazzo floors in lobbies and hallways, eliminating the use of wax and stripper. The polished floors shine as well as (or more) than waxed floors and have better durability. (Please note that for those who continue to use floor finishes and finish removers, purchasing should follow the GreenNY specification Floor Finishes and Floor Removers.)

- ***SUNY ESF's*** Custodial Division transitioned from a traditional mop and bucket system to a microfiber mop and cloth cart system in FY 18–19. The cart system uses a series of lidded bins that separate clean mop heads from dirty ones, ensuring that dirty water and product isn't used to clean floors. In addition, staff use a green cleaning solution and make sure that mop heads are damp, not soaked, to help speed drying time and reduce waste.

- While not strictly a green cleaning measure, ***DANC*** continued its strategy of reducing toxic chemical use by ending the use of chlorine gas as a wastewater treatment chemical at the Warneck Pump Station. The highly toxic gas was replaced with sodium hypochlorite, significantly reducing risks to employee health and the environment. The project reduced the agency's regulatory burden as well: DANC no longer needs to maintain a Process Safety Management Plan required by the U.S. Occupational Safety and Health Administration or a Risk Management plan required by the U.S. Environmental Protection Agency.

Energy Efficiency

MTA Metro-North's Energy Team celebrates the milestone of becoming the first railroad in North America to achieve ISO certification in Energy Management Systems, which has already led to reduced electricity and diesel use by trains.

Increasing energy efficiency is key to meeting the ambitious greenhouse gas reductions goals of the Climate Leadership and Community Protection Act. Many State agencies have taken advantage of programs offered by NYSERDA, NYPA, and other utilities to reduce energy use in their facilities and have found that project expenses are often quickly recouped and lead to ongoing savings. Energy-efficient buildings, effective operation and maintenance, and the use of clean sources of energy all demonstrate the State's ability to lead by example and achieve environmental and economic benefits while decreasing fossil fuel emissions.

Findings: Executive Order 88 Progress Report

Executive Order 88 (EO 88) set a nationwide precedent for energy efficiency by mandating a 20% reduction in Source Energy Use Intensity (EUI) at State-owned and managed facilities 20,000 square feet or greater by 2020. The following provides an update on progress through calendar year 2019:

- Covered State facilities have reduced source EUI by 14.4% since the baseline year (fiscal year 2010-11).
- With 158 projects committed to at the end of calendar year 2019, covered State facilities are on track to decrease their source EUI 22.6%, which will achieve and exceed the Order's 20% reduction goal and meet the State's commitment to energy efficiency, cost savings, and carbon emissions reductions.
- In FY 18–19 alone, these improvements saved an estimated $65 million in avoided costs and reduced CO_2 emissions by more than 293,000 tons.
- State agencies have gone above and beyond by completing all energy audits required by EO 88, as well as several additional studies.
- Approximately 96% of all covered State buildings are now submetered for electricity, and 90% are fully submetered for all energy use.

Savings and Costs

On average over the past 10 years, a significant number of agencies reported saving money through energy use reduction, while most of the rest reported no change in costs. Only a handful of agencies reported an increase in costs. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Challenges and Success Stories

Energy efficiency has a significant track record of success and saving money. Examples include an upgrade to LEDs by the ***Niagara Frontier Transportation Authority***, which provided a payback in less than a year, and the installation of LEDs by the ***Insurance Fund*** which reduced energy consumption by 36%.

Even though it is in leased space, ***Financial Services*** has successfully reduced its energy use by purchasing ENERGY STAR® appliances, installing occupancy sensors to reduce unnecessary lighting, and setting building temperature control ranges to respond to seasonal temperature changes.

Even seemingly small changes have helped ***CUNY Staten Island*** reduce energy use, such as programing their heating, ventilating, and air conditioning (HVAC) systems to minimize heating and cooling in unused spaces and coordinating between campus departments to base energy use on occupancy during weekends.

Lead by Example Highlight:

Saving Energy, Money and the Earth

*Under the **Build Smart NY 2020** program, large State facilities are on track to decrease energy use 22.6% by 2020. In FY 18–19 alone, energy efficiency improvements saved the State an estimated **$65 million** and reduced CO_2 emissions by more than **293,000 tons**.*

Energy studies that compare the cost of efficiency measures to estimated savings have helped entities, such as ***CUNY Kingsborough Community College***, make informed decisions. Approximately 90% of State buildings are now fully submetered to provide better insight into where major electricity or gas costs come from, and where savings can occur. The investment of staff resources is crucial to these initiatives. ***SUNY ESF*** hired a dedicated energy manager with the time and resources to bring projects to fruition.

These successes provide a model for others to follow in addressing challenges identified by agencies:

- Estimating up-front costs and changes to utility bills, which can be complex due to fluctuations in the number of agency staff, variations in weather, and other variables.
- Working with a landlord to make significant investments, such as converting to LED lighting, in the middle of a long-term lease.
- Operating buildings efficiently when staff expertise and training are needed to operate highly sophisticated and specialized energy management systems and equipment.
- Expanding beyond the accomplishment of low-cost/no-cost measures to larger, more costly projects.

New and Noteworthy Initiatives in FY 18–19

- The ***Department of Corrections and Community Supervision*** completed an energy efficiency roadmap to guide its investment of over $300 million across 50 facilities and reduce energy consumption by at least 21%.
- ***MTA Metro-North Railroad*** became the first railroad in North America to achieve an ISO (International Organization for Standardization) 50001 Energy Management Systems certification, which has helped it reduce the use of traction power by electric trains, diesel consumption by locomotives, and heating fuel by facilities. It also plans to use the system to reduce the use of non-traction electricity, natural gas, and steam.
- As part of a new partnership, ***Battery Park City*** is working with ***NYSERDA*** to plan neighborhood-wide energy efficiency strategies to enhance the Authority's overall environmental sustainability.
- ***CUNY Bronx Community College*** performed an ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Level II Energy Audit at the campus, which identified 27 energy conservation measures designed to generate annual savings. Projects selected for implementation include computer power management, building retro-commissioning, cleaning air handling unit coils, insulating pipes, optimizing refrigeration, and upgrading window air conditioning units.
- The New York State ***Canal Corporation*** conducted ASHRAE energy audits at all their facilities to identify opportunities for strategic investments to reduce energy use.
- ***Homes and Community Renewal's*** newly designed workspace in New York City features energy-efficient LED lighting that is 47% more efficient than current energy code mandates and will save money over time.
- The ***Bridge Authority*** converted all streetlights to energy-efficient LEDs, reducing electricity use by 22%.
- ***SUNY Downstate*** replaced 5,000 florescent bulbs with LEDs, which will save $125,000 to $150,000 per year. The college also metered the water use of their HVAC cooling towers, which will save an additional $125,000 per year.

Renewable Energy

Students and community mingle at ***SUNY Buffalo's*** Solar Strand. The 3,200-panel installation produces approximately 760,000 kWh annually. (© Douglas Levere)

New York State continues to lead the nation under Governor Cuomo's aggressive climate agenda, which mandates that least 70% of New York's electricity come from renewable energy sources, such as wind and solar, by 2030, and be 100% carbon neutral by 2040. Governor Cuomo has explicitly called on State entities to set an example of leadership on renewable energy.

Findings

There are several ways in which state entities can directly participate in the generation of renewable energy to support their own operations. These include building systems themselves, joining a community solar project, or entering into power purchase agreements (PPAs), through which a developer arranges for the design, permitting, financing, and installation of a system for little to no up-front cost and is reimbursed through utility bill savings. Systems can be constructed on the site of a state facility, or off-site as part of a remote net metered or community solar system.

Reporting on renewable energy is still relatively new, and each year has brought increased clarity around the terms "generation" and "use." The GreenNY Council has determined that calculations of renewable energy generation by state entities should include only the following: energy generated on-site and used at a state facility, or energy generated off-site but dedicated to use at a State facility through remote net metering or a community energy project.

