



Office of Energy & Sustainability



Annual Report

2022-23



About This Report

The Annual Report is an overview of the New York City Public Schools' (NYCPS) sustainability programs and partnerships in Fiscal Year 2023 (FY23), spanning July 1, 2022–June 30, 2023, reported by the NYCPS Office of Energy & Sustainability. This report includes information pertaining to energy and climate, waste management and reduction, school gardens, outreach, education, and compliance with local laws and Chancellor's Regulations.

Accessibility: This document has been remediated to be ADA 2.0 WCAG compliant and compatible with end users' installed, dedicated screen reader software. The content has been tagged and ordered to be read in the author's intended logical reading order. Tables are keyboard navigable, and the content architecture is identifiable per the end user's software preference settings. Alt text has been inserted in the metadata of the file to describe graphics and images pertinent to the content.

On the Cover (clockwise from top left):

- Students at P.S. 110 The Monitor learn about indoor gardening with teacher Perry Fuchs.
- Teacher Makini Velasquez shows off classroom worm bins at P.S. M094.
- Sustainability Specialists Hana Epstein and Pauline Wallace discuss curbside composting with an educator at a workshop.
- Fireman Gil Colon leads a boiler room tour at P.S. 020 Anna Silver.
- Students tend to the garden at P.S. 104 The Bays Water.
- Youth Leadership Council members tour the Newtown Creek Wastewater Resource Recovery Facility.
- Sustainability Coordinator Kerri Durante and students perform a waste audit at the School of Math, Science, and Healthy Living.

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Contact Information

NYCPS Office of Energy & Sustainability | Division of School Facilities
44–36 Vernon Boulevard, 510A, Long Island City, New York, 11101

schools.nyc.gov/sustainability | bit.ly/NYCDOESustainability

 sustainability@schools.nyc.gov |  718.349.5726

Report authored by:
Thad Copeland, Deputy Director
Pat Keyes, Operations Manager
Meredith McDermott, Director
Elizabeth Schad, Communications Coordinator

Letter from the Director

The 2022–2023 school year was pivotal for our team and the organization! In Spring 2023, the Sustainability office merged with the Energy Management team, and we are now the “Office of Energy & Sustainability.” All energy efficiency programs are more cohesively connected to clean energy, energy demand management, and utility account management and reporting. We also hired Sustainability Specialists to provide meaningful outreach support to our schools. We are thrilled to enhance our face-to-face customer service with Sustainability Coordinators, operational staff, school leadership, and students.

One of our proudest accomplishments from the 2022–23 school year was spearheading the agency’s efforts to embed climate goals into the NYC climate and sustainability strategic plan, [PlaNYC: Getting Sustainability Done](#). In addition to a multitude of “decarbonization” (greenhouse gas emissions reductions) initiatives in buildings and operations, we worked with our network of partners and Climate Education Leadership Team (CELT) to formalize the inclusion of climate education and green workforce training goals for the very first time in the City’s plan. This is a significant milestone in which a growing number of students, educators, advocates, and citizens are invested—we need to make strides towards comprehensive climate action.

In the 2022–23 school year, we continued to advance diversity, equity and inclusion across our Office’s programming. We prioritized resources for schools with a higher-than-average Economic Need Index (ENI) through our program applications. We also ramped up professional learning focused on equity and climate justice topics, including air quality and the urban heat island effect. We will continue to focus on diversity, equity and inclusion across all areas of our work.

Climate change is a pressing issue requiring collective and intensive action. The Air Quality Health Advisories issued in June 2023, for instance, had major impacts on all of NYC. We had to pivot from a full-day, in-person Climate Education workshop to an abbreviated virtual format and cancel one of our Drop & Swap events. These impacts are manageable in comparison to negative health impacts, parents scrambling to balance schedule changes, commuting hazards, and other difficulties. The resilience of our schools is evident in crises and increasingly complex societal challenges such as climate change and environmental injustice: our staff, students, and partners are champions of sustainability. Thank you for your ongoing dedication to educating and supporting students and staff and making our buildings more energy efficient and resilient. We dedicate several key milestones to you

all and invite you to check out the highlights below and greater details throughout this year’s Annual Report.