Compared to other states, New York's power grid already includes a high percentage of renewable, clean energy sources, like hydropower, and we are proud of the contribution made by New York state entities, like ***NYPA*** and ***NYSERDA***, to that record. Renewable energy sources already embedded in the grid cannot be counted toward an agency's generation of renewable energy, however, for two reasons. First, there is no way to avoid double counting. Second, existing sources do not reflect proactive action taken to invest in the generation of new renewable energy sources on an agency's part. In comparison, energy generated and used on-site, as well as energy generated off-site but dedicated for use at a State facility, is being produced as a result of proactive action taken on by an agency (such as on-site construction or entrance into a contract that supports construction of a net metered or community solar project).

The purchase of renewable energy credits (RECs) to offset facility energy use is more active than simply purchasing energy from the grid, but it does not drive new construction as forcefully as on-site construction and net metered or community energy projects. For that reason, the GreenNY Council has determined that the purchase of RECs will be tracked separately, and only those sourced from New York State, which support State businesses, create in-state jobs, and contribute to New York's tax base, will be counted.

As presented in the table and text below, several agencies grew their renewable energy generating capacity in FY 18–19. Overall, agencies generated almost 10 million kWh of solar energy for agency use in FY 18–19, a 10% increase from the previous year**.**

Solar Electric Energy Generation by State Agencies
On-site, or Off-site and Dedicated to a State Facility

	Total kWh FY 15–16	Total kWh FY 16–17	Total kWh FY 17–18	Total kWh FY 18–19
CUNY			61,700	245,400
DASNY	40,000	40,000	40,185	--
DEC	11,000	120,000	150,000	65,660
NYS Bridge A.				53,628
OGS			2,239	2,200
Ogden. Bridge A.				256,800
ORDA*			5,821,320	5,814,317
Parks	181,147	241,271	1,019,033	1,875,761
SUNY	2,073,507	2,169,347	1,901,294	1,638,850
TOTAL	**2,305,654**	**2,570,618**	**8,995,771**	**9,952,616**

Two agencies are proactively involved in the generation of hydroelectric energy. ***NYPA*** uses 58,150,000 kWh of the hydroelectric energy it generates to power its own facilities on the same site where the power is generated. ***Tax and Finance*** entered into a contract to purchase 1,548,900 kWh of hydroelectric energy from the Green Island Hydropower Plant for use at its own facilities. This project is an example of how agencies with limited land resources can actively invest in renewable energy.

Savings and Costs

On average over the past five reporting years, a significant number of agencies reported a reduction or no change in costs due to their renewable energy generation or purchasing efforts. The number of agencies reporting an increase in costs declined 19 percentage points, from 25% in FY 14–15 to 6% in FY 18–19. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges and Lessons Learned

The State continues to make advancements in renewable energy projects, and while up-front costs are a consideration, training in-house staff to install solar systems and using tools like PPAs and community solar contracts can help.

Parks' program to train staff in renewable energy installation has paid for itself in savings and fueled their steady and impressive increase in on-site solar electric generation over the last four years. ***DEC*** self-installed a solar array at their Stamford Office in FY 18–19. To support these efforts, solar equipment has been available to State agencies and local governments at low prices through state contracts since 2009, and in 2018, OGS awarded a new Photovoltaic Systems contract with improved offerings for installation (for more details, see page 43 of this report).

In May 2017, OGS awarded a new contract for solar PPAs that offers both on-site and remote net metered systems, and new contractors were added in 2019. Mini-bids for almost 50 MW of capacity have been awarded through the contract, with construction expected to begin in 2020. (For more details, see page 42 of this report.)

Lead by Example Highlight:

Harnessing the Power of the Sun

State agencies generated almost 10 million kWh of solar energy for their own use in FY 18–19, ***a 10% increase*** *over the previous year.*

In January of 2020, OGS awarded a new community solar contract that allows agencies with non-demand accounts to enter into subscription agreements with community solar projects in order to receive discounted credits on their utility bills. Compared to other options, this contract is a quick and simple way to support the generation of renewable energy without having to construct a solar system or enter into a long-term agreement.

New and Noteworthy Initiatives in FY 18–19

- ***Parks*** announced two new solar projects on the east end of Long Island, totaling over 1.2 MW. In addition, work is underway to make Grant's Cottage in Moreau the first National Historic Site to operate off-grid, with solar power and battery storage. All projects were or will be installed by Parks staff.
- The ***Bridge Authority*** installed and activated a 1,332-panel solar array at the Kingston-Rhinecliff Bridge, which generated more than 50,000 kWh of electricity in FY 18–19 and will generate approximately 26% of the electricity used by the Authority.
- ***CUNY John Jay*** replaced 4,000 fluorescent lights with solar, saving 212,160 kWh of electricity and $30,000 annually.
- By using biomass for heating, ***SUNY Binghamton*** reduced CO_2 emissions by 20,000 tons per year.

Sustainable Transportation

On ***Green Your Commute*** Day in May 2019,
2,768 employees offset 41.2 tons of carbon emissions—almost twice the offsets achieved in 2018.

Findings

Agency Travel

In FY 18–19, agencies reported that:

- 72% used webinars or videoconferencing all (32%) or a majority (40%) of the time to reduce employee travel, a small increase over the previous reporting year, and a notable increase in agencies using these tools all the time (from 26% to 32%).
- 55% use carpooling and fleet management practices all (34%) or a majority (21%) of the time to reduce employee vehicle miles traveled (VMT), a small decrease from last year.

- Of the 38 agencies reporting VMT data in the last two fiscal years, 19 or 51% reduced VMT between FY 17–18 and FY 18–19, a notable increase compared to the 13 agencies (31% of 42) reporting a reduction the previous year.
- Total VMT reported by 54 agencies in FY 18–19 was 211.5 million miles, a 22% increase, mainly due to two large agencies who reported for the first time this year.
- The average fuel efficiency of agency light-duty fleets (including SUVs, trucks, vans, and sedans) was 19.29 miles per gallon (MPG).
- 3% of the current light-duty fleet is made up of zero-emission vehicles (ZEVs) (553 out of 20,973 vehicles), and 4% of light-duty vehicles acquired in FY 18–19 were ZEVs (70 out of 1,962 vehicles).

Employees' Commutes

In FY 18–19, agencies reported that:

- The percentage of employees using public transit was four times higher than the national average as calculated by the American Community Survey conducted by the U.S. Census Bureau (20% vs. 5.1%).
- The percentage of employees driving alone in a single-occupancy vehicle was lower than the national average (73.8% vs. 76.4%).
- 1.5% of employees are driving a zero-emissions vehicle (ZEV) to work.

Employee Commutes, FY 2018–19		
Commute Mode	**% Use by NYS Employees**	**% Use by Commuters Nationwide**
Single Occupancy Gasoline Vehicles	72.2	76.4
Public Transit	20.0	5.1
Carpool	3.7	9.2
Single-Occupancy ZEV	1.5	N/A
Walk	1.6	2.7
Bike	.61	.6
Other (taxi, access-a-ride, etc.)	.50	N/A

- 29% of agencies provide free or reduced transit passes to staff at least some of the time.
- Some agencies promote and support the use of compressed pay periods (4% all, 3% a majority, 41% at least some of the time), telecommuting (4% all, 7% a majority, and 44% at least some of the time), and co--location (4% all or a majority of the time and 38% at least some of the time).
- Most agencies, 60%, promote the use of the 511NY Rideshare system to staff, to help them find a carpooling partner.