With gratitude,



Meredith McDermott
Director

“At a Glance” Highlights:

- Advocated to include NYCPS K–12 climate goals in PlaNYC, including first-ever education goals
- Reached 17.7 cumulative megawatts (mW) of clean energy through solar installations
- Expanded Curbside Composting to all Bronx K–12 schools
- Led twenty climate-focused professional learning opportunities and events, including workshops facilitated by teacher members of the Climate Education Leadership Team (CELT)
- Awarded \$611,513 in funding and materials to 146 schools through our Annual Sustainability Project Grant Program, the largest sum yet

School Sustainability Coordinators

At the beginning of each school year, NYC public schools designate a staff member as a liaison for sustainability and climate action as mandated by [Local Law 41](#) and [Chancellor's Regulation A-850](#). These Sustainability Coordinators work with the Office of Energy & Sustainability to facilitate climate action at their schools.

Sustainability Plan

Each October, Sustainability Coordinators develop a Sustainability Plan to establish projects and goals for the school year. We update the Plan each year to reflect emerging sustainability topics and account for feedback from Sustainability Coordinators. We had heard from Sustainability Coordinators that the workload can be burdensome for just one person and that they sometimes face opposition from colleagues, so we adapted the Sustainability Plan this school year to better support Sustainability Coordinators in the following ways:

- Requiring schools to nominate a Sustainability Co-Coordinator in the Plan to share accountability and to help to grow the network of support at each school
- Embedding resource links throughout the Plan to highlight existing supports that the Office of Energy & Sustainability and our partners provide, such as lessons, workshops, grants, and student opportunities
- Listing out over sixty partner organizations and giving our Sustainability Coordinators the option to select those in which they were interested; we then shared relevant Sustainability Coordinator contact information with our partners to expand outreach efforts

The core of the Sustainability Plan is five Focus Areas: Sustainability Education, Health & Wellness, Waste/Recycling, Energy Conservation/Efficiency, and Communication & Outreach.



HIGHLY RECOMMENDED ACTION ITEMS

Each of these five Focus Areas contains 6–10 corresponding “action items”; Sustainability Coordinators select *at least* one action they will complete in the upcoming school year. Recognizing that some of the action items are more impactful in building coalition, we adjusted each Focus Area to have a “highly recommended” action item:



Sustainability Education:

Lead a staff professional development session on a sustainability topic.



Health & Wellness:

Support school or community gardening (e.g. hydroponics, aquaponics, indoor plants, window herb garden) and/or partner with community gardens close to the school.



Waste/Recycling:

Meet with my Custodian Engineer to discuss my school’s waste separation and recycling plan.



Energy Conservation/Efficiency:

Remove personal appliances (e.g. refrigerators, microwaves, coffee makers) from classrooms and offices and encourage other faculty to do the same, per Chancellor’s Regulation A-850.



Communications & Outreach:

Promote my role as Sustainability Coordinator to the school community.

Sustainability Coordinator & Co-Coordinator Spotlight:

CHRISTINA SALTERS AND CO-COORDINATOR LAURA MAHON OF P.S. 054 IN STATEN ISLAND

Sustainability Co-Coordinator Christina and Laura created their first-ever green team of twenty-four 4th and 5th graders, engaging students in several ways to ensure a sustainable future for their community. With our office’s Sustainability Project Grant, they purchased classroom recycling bins, work aprons, and trash “grabbers” for their green team to clean up litter and conduct weekly classroom visits. They took their green team on a field trip to their local bottle return center to understand their role in the recycling process and learn about fundraising. The green team has also been working to collect 900 pounds of plastic bottle caps, which will be used to create a Buddy Bench, a social-emotional learning tool that fights social isolation on the playground.

In addition, they entered the Department of Environmental Protection’s Water Resources Art and Poetry Contest, creating original art and poetry that reflects an appreciation for our water resources. Great teamwork and leadership, Christina and Laura!



Sustainability Survey

Each Spring, Sustainability Coordinators complete a Sustainability Survey that measures how well they were able to implement their Plan during the school year. When comparing 2022–23 Plan and Survey responses, we were pleased to see that Green Team development jumped from 39% to 50%, indicating ninety-eight more Green Teams were created throughout the school year! This is significant because Green Teams are a proven asset to strengthen school-based sustainability actions by harnessing student leadership.

Does your school have a Green Team? (Change from Start of Year to End of Year)



We also completed a multi-year analysis of end-of-year Sustainability Survey responses and observed that Green Team creation has leapt from 41% over the last two years to 50% this year, a further indication of coalition-building.