Savings and Costs

On average over the past five years (since reporting began for this practice), a plurality of agencies reported a reduction or no change in costs due to their green transportation efforts. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges and Lessons Learned

Once again, multiple agencies stated that a major obstacle to utilizing more fuel-efficient vehicles was the higher price premium up-front. All ZEVs and higher efficiency vehicles save operating costs over time. Agencies also indicated that the high cost of installing and maintaining charging/fueling infrastructure was an obstacle to adopting more ZEVs.

The 2019 Green Your Commute Day saw an increase in both the amount of staff participating and emissions reduced. Participation was up over 2018 with 2,768 employees participating and offsetting 41.2 tons of carbon emissions – almost twice the offsets achieved in 2018 (22.1 tons). Year-over-year data also shows an increase in the frequency with which staff are choosing a green commute year-round. ***CUNY Baruch***, located in a transit-rich neighborhood, does not offer parking to their employees.

Lead by Example Highlight:

Biking Around Campus

Membership in ***SUNY Buffalo's*** *Bikeshare program has grown 15-20% each year, and now totals 500.*

New and Noteworthy Initiatives in FY 18–19

- ***CUNY Lehman*** decreased gasoline and diesel use 11% by limiting the use of older, less fuel-efficient vehicles. The college also reduced overall vehicle miles traveled.
- The New York State ***Inspector General*** continued their fleet analysis and were able to eliminate two additional vehicles.
- ***Battery Park City*** implemented new purchasing guidelines requiring project managers to pursue non-fossil fuel powered options first when purchasing new equipment.
- ***NYPA*** installed electric vehicle charging stations for fleet and employee use at all their facilities. Ride and drive events were held for staff to learn more about electric vehicles.
- ***OGS*** is installing 58 electric vehicle charging ports in downtown Albany and the Harriman Campus as part of an employee charging pilot.
- ***Parks*** installed 40 electric vehicle charging stations at their facilities throughout the state.
- ***SUNY New Paltz*** installed 20 additional electric vehicle charging ports on campus.
- ***SUNY Farmingdale*** held its largest Car Free Day event to date, with 614 faculty and students leaving their cars at home that day.
- ***SUNY Kingsborough Community College*** participates in the 511NY Rideshare and Clean Air NY programs, More than 500 faculty and students have joined the carpooling database to find matches.
- ***SUNY Buffalo's*** Bikeshare program added 10 more bikes for a total of 50; membership has grown between 15%–20% each year, and the program now has 500 members (compared to 40 in 2013).
- The ***Higher Education Services Corporation*** launched a pilot telework program, and the ***Public Employment Relations Board*** is developing a proposal for one.

Water Conservation and Reuse

SUNY Binghamton worked with local utility NYSEG to replace campus residential housing fixtures with new low-flow aerators at no cost.

New York State is a land of plentiful water resources, but significant investments are needed annually to protect the state's fresh water and deliver high quality drinking water to millions of users. Water conservation ensures those efforts are not wasted and protects an important resource for future generations.

Findings

In FY 18–19, agencies reported that:

- 53% use high-efficiency plumbing fixtures in all (28%) or a majority (25%) of their facilities. This is a 12 -percentage point increase compared to previous years.
- 15% use grey water collection in a majority (3%) or some (12%) of their facilities, similar to the rates reported the previous year. Grey water is gently used water from drinking fountains, sinks, dishwashers, tubs, and showers.
- 29% measure water use to support water conservation in a majority (20%) or some (9%) of their facilities. These practices include metering, submetering, and evaluating water bills to assist with planning or measuring the impact of changed practices.

Savings and Costs

On average over the past 10 years, most agencies reported a reduction or no change in costs as a result of implementing indoor water conservation measures. No agencies reported an increase in costs for FY 18–19. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges and Lessons Learned

Agencies continue to find creative ways to conserve and reuse water. Many agencies have implemented successful projects in this area, and their work has inspired others who are in the planning stage.

A large number of agencies have installed fixtures and equipment at their facilities that are low flow, or in some cases, waterless. ***CUNY Queens College*** has continued installing automatic water-saving fixtures in restrooms around campus; ***Parks' Fort Ontario*** has installed new low-flow toilets while rehabilitating its public restrooms; the ***Justice Center*** has installed auto-sensing restroom faucets to reduce water consumption; and ***United Nations Development Corporation*** has installed flush meters and motion-sensor controlled sink faucets to reduce consumption.

Lead by Example Highlight:

Measure and Save

Water conservation champions ***NYPA*** and ***SUNY Oneonta*** are upgrading their measurement systems with smart meters and meter alarms to help them catch high usage and respond quickly to fix leaks and other issues.

New and Noteworthy Initiatives in FY 18–19

- ***NYPA*** is in the process of benchmarking water consumption at facilities across the state by identifying existing meters that need to be replaced with smart meters.
- ***SUNY Binghamton*** and ***SUNY Morrisville*** took advantage of local utility company NYSEG's Multi-Family Energy Efficiency Program to reduce water use in their residential dorms. NYSEG provided materials and labor free of charge to replace kitchen sink and bathroom sink and shower faucets with new low-flow aerators.
- ***SUNY Oneonta*** employed water meter alarms, which have been very effective at catching high water use as a result of stuck toilets and/or leaks in campus buildings.

Green Infrastructure and Stormwater Management

SUNY Purchase installed a bioswale next to a parking lot to capture, treat, and filter over 26,500 cubic feet of surface water runoff from the campus' impervious surfaces.

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 to capture stormwater. Green infrastructure is much 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.

Sustainable stormwater management, an important subset of green infrastructure, uses both natural and engineered systems to manage stormwater in a way that conserves, protects, and even enhances ecosystems. Practices include rain gardens, green roofs, vegetated swales, bioretention areas, rain barrels, and permeable pavement. Many examples of green infrastructure can be found on State properties.

Findings

In FY 18–19, all agencies, not just those responsible for landscaping at their facilities, reported that:

- 30% use smaller-scale green infrastructure and stormwater management practices to maintain and restore natural stormwater infiltration, such as rain gardens and other bioretention systems, urban trees, green roofs, and/or green walls.
- 16% use smaller-scale practices that collect and reuse rainwater and minimize the use of potable water.

- 40% include sustainable landscaping, green infrastructure and sustainable stormwater management in the design and construction of new facilities, and 40% include such practices in the design and construction of existing facilities under renovation. 9% follow these practices at all facilities.
- 34% follow sustainable practices to remove snow and ice, such as sub-slab snow melt systems, or seasonally closing walkways. 8% follow such practices at all facilities.

Of the agencies located in facilities that require maintenance or management of outdoor space, 50% reported that they use large-scale green infrastructure practices such as forests, riparian buffers, floodplains, and wetlands. 11% reported that these practices are utilized at all or most of their facilities.

Savings and Costs

On average over the past 10 years, most agencies reported a reduction or no change in costs as a result of implementing stormwater management measures. On average over the past three years, most agencies reported a reduction or no change in costs as a result of implementing green infrastructure practices. No agencies reported an increase in costs associated with green infrastructure practices in FY 17–18 or 18–19. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

New and Noteworthy Initiatives in FY 18–19

- ***SUNY Purchase*** installed a bioretention basin, or bioswale, under a parking lot, which will capture, treat, and filter over 26,500 cubic feet of surface water runoff from the campus' impervious surfaces. Using engineered soils and native vegetation, the system decreases the volume of runoff and reduces the amount of pollutants and pathogens entering Blind Brook, and ultimately, the Long Island Sound. The project will be integrated into course curricula and students will use it as a living laboratory for the basis of research projects.
- ***SUNY New Paltz*** installed a 12,500-gallon cistern underground on the south side of the Wooster Building to collect rainwater that falls on the building's roof. The rainwater is used as grey water to flush toilets and urinals in the building. This system reduces stormwater runoff as well as the total amount of potable water used by the campus.
- The ***Roosevelt Island Operating Corporation*** included installation of a green roof in their Octagon comfort station renovation project.