Does your school have a Green Team? (Three Year Comparison)



Demonstrating another positive trend in long-term commitment to sustainability across the system, over 85% of coordinators in the 2023 Sustainability Survey said they would be willing to return as Sustainability Coordinators next year. We look forward to working with them in the years to come!



Education and Engagement

As the largest school system in the country, we have the unique opportunity to engage over a million students, faculty, and staff in schools and have a major educational impact. For the first time, climate education is included in NYC’s strategic climate plan, [PlaNYC: Getting Sustainability Done](#), released in April 2023. This is thanks to the diligent work of our Climate Education Leadership Team (CELT) and partner organizations. PlaNYC calls for integrating climate education across all subject and grade areas, establishing a school certification program, and launching Climate Action Days in all public schools in the 2023–24 school year.

Climate Education

CLIMATE EDUCATION LEADERSHIP TEAM: BY TEACHERS, FOR TEACHERS

There is growing interest in climate education, across all subjects and grade levels. Our Climate Education Leadership Team (CELT), established in 2020, is a group of over thirty teachers and school administrators leading the way to professionalizing climate education through an active peer support network. CELT has developed numerous resources based on specific teacher needs and practical considerations, as well as facilitated a wide variety of workshops, trainings, and programs to broaden teacher support for the integration of climate content.



Left to right: Educators practice using air quality monitors at a workshop; Educators from Dr. Jacqueline Peek-Davis School use infrared surface thermometers at a professional learning.

PROFESSIONAL LEARNING FOR EDUCATORS

We hosted twenty events and professional learning opportunities this school year! In total, 795 educators and staff attended.

In 2022–23, we prioritized combining access to classroom materials with professional learning. These opportunities included:



Air Quality and Environmental Justice, in partnership with Children’s Environmental Literacy Foundation: 35 classroom kits with air quality monitoring devices



Grow Tower Training, in partnership with District 75 Coordinator of Applied Learning, Cara Coffina: 19 towers awarded¹



Energy Efficiency: Unlocking Climate Action in Schools, in partnership with SolarOne: 9 classroom kits including 3 surge protectors, 3 timers, and 5 “kill-a-watt” monitors



Urban Heat Island Effect: Building Community Resilience in a Changing Environment (3-part series): 126 classroom sets of heat mapping tools, including 7 infrared surface thermometers and 2 Vernier probes. We also offered substitute coverage for participating teachers.

Teacher Spotlight:

SARAH SLACK, SCIENCE TEACHER AT I.S. 223 THE MONTAUK, CLIMATE EDUCATION LEADERSHIP TEAM CO-CHAIR

Sarah developed and led our “Urban Heat



Island Effect: Building Community Resilience in a Changing Climate” program. Sarah received training from NASA to develop

and implement this professional learning training series. Based on overwhelming interest from educators, we worked with Sarah to expand from one cohort to two: one for elementary school teachers, and one for middle and high school teachers. Teacher teams left with classroom sets of infrared surface thermometers and Vernier probes to use with their students, as well as a wealth of knowledge from one of their peers directly.



¹ District 75 (D-75) provides highly specialized instructional support for students with significant challenges, such as Autism Spectrum Disorders, significant cognitive delays, emotional disabilities, sensory impairments, and multiple disabilities.

Student Programs

Climate education extends beyond our work with teachers. By connecting with students who are passionate about climate action, we are engaging the next generation of leaders, both in and outside of the classroom. This school year, we continued to grow and adapt our five youth-focused programs.

YOUTH LEADERSHIP COUNCIL

In its fifth year, the Youth Leadership Council (YLC) brought together thirty students from across New York City who care about climate action and sustainability in their schools and communities. They worked on climate action plans for their schools and helped us plan our first Youth Climate Career Expo. We also took the YLC on sustainability-themed field trips throughout the year to learn about green careers and interact with organizations, agencies, and key City infrastructure that all uniquely contribute to fighting climate change.



Left to right: Youth Leadership Council students at the Newtown Creek Wastewater Resource Recovery Facility; the Youth Climate Career Expo; and Materials for the Arts.