Sustainable Landscaping

A monarch butterfly enjoys ***SUNY Purchase's*** Native Species Garden, installed in 2019. The garden includes beehives and 20 raised beds filled with native and pollinator supporting species.

Sustainable landscaping enhances the beauty of a property while responding to a variety of environmental concerns such as water and energy use, soil erosion, and the need to provide habitat for wildlife and pollinators. Through the adoption of sustainable landscaping, the green space associated with a diverse array of State facilities is protecting the environment and natural resources, all while saving money and reducing maintenance time.

Conventional landscaping requires watering and fertilizing, and sometimes, annual re-planting and the application of pesticides. Non-native plants are also frequently used, which can lead to the inadvertent planting of invasive species. Sustainable landscaping uses native, low-maintenance plants that are adapted to New York's specific climate conditions. Perennial plants require less time to establish each season than annuals and can be chosen to be more drought tolerant than traditional landscaping plants. These all save water and reduce staff maintenance time. Sustainable landscaping also creates learning opportunities for New Yorkers and showcases the beauty of our native species.

Findings

In FY 18–19, agencies located in facilities that require the maintenance or management of outdoor space reported that:

- 54% use practices that preserve or enhance soil (e.g., creating wind breaks or using compost made on-site) at all (9%), a majority (18%), or some (27%) of their facilities.
- 59% use practices that preserve or maximize the use of native vegetation to support pollinators and reduce water and energy use, such as reduced or no-mow policies, at all (9%), a majority (18%), or some (32%) of their facilities.

- 55% use energy-efficient landscape design (e.g., use of trees for shade and wind breaks or use of vegetation or reflective material to reduce heat islands) at all (5%), a majority (18%), or some (32%) of their facilities.
- 57% plant xeric, native, or pollinator-friendly plants at all (11%), a majority (14%), or some (32%) of their facilities.

All these metrics represent a notable increase in performance compared to the last year of reporting, ranging from 14 to 21 percentage points.

Savings and Costs

On average over the past 10 years, most agencies reported a reduction or no change in costs as a result of implementing sustainable landscaping. No agencies reported an increase in costs for FY 18–19. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges, and Lessons Learned

Agencies reported implementing a combination of practices at their facilities to achieve a holistic, sustainable landscaping program, including developing pollinator gardens, designating areas as reduced- or no-mow, and using native and xeric species. For example, ***CUNY Brooklyn*** and ***Queens Colleges*** incorporate xeriscaping, native- and pollinator-supporting species, and rain gardens or swales in their landscaping to reduce the need for maintenance and watering. ***SUNY Buffalo*** maintains a master list of native plant and tree species that it supplies to landscape designers as new projects are launched.

As with other types of projects, it can be challenging to implement sustainable landscaping practices in space that is leased from or managed by third parties. Agencies should be aware that sustainable landscaping, especially when using native species, often requires an adjustment in maintenance, such as less frequent watering, and a caretaker that knows how to care for such plants. Resources on design and maintenance of sustainable landscaping can be found on the GreenNY website.

New and Noteworthy Initiatives in FY 18–19

- ***SUNY Purchase*** established a beehive and the "Purchase Native Species Garden," which houses 20 raised beds filled with native species that support pollinators. The garden is a result of research and collaboration between environmental studies and biology students and staff, and will be used to educate the campus, as well as the public, about the importance of native biodiversity.
- ***Parks*** worked with partners to develop a Strategic Landscape Design Plan for the Olana State Historic Site to restore the relationship of the site with surrounding natural ecosystems. The project includes introducing native species as well as identifying naturally occurring habitats and restoring them.
- ***SUNY New Paltz*** became a "Bee Campus USA" in 2019 and developed a campus Pollinator Habitat Plan.

Species and Habitat Protection

NYPA is working with ***DEC*** and the U.S. Fish and Wildlife Service to conduct habitat improvement projects, like this one on the Niagara River, to protect species like osprey, sturgeon, and Blanding's turtle.

Endangered Species

When air, water, land, plants, and animals support each other in a healthy ecosystem, all species—including humans—flourish. Whether intentional or unintentional, human actions can cause imbalances such as the loss of pollinators (which in turn can impact food production) or the uncontrolled expansion of disease-carrying species.

Findings

- In FY 18–19, 32% of reporting agencies located in facilities that require the management of outdoor space have performed assessments for vulnerable or endangered species or communities on property owned or managed by their agency.

Success Stories, Challenges, and Lessons Learned

The ***Central Pine Barrens Joint Planning and Policy Commission*** (Pine Barrens Commission) works collaboratively with public landowners to identify endangered or vulnerable species on their land. Commission staff help landowners with field monitoring and data collection through programs such as the Empire Native Pollinator Study.

NYPA has been conducting habitat improvement projects for species such as sturgeon, osprey, and Blanding's turtle for several years. Sites are monitored for species abundance by NYPA's environmental scientists in partnership with ***DEC*** and the U.S. Fish and Wildlife Service. ***NYPA*** is also supporting native bee, bird, and other pollinator species by installing pollinator gardens and wildflower meadows that increase habitat and connectivity.

New and Noteworthy Initiatives in FY 18–19

- ***SUNY Buffalo*** left streams in Letchworth Woods in their natural state to benefit the spiny softshell turtle, a species listed as "Of Special Concern" in New York. The Woods also contain big shellbark hickory, a "Threatened" species.

Invasive Species

Invasive species are non-native plants, animals, insects, and diseases that, due to a lack of predators or native resistance, expand their populations quickly, outcompete native species, and disrupt food webs. They can also spread disease among humans and livestock, damage crops, and negatively impact recreation and associated income. They are one of the greatest threats to New York State's biodiversity.

Invasive species can be introduced intentionally (e.g., when non-native plants are sold at nurseries and escape from gardens) or unintentionally (e.g., when insects hitch a ride on wooden shipping crates). Since New York is a hub for international trade and travel, it has one of the highest rates of non-native introductions in the country. State agencies can play a significant role in preventing the spread of invasive species by actively surveying their land, catching outbreaks early, and restoring native ecosystems.

Findings

In FY 18–19, agencies located in facilities that require the management of outdoor space reported that:

- 25% have conducted invasive species assessments on properties owned or managed by their agency, and
- 15% have found regulated invasive species on such properties.

Success Stories, Challenges, and Lessons Learned

Eight agencies reported doing active invasive species removal and control on properties they own or manage. On Long Island, ***Pine Barrens Commission*** staff has been working with public land managers to identify and manage invasive species such as phragmites, mugwort, and caper spurge. When warranted, they perform control actions such as hand-pulling, digging, prescribed fires, and herbicide use. Both ***SUNY Brockport*** and ***SUNY Oneonta*** reported treating native ash trees to protect them against the invasive and deadly Emerald Ash Borer. ***DEC*** reported treating 1,800 giant hogweed, a very large, invasive plant that can cause painful burns and permanent scarring. Control efforts have eradicated the plants at 11 of 12 State sites.

In the aquatic realm, ***Parks*** employed watercraft stewards that inspected 24,340 watercraft for aquatic invasive species at boat launches across the state. Boats and other watercraft such as canoes and kayaks are known sources of invasive species introduction. Stewards help raise awareness and encourage users to clean, drain, and dry their boats to reduce the chance of spreading aquatic invaders.

Overall, New York State has made great strides in invasive species management and has garnered national recognition for its comprehensive program.

New and Noteworthy Initiatives in FY 18–19

- ***DEC*** managed 100 acres of Long Island's unique Central Pine Barrens ecosystem to restore tree health and increase resistance to southern pine beetles, which infest and kill pine trees. Efforts included aerial and ground surveys, tree inventories, cutting infested trees, and thinning un-infested trees.
- ***Parks*** surveyed more than 33,000 acres of land for the invasive spotted lanternfly, which feeds on a wide variety of plants such as grapes, hops, and maple, walnut, and fruit trees. As of 2019, New York was free of an active infestation.