YOUTH CLIMATE CAREER EXPO

With students expressing strong interest in learning more about environmental or “green” jobs, we adapted our Youth Climate Summit this school year to focus on providing a Youth Climate Career Expo. Hosted at the High School for Climate Justice, high school students from across the city came to learn about various careers across a wide array of industries. Over twenty of our partner agencies and organizations came to tell students about their work, with topics ranging from clean energy to green space to advocacy. We welcomed Briana Carbajal from WE ACT for Environmental Justice as a keynote speaker. They shared their path to a climate career, and demonstrated their policy and advocacy work as State Legislative Manager.

YLC members and high school students also led breakout workshops: “Climate Communications in Your School,” “Upcycling,” and “Zero Waste Schools.”



At the Youth Career Climate Summit, students learn from partner organizations and participate in student-led workshops.

rFUTURE

Made possible by a partnership with CGMM, Inc. and the Bronx’s Theatre Arts Production Company High School (TAPCo), rFUTURE engages high school students in climate action through music and media. Seventeen NYC public high school students worked with professional musician mentors and CGMM, Inc. to write songs inspired by sustainability. Twenty-five more students, studying videography at TAPCo in the Bronx, filmed the process to create a [documentary-style film](#) and music videos. The program culminated in a documentary debut June 2023 at the Bruno Walter Auditorium at Lincoln Center with live performances.

Student musician Luey June won a 2023 [“Songwriters of Tomorrow Scholarship”](#) for their original song developed in rFUTURE.



From right to left, student Luey June performs her original song with music mentor Kevin Salem, while teachers from Academy of American Studies, Amanda Stallone and Nena Kunnateerachada, look on.

RACE AGAINST WASTE

Teams of educators and students (grades 4–8) from eleven schools participated in the Race Against Waste program, a collaboration between our Office and the Service in Schools team within the Division of Teaching & Learning. Twenty-two educators and approximately 120 students investigated waste in their community and developed service-learning projects that focused on reducing and reusing fabric waste, food waste, or plastic waste in class or after-school. They shared their learning and advocacy pieces with an audience of peers, families, and educators at the Service in Schools Student Showcases in June 2023.



Katrina Duncan and Justine Shishkoff with P.S. 135 The Bellaire School Green Team, who completed a food waste service project in the Race Against Waste program.

NYC Solar Schools Education

SOLAR CAREER & TECHNICAL EDUCATION (CTE)

In partnership with Solar One, this long-standing program integrates clean energy content and hard skills training to Career and Technical Education (CTE) High Schools across three existing course tracks: construction, engineering, and electrical trades. The goal is to prepare students for workforce opportunities in a growing green economy and impart knowledge of options for career entry-points.

In the 2022–23 school year, 726 students and nineteen educators took part in the program, and we helped to place fifteen CTE students into solar internships at five partner companies over the summer. This is our sixth year doing this program, and interest continues to grow!

PROFESSIONAL LEARNING WORKSHOPS

This school year, sixty-seven educators took part in professional learning workshops we offered in partnership with Solar One. These workshops support educators in integrating clean energy and sustainability curricular content into their classrooms. An additional 112 educators and staff took advantage of Solar One’s “classroom residency” offering, where they bring place-based STEAM activities into the classroom. In total, 2,271 students benefited from these programs.

Energy

In New York City, nearly 70% of the greenhouse gas emissions we produce come from powering our buildings.² There are over 1,500 school buildings in New York City with over 135 million square feet of facility space. By managing energy use in our buildings, we are contributing to our city’s goal to be carbon neutral by 2050. Simply put, we must manage energy consumption and efficiency in order to meet climate goals.

Greenhouse Gas Emissions

Emissions and total energy use in NYC Public School buildings decreased 11% this school year (see tables to the right and on page 13). In the 2021–2022 school year, buildings were required to operate under strict pandemic-induced ventilation requirements, which increased greenhouse gas (GHG) emissions due to longer equipment run times in comparison to this school year.