Buying Green

NYSERDA's Sustainability Coordinator, Heather Saunders, helps participants at OGS' annual GovBuy event find green products that perform well and are competitively priced compared to their conventional counterparts.

New York's green purchasing program received its third award for excellence in sustainable electronics procurement from the Green Electronics Council in 2019. It continues to expand its offerings of green products and help purchasers find them. Approximately 10 centralized state contracts offer exclusively green products, including *Solar Power Purchase Agreements*, *Electric Vehicle Supply Equipment*, *Five-Compartment Compostable Plates*, and *Environmentally Preferable Cleaning Products*. In addition, OGS offers green products through numerous other contracts such as *Outdoor Furniture*, *Industrial and Commercial Supplies*, and *Floor Coverings*.

In FY 18–19, the OGS Green Procurement Team expanded its offerings for solar products by developing a new contract for *Community Solar* and issuing new periodic recruitments for *Photovoltaic Systems* and *Solar Power Purchase Agreements*. Through centralized state contracts, purchasers now have the option to generate solar power by building and owning a system on site, entering into a power purchase agreement, or subscribing to an off-site community solar farm. To date, almost 50 MW of capacity have been awarded through these contracts, with construction of the systems expected to occur in 2020.

The purchase of green products through state contracts, including EPEAT computers, recycled content copy paper, photovoltaic systems, and energy-efficient lighting, totaled $114 million in FY 18–19. A list of state centralized contracts and Preferred Sources which offer green products is available on the GreenNY website.

To date, the Interagency Committee has finalized 57 green specifications covering a broad and diverse array of over 100 products and services, and many are among the most protective in the country. In 2019, 10 new and amended specifications received final approval from the Interagency Committee. Close to all agencies reporting (97%) consulted GreenNY specifications when making purchases at least some of the time in FY 18–19, and 74% did so all or a majority of the time.

Purchasing Recycled Paper

Paper is an essential commodity purchased in large quantities by the State. Paper manufacturing uses significant amounts of energy and natural resources and is a source of pollution and greenhouse gas emissions. To reduce these impacts, EO 4 requires 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.

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 will be disposed of as solid waste if not recovered. The higher the post-consumer content, the more materials were diverted from the waste stream. The tables below present data on the amount of copy and janitorial paper purchased in five out of the past nine fiscal years, broken out by percentage of recycled content.

Copy Paper Purchases by Amount of Recycled Content							
	Agencies Reporting Purchases	FY	Percent of Agencies Reporting Purchases	Total Boxes Purchased	Total Dollars Spent	Average Price per box	Percent of Expenditures by Recycled Content
100% Recycled Chlorine-free	54	09–10	77%	159,857	$6,320,148	$39.5	49%
	40	15–16	66%	123,821	$4,202,536	$34	57%
	39	16–17	64%	97,747	$3,243,611	$33	52%
	45	17–18	65%	88,756	$3,097,998	$35	46%
	44	18–19	65%	90,806	$2,790,958	$31	48%
30%–99% Recycled	43	09–10	61%	110,028	$3,803,229	$34.5	30%
	39	15–16	64%	78,438	$2,402,276	$31	32%
	30	16–17	49%	67,859	$1,931,818	$28	30%
	36	17–18	52%	80,732	$2,544,265	$31.5	37%
	36	18–19	53%	57,955	$1,541,596	$27	26%
<30% Recycled	21	09–10	30%	81,407	$2,665,794	$33	21%
	22	15–16	36%	21,277	$833,689	$39	11%
	23	16–17	38%	32,544	$1,120,584	$34	18%
	28	17–18	41%	38,719	$1,165,436	$30	17%
	23	18–19	34%	38,890	$1,487,386	$38	26%
Total Agencies Reporting Purchases	**70**	**09–10**	**N/A**	**351,292**	**$12,789,171**	**N/A**	**100%**
	61	**15–16**		**223,536**	**$7,438,501**		**100%**
	61	**16–17**		**198,150**	**$6,296,013**		**100%**
	65	**17–18**		**208,207**	**$6,807,699**		**100%**
	63	**18–19**		**187,651**	**$5,819,940**		**100%**

Key Copy Paper Findings

By far the greatest amount, and almost half (48%) of dollars spent on copy paper in FY 18–19 ($2.8 million), went to purchase 100% post–consumer recycled content, processed chlorine-free paper. This represents a 26 -percentage point increase from the 22% (or $3.3 million) spent on such paper in FY 08–09.

65% of agencies in FY 18–19 reported buying at least some 100% post-consumer recycled content, processed chlorine-free copy paper. About a third of agencies (34%) continued to purchase paper with less than 30% recycled content. Those purchases accounted for only 21% of the total number of boxes of copy paper purchased, and 26% of total dollars spent on copy paper, which reflects the higher cost per box of paper with less 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, over the past four fiscal years, agencies paid almost the same amount for 100% post-consumer recycled content copy paper (at $33.25 per box) as they did for 30-99% recycled paper (at $29.38 per box) and paper with less than 30% post-consumer recycled content (at $35.25 per box).

Janitorial Paper Purchases by Amount of Recycled Content						
	Agencies Reporting Purchases	FY	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	28	09–10	88%	236,139	$7,138,622	75%
	23	15–16	72%	138,048	$4,253,639	61%
	25	16–17	76%	147,803	$3,982,996	63%
	27	17–18	39%	166,802	$3,671,297	57%
	25	18–19	37%	157,545	$3,618,436	55%
1%–99% Recycled	22	09–10	69%	71,029	$1,699,169	18%
	24	15–16	75%	85,395	$1,909,007	27%
	21	16–17	64%	59,284	$1,730,950	27%
	21	17–18	30%	88,770	$1,894,017	30%
	18	18–19	26%	62,537	$2,046,644	31%
Unrecycled Janitorial Paper	9	09–10	28%	90,982	$727,420	8%
	9	15–16	28%	33,188	$814,128	12%
	7	16–17	21%	28,103	$640,311	10%
	11	17–18	16%	36,421	$833,064	13%
	6	18–19	9%	37,962	$860,177	13%
Total Agencies Reporting Purchases	**32**	**09–10**	**N/A**	**398,150**	**$9,565,211**	**100%**
	32	**15–16**		**256,631**	**$6,976,774**	**100%**
	33	**16–17**		**235,190**	**$6,354,257**	**100%**
	37	**17–18**		**291,993**	**$6,398,378**	**100%**
	31	**18–19**		**258,044**	**$6,525,256**	**100%**

Key Janitorial Paper Findings

55% of dollars spent on janitorial paper in FY 18–19 (or approximately $3.6 million) went to purchase 100% recycled content paper. This amount represents a 21–percentage point increase from the 34% (or $1.2 million) spent on such paper in FY 08–09.

Only 6 agencies (9% of agencies reporting) continued to purchase unrecycled janitorial paper in FY 18–19. Such purchases amounted to only 13% of all janitorial paper purchases.

OGS is focused on securing janitorial paper contracts requiring 100% post-consumer content, processed chlorine-free. Where this is not practicable, OGS aims for 100% recycled janitorial paper (containing 100% total recovered fiber), with a lesser amount of post-consumer fiber content.

Other Paper Purchases

The GreenNY reporting form asks agencies whether they purchased other types of paper such as colored paper, card stock, plotter paper, graph paper, bond paper, map paper, steno pads, etc. 35 agencies reported purchasing other types of paper in FY 18–19.

Green Specifications and Centralized Procurements

Green Specifications

A total of 57 specifications are currently approved for use in state procurement covering over 100 different commodity, service, or technology products. In April 2019, 10 new or amended specifications were approved by the Interagency Committee: “Imaging Equipment,” “Janitorial Paper,” “Paint,” “Pest Management for Indoor Spaces,” “Pest Management for Outdoor Spaces,” “Pre-Packaged Snowmelt and Deicing Products,” “State-Funded Lodging,” “Trash Bags,” “Brake Pads,” and “Reusable Bags.” The committee also tentatively approved new revisions to the draft “Adhesives,” “Floor Coverings” and “Lubricants” specifications first tentatively approved in 2018, and new amendments to the specification for “Computers and Displays.”

A summary of the new specifications adopted by the Committee is provided below. A complete list of approved specifications, as well as their full text, is available on the New York State OGS website.

Centralized Green Procurements

OGS Procurement Services is the State’s centralized procurement office, establishing and managing over 1,500 contracts for commodities, services, and technology, including many contracts containing environmentally friendly products and services. Procurement Services is dedicated to helping customers meet their green procurement goals by providing environmentally preferable purchasing contracts which are driven by seven major directives:

- The Climate Leadership and Community Protection Act (CLCPA) (Chapter 106 of the Laws of 2019)
- The New York State Green Cleaning Law (State Education Law § 409-i)
- Executive Order No. 4 (Green Procurement and Agency Sustainability)
- Executive Order No. 18 (Eliminate State Purchases of Bottled Water)
- Executive Order No. 88 (Build Smart NY) and the *New Efficiency: New York* whitepaper
- Executive Order No. 142 (Diversify Transportation Fuel and Heating Oil in State Vehicles and Buildings)
- Executive Order No. 166 (Redoubling New York’s Fight Against Threats Posed by Climate Change)

Green Procurement Team

Procurement Services established a new Green Procurement Team in April 2017 to develop green contracts, identify green products, and help contract users find green products. In FY 18–19, the team developed contracts for *Community Solar* and *Five Compartment Compostable Plates* and conducted a periodic recruitment for *Solar Power Purchase Agreements*. In addition, plans are currently underway to develop an aggregate buy for electric and hybrid electric vehicles, develop a centralized contract for compostable dishware, and replace the existing contract for *Motor Oil*.

The Green Procurement Team also maintains a list of OGS centralized contracts and Preferred Source offerings which contain green products. Examples of key green procurements developed, issued, or maintained by Procurement Services in FY 18–19 include the following:

Compostable Trays

In October of 2019, OGS awarded a new contract for *Five Compartment Compostable Plates*. This contract is a piggyback off a New York City/Urban School Food Alliance contract for compostable trays used in school cafeterias and other food service establishments. The trays have five compartments and offer a competitively priced, sustainable, and PFAS-free alternative to polystyrene or other types of single-use cafeteria trays when used in combination with a commercial composting program. The annual sales volume for the contract is estimated to be approximately $1.0 million.

A new “GreenNY” icon was added to the OGS eMarketplace in 2019

Community Solar

In January of 2020, OGS awarded a new *Community Solar* contract that offers contract users a quick and simple way to support renewable energy without having to build a solar array or enter into a long-term agreement. The contract is designed to be used for smaller, non-demand utility accounts and allows users to purchase subscriptions to community solar farms in order to receive discounted credits on their utility bill. It includes two lots: one for Value of Distributed Energy (VDER) and one for Net Energy Metered (NEM). Both lots allow for cancellation with 90 days’ notice, no up-front subscription costs, and a true-up mechanism.

Solar Power Purchase Agreements

In May 2017, OGS awarded a new contract for *Solar Power Purchase Agreements* that provides contract users with a streamlined process for the installation of solar systems at no up-front cost, with the solar electricity generated by the system being purchased through a power purchase agreement. The contract includes six lots for solar systems including on-site and remote net metered ground systems, on-site and remote net metered pole systems, on-site net metered parking canopy systems and on-site net metered roof systems. All lots include options for battery storage. In 2019, OGS conducted a periodic recruitment for this contract that resulted in the addition of two new contractors and expanded offerings for two existing contractors. In 2018 and 2019, mini-bids for almost 50 MW of capacity were awarded through the contract, with construction of the solar arrays expected to begin in 2020.

Electric Lamps

In 2018, OGS awarded a new contract for *Environmentally Preferable Lighting Products* that meet the EO 4 specification for “Lighting Fixtures, Ballasts, and Lamps,” including recessed troffers, high bay lighting, street lighting, wall packs, LED tubes, and T8 fluorescent lamps and ballasts. In addition, a variety of EO 4 compliant lighting products are offered through the OGS contract for *Industrial and Commercial Supplies*. Approximately $1.0 million in green lighting products was purchased through these contracts in FY 18–19.

Electric Vehicle Supply Equipment (EVSE) and Network Services

In November 2018, OGS awarded a new piggyback contract for electric vehicle charging stations. This contract allows for the purchase of network and non-network electric vehicle charging station hardware (including, but not limited to: Level 1, Level 2, and DC Fast Charge) and related site assessment and preparation, installation, maintenance, repair, parts and supplies, warranties, and product training. It also includes network services related to the management of EVSE, including, but not limited to: monitoring, reporting, billing, support and training services, and the integration of data with third-party fleet and building management systems. In 2019, approximately 139 charging stations were installed through this contract at a value of over $900,000.

Photovoltaic Systems

Since 2009, solar-powered photovoltaic systems have been offered through the OGS contract for *Photovoltaic Systems*, and in December of 2018, OGS awarded a new contract that contained improved offerings for installation in addition to the photovoltaic systems offered on the previous award. Sales of solar products average approximately $1.0 million dollars per year through this contract, and it is expected that sales will increase as more agencies install solar power at their facilities.

Microcomputer and Related Systems

Since 2008, New York government entities have purchased over 1.8 million microcomputers that meet an EPEAT Gold "Plus 6" standard—meaning the products meet all criteria for the reduction of toxic materials. Between July 2018 and June 2019, almost $89 million was spent on the purchase of green computers (including tablets, desktops, displays, and notebooks) through a combination of aggregate buy and user-issued mini-bids.

Green Specifications Finalized in 2019
Brake Pads
The goal of this specification is to reduce the amount of copper entering our waterways from brake dust by requiring affected entities to purchase and use brake pads that have reduced copper content. To achieve this, it requires the purchase of pads with at least a B rating from LeafMark and encourages the purchase of pads with the highest available LeafMark rating.
Imaging Equipment
This specification sets environmental standards for imaging equipment, including copiers, multi-function printers, and printers. It requires such equipment to meet a rating of EPEAT Silver or higher, and have its standard configurations set to sustainable modes, such as duplex and draft printing. In addition, affected entities are encouraged to purchase equipment that meets EPEAT Gold and either the WEEE Directive or REACH; use print management software to reduce printing; use remanufactured high-yield toner cartridges; and increase staff-to-printer ratios to reduce the number of units purchased.
Janitorial Paper
This specification updates the requirements contained in EO 4 for post-consumer recycled content and sets other standards for janitorial paper. It requires effected entities to purchase janitorial paper with 100% total recycled content that also meets the U.S. Environmental Protection Agency's (EPA) Comprehensive Procurement Guidelines for post-consumer recycled content. In addition, the paper must" contain no intentionally added antimicrobial ingredients, fragrances, colorants, or alkylphenol ethoxylates' be offered by the vendor in an appropriate dispenser free of charge; and be either Green Seal or UL EcoLogo certified.
Paint
This specification sets standards for interior and exterior latex paints and primers. It requires affected entities to purchase paint that meets one of the following third-party certifications: Master Painters Institute (MPI) Extreme Green; MPI Green Performance Standards 1 or 2; Green Seal GS-11; Cradle to Cradle Silver or higher; or UL EcoLogo UL2768. Affected entities are also encouraged to purchase latex instead of oil paint, and to procure paint with recycled content.
Pest Management for Indoor Spaces
This specification replaces the previously approved specification for "Pest Management Services." Like the old specification, it requires affected entities to use Integrated Pest Management (IPM) to control pests in indoor spaces. Minor updates are made to the definition of IPM to harmonize with the newly revised specification on "Pest Management for Outdoor Spaces" (see description below).

Green Specifications Finalized in 2019
Pest Management for Outdoor Spaces
This specification replaces the previously approved specification for "Turf and Ornamental Management." The revised specification continues to require affected entities to manage pests on turf and ornamental plantings solely through non-chemical means, and establishes new requirements for the use of IPM and Integrated Vegetation Management (IVM) for previously exempt special use areas and activities, including golf courses, utility or transportation rights-of-way, agricultural lands, forests or open space under active habitat management, and invasive species control.
Pre-Packaged Snowmelt and Deicing Products
This specification covers pre-packaged snowmelt and deicing products that are used on parking lots, sidewalks, and other types of walkways. It does not cover bulk purchases of products for use on roadways or parking lots. It requires affected entities to purchase products that are either certified by EPA's Safer Choice program and currently on the Safer Choice List or are approved by the Pacific Northwest Snowfighters (PNS) and currently on the PNS Qualified Product List for any category except category 8. In addition, if a product contains ingredients defined as a waste by 6 NYCRR Part 360, such as agricultural by-products, then affected entities must obtain a signed statement from the manufacturer verifying compliance with New York's beneficial use regulations.
Reusable Bags
This specification includes revised requirements for reusable bags that are purchased by affected entities as giveaways at various events, venues, and outreach activities. It sets durability and strength standards, specifies the materials bags can be made from, and outlines requirements for printing.
State-Funded Lodging
This specification was revised to add the Audubon International Green Lodging Program to the list of lodging certification bodies. It encourages travelers to book accommodations with establishments that are members of the New York Green Business program, the Trip Advisor Green Leaders program, or the Audubon International Green Lodging Program.
Trash Bags
This specification covers disposable plastic bags and can liners for janitorial applications, including plastic trash bags, medical waste bags, compostable plastic bags, and paper trash bags. It requires that all bags meet New York State's law restricting toxics in packaging and contain no antimicrobial or chlorinated compounds. Additional requirements are established for each type of bag, including requirements that plastic trash bags contain at least 10% post-consumer recycled content; that medical waste bags be free of cadmium; and that compostable bioplastic bags and paper trash bags be certified as compostable.

Number of EPEAT Registered Microcomputers Purchased, 2008-2019

Time Frame	EPEAT Silver	EPEAT Gold	Spend* (millions of $)	Savings** (millions of $)
April 2008 through March 2009	418,915	–	$154.9	$130.9
April 2009 through June 2010	47,369	405,964	$188.3	$143.8
June 2010 through January 2012	7,606	194,530	$127.8	$130.9
February 2012 through January 2014	–	569,106	$199.8	$188.4
April 2014 through December 2015	–	235,156	$109.3	$121.8
January 2016 through June 2017	–	115,069	$101.7	$63.7
July 2017 through June 2018	37,503	172,837	$93.2	$74.6
July 2018 through June 2019	56,060	126,524	$88.8	$62.0
Totals	**567,453**	**1,819,186**	**$1,063.8**	**$916.1**

Notes: *Spend represents the total amount spent by users of the aggregate buy program. **Savings represents the difference between the price of the computers purchased through the aggregate buy compared to the prices on the State contract.

Summary

In FY 18–19, the total estimated value of the sales for green products on State contract was approximately $114,015,000, as itemized below. This represents an increase of more than $7 million compared to the previous report, with a number of key products being tracked for the first time, including EPEAT-certified printers, compostable cafeteria trays, and electric vehicle charging stations:

Amount Spent on Green Products Offered on State Centralized Contracts, FY 2018–2019	
Green Product Type	**Estimated Annual Spend**
EPEAT Certified Computers and Displays	$88,800,000
Recycled Paper (copy paper, opaque rolls & envelopes)	$6,700,000
EPEAT Certified Printers	$6,300,000
Solar Power Purchase Agreements	$3,700,000
Environmentally Preferable Cleaning Products	$3,500,000
Compostable Cafeteria Trays	$1,000,000
Photovoltaic Systems	$1,000,000
Lighting	$1,000,000
Electric Vehicle Charging Stations	$940,000
Re-refined Motor Oil	$450,000
Recycling and Composting Services	$325,000
Carpet and Carpet Tile	$300,000
Total	**$114,015,000**

Buying Green

97% of agencies reporting in FY 18–19 said they review and use GreenNY procurement specifications when making purchasing decisions at least some of the time. 74% said they review and use the specifications all (47%) or a majority (26%) of the time. These rates are slightly higher than the rates reported in FY 17–18.

Top 10 Green Purchasers, FY 18–19	
Agency	**Amount**
SUNY – State University of New York	$14,736,376
NYSIF – New York State Insurance Fund	$8,145,397
CUNY – City University of New York	$7,041,392
WCMC – Westchester County Health Corporation	$5,240,229
NYPA – New York Power Authority	$2,998,849
MTA – Metropolitan Transportation Authority	$2,710,450
OPRHP – Office of Parks, Recreation and Historic Preservation	$2,473,834
DMV – Department of Motor Vehicles	$2,400,000
OCFS – Office of Children & Family Services	$1,606,000
OPWDD – Office for People with Developmental Disabilities	$1,139,518

Similar to last year's report, this year's survey continued to use the new format to self-report information on green spending that was implemented in FY 16–17, and both the number of responses and dollar values are again higher than in previous reports.

Compared to previous reports, the number of responses increased to 45 in FY 18–19 (66% of respondents) from 42 in FY 17–18 (63% of respondents) and 33 in FY 16–17 (50% of respondents), and the reported amount of green spending increased $8 million to approximately $53 million in 18–19 from $45 million in 17–18 and $33 million in 16–17.

The greatest reported expenditures were made by ***SUNY***, the ***Insurance Fund***, ***CUNY***, and the ***Westchester County Health Corporation***, which together accounted for over half (56%) of the reported spending. Reported expenditures for green purchases among the remaining entities ranged from less than $1,000 to $3 million, with the total for all entities being $53,240,778.

Green Purchasing by Product Category, FY 18–19		
Category	**Amount**	**Number of Respondents**
Computers	$13,738,192	29
Office Furniture	$12,472,838	30
Lighting	$8,650,284	21
Carpeting	$4,718,329	12
Green Cleaning Products	$2,637,898	24
Printers	$2,303,806	23
Electric Vehicle Charging Stations	$1,905,012	9
Integrated Pest or Vegetation Management Services	$1,682,476	14
Photovoltaic Systems	$1,648,596	3
Re-refined Motor Oil	$1,548,971	9
Recycling or Composting	$989,128	17
Zero-Emission Vehicles	$603,158	5
Other	$159,861	6
Solar Power Purchase Agreements	$97,600	2
Non-Chemical Pest Management Services	$84,629	5
TOTAL	**$53,240,778**	**45**

Savings and Costs

Overall, data regarding the cost of green procurement is encouraging. On average over the past 10 years, most agencies reported a reduction or no change in costs as a result of implementing green procurement practices. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Success Stories, Challenges, and Lessons Learned

Success in green purchasing depends on agency engagement and how easy it is for agencies to find and purchase green products. Several agencies reported success in reducing the amount of paper purchased and in reusing office furniture rather than purchasing new. However, challenges remain related to gathering data on green purchasing in leased space or where services are contracted out or purchasing is decentralized, and training staff to use green specifications and products.

Finding Green Products and Tracking Green Procurement

OGS and their partners on the GreenNY Council are pursuing a number of initiatives to make it easier for purchasers to find green products and track green spending. These include the development of all green contracts, the implementation of a GreenNY icon in the OGS eMarketplace, and the inclusion of training and outreach events for purchasers at OGS events and GovBuy.

A new “GreenNY” icon was added to the OGS eMarketplace in May 2019. It is used to identify products that meet the State’s EO 4 green specifications. This icon is currently being added to all product offerings associated with an OGS centralized contract that is all green, such as *Environmentally Preferable Cleaning Products*, *Environmentally Preferable Lighting*, and the *Recycled Copy Paper* contracts. It is also being used to identify green products offered through the State’s preferred sources. Eventually, the goal is to have all products that meet an EO 4-approved specification labeled with the GreenNY icon, even those offered through contracts that are not entirely green.

As a result, it will be easier for purchasers who use the eMarketplace to track green spending. The GreenNY icon will also minimize greenwashing, as its use by vendors will be reviewed by OGS and the GreenNY Council prior to labeling.

New and Noteworthy Initiatives in FY 18–19

- ***Tax and Finance*** worked with their landlord in a leased space to install aerators on faucets in order to reduce water consumption, and is investigating the potential to install electric vehicle charging stations.
- ***Homes and Community Renewal*** practices sustainability with its external partners by issuing Green Bonds that require sustainability and resilience guidelines.
- ***DANC*** continues to decrease the amount of paper purchased per employee.
- ***Financial Services*** purchased new laptops with increased post-industrial and post-consumer recycled content.

Restricting the Use of Bottled Water

Parks has installed bottle-filling stations at multiple locations, including this one at Bear Mountain State Park.

Background

EO 18 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 within 180 days of May 5, 2009," with each agency's goal being "to eliminate such expenditure by May 1, 2010." EO 18 defines "executive agencies" as "any department, agency, division, commission, bureau, or other entity of the State over which the Governor has executive power." Notably, authorities, public benefit corporations, and any other entity that is not an executive agency are not covered.

Findings

Agency and authorities continue to report a high level of adherence to the directives of EO 18. All 38 executive agencies required to comply with EO 18 and reporting in FY 18–19 are in compliance (100%). In addition, of the 30 authorities and other entities not covered by the Order, 22 adopted and met the goal of eliminating the purchase of bottled water even though they were not required to (73%).

Fifteen executive agencies covered by EO 18, and 11 entities not covered (but nonetheless successfully meeting its goals), documented their need for an exemption at one or more locations, as allowed under the Order. Large centralized offices served by reliable municipal water supplies generally reported no need for exemptions. Most documented exemptions were for emergency water supplies or employees working in or traveling to remote locations where potable water is unavailable. These exemptions are in full compliance with the Order.

In brief, the data for FY 18–19 continue to document that the executive agencies covered by EO 18 have virtually eliminated the purchase of bottled water.

Savings and Costs

On average over the eight years since reporting began (between FYs 11–12 and 18–19), a significant number of agencies, authorities, and other entities reported saving money by eliminating the purchase of bottled water, and a plurality of the rest reported no change in costs. For more details, see the chart on page vi of this report and the GreenNY Fact Sheet on "Saving Green."

Most agencies and authorities who have already eliminated or reduced their purchases of bottled water report that the bulk of their savings were realized in the first years of implementation. For most, spending hasn't declined further because they are either spending no money at all, or spending only on compliant exempt uses, which don't change significantly from year to year.

Although EO 18 does not require agencies to quantify their cost savings, entities are asked to report the amount they have spent on bottled water purchases over the past year. In FY 18–19, an estimated $330,000 in State funds were reportedly spent on bottled water, a decrease of $56,000 over the $390,000 in spending reported in FY 17-18.

Success Stories, Challenges, and Lessons Learned

The largest category of compliant exempt purchases is for facilities located in remote or unique sites. In FY 18–19, 16 entities (the same amount as FY 17–18) said that potable water was unavailable at a number of facilities due to unique challenges, such as location at a remote backcountry site. Despite these challenges, many continue to work on upgrading their water systems.

Five entities documented the need to provide bottled water to employees or clients under special circumstances, such as water for detained youths during transport over long distances, soldiers on active duty, or transit employees working off-site in remote areas.

Eight agencies continue to purchase bottled water for emergency preparedness. For example, the ***Division of Homeland Security and Emergency Services*** continues to purchase bottled water for their Disaster Stockpile program.

Four entities not covered by EO 18 reported purchasing bottled water for uses not exempt under the Order. A common non-exempt use is providing bottled water for meetings and large events. Installing bottle-filling and drinking fountain stations with filters and monitors that indicate when the filter needs to be changed is a convenient and reassuring way to provide tap water for both staff and visitors.

Several entities have installed filtered bottle-filling and drinking fountain stations, including ***Homes and Community Renewal***, the ***Insurance Fund***, and ***Tax and Finance***. The ***Roosevelt Island Operating Corporation*** provided all staff with branded water bottles, and bottle-filling stations have been installed at their Bus Garage and public Sportspark facilities. Cold and hot water dispensers are also available at all Corporation offices.

Many state entities have successfully implemented practices and technology that reduce the need for single-use water bottles. ***CUNY*** and ***SUNY***, while not required to comply with the Order, have shown great initiative in eliminating bottled water use.

- At ***CUNY Lehman***, dispensing containers of chilled tap water are made available to event attendees in lieu of bottled water. Also, combined drinking fountain and bottle-filling stations have been installed in athletic facilities and other campus locations. People who use the cafeteria may also refill water bottles and their own drinking glasses for free.
- ***CUNY York College*** has eliminated the use of bottled water entirely. Their water cooler system is used by faculty and students and is filtered and monitored weekly.
- ***SUNY Potsdam*** no longer sells plastic water bottles and has installed many Brita Hydration Stations across campus.
- ***SUNY Farmingdale*** approved a campus-wide bottled water policy in 2019. This policy reinforces the College's commitment to green and sustainable practices and reducing its carbon footprint. The school plans to expand the number of combined drinking fountain and bottle-filling stations across the campus to encourage the use of reusable bottles.
- At ***SUNY Oswego***, reusable water bottles were distributed to all students as part of orientation, and hydration stations were used instead of bottled water during the opening picnic.

Lead by Example Highlight:

Tap Water for Events

A number of agencies are finding ways to offer attendees tap water at meetings and events. ***CUNY Lehman*** *provides chilled tap water dispensers to event attendees.* ***CUNY York*** *and* ***SUNY Potsdam*** *use filtered tap water stations and no longer sell single-use plastic water bottles on campus.* ***NYPA*** *is developing purchasing controls to avoid the use of bottled water for meetings and events.*

The ***OGS*** EO 18 website includes a wealth of information and tools to help entities eliminate the purchase of bottled water, including a listing of drinking fountains and bottle-filling stations available on State contract, equipment to modify existing fountains, and FAQs about bottled water and the tap water available in State facilities.

New and Noteworthy Initiatives in FY 18–19

- ***Battery Park City*** installed several new drinking fountain and bottle-filling stations throughout 75 Battery Place. Their sustainability team also provided staff with refillable water bottles as part of the agency's Zero Waste efforts.
- ***Homes and Community Renewal*** recently provided hot and cold reusable tumblers with reusable straws to all staff, to reduce waste, encourage use of the new filling stations, and discourage the purchase of bottled water.
- ***NYPA*** is working with procurement staff within the authority to create purchasing controls for catered meetings and events.

Conclusion

Agency reports for FY 18–19 demonstrate continued and encouraging progress toward the adoption of sustainable practices and purchasing by New York State government. Through the leadership of Governor Cuomo, agencies continue to reduce energy use, paper use, hazardous chemical use, and waste. Recycling remains high, and model agencies are leading the way by generating on-site renewable energy, protecting native species, and managing stormwater sustainably. OGS Procurement Services is making it easier for agencies to meet the Governor's ambitious climate goals by issuing new contracts that support the generation of solar power. Through a sharpened focus on the goals of sustainability, agencies continue to lead by example, innovate, and achieve success.