Total emissions have reduced 17% since 2008. Key actions contributing to this progress include:

- Investments in energy efficiency upgrades for mechanical systems and lighting, such as LED lighting installations and steam system optimization
- Increase in clean energy projects [see [NYC Solar Schools Program section](#)]
- Electrification for heating (instead of fuel oil or natural gas)
- Boiler conversions from fuel oil to natural gas and to cleaner [biofuel blends](#), including B20 for the first time this school year

GHG emissions from school building operations (tCO₂e)³

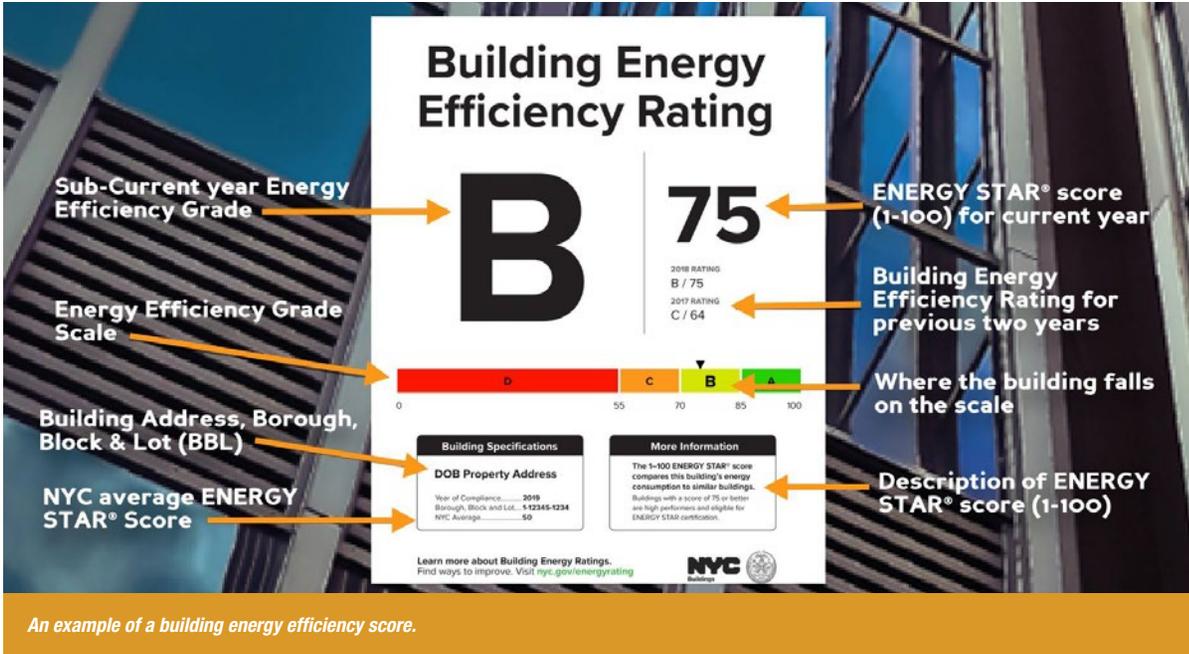
	FY21	FY22	FY23		
Electricity	294,071	354,407	343,127		
Natural Gas	216,141	228,015	200,733	Change Year Over Year	Change from FY08 Baseline
Municipal Steam	7,825	9,289	7,922		
Fuel Oil—All Types	208,715	230,719	182,942		
Total	726,753	822,430	734,724	-11%	-17%



2 NYC Greenhouse Gas Inventories

3 tCO₂e is tons of carbon dioxide equivalent, the unit of measure for emissions accounting. FY21 and FY22 data were updated from previous reporting years due to ongoing utility billing adjustments and coefficient calculations. For methodology, see [Appendix](#).

Energy Benchmarking



An example of a building energy efficiency score.

[Local Law 84](#) requires us to benchmark energy and water consumption at certain school buildings based on square footage. In 2022–23, we benchmarked 1,383 NYC Public School buildings on 1,229 Borough–Block–Lots as identified by the NYC Department of Finance.⁴ These schools are measured with the U.S. EPA’s Portfolio Manager tool, which compares buildings of the same type across the nation. Buildings are assigned Energy Star Scores from 1 through 100—the higher the number, the more efficient the building. [see [Appendix](#) for the full list of NYCPS Energy Benchmarking (LL84) Scores by Borough–Block–Lot].

4 Data per the City’s Municipal Benchmarking Report for Calendar Year 2022

Building Energy Efficiency Ratings: School Year 2023⁵

Score	# of Buildings	% of Buildings
A	173	12.5%
B	315	22.8%
C	315	22.8%
D	541	39.1%
N ⁶	39	2.8%
Grand Total⁷	1,383	

This school year, “A” scores decreased from 21% to 13% of buildings, and “C” and “D” scores increased. Variability in ratings was expected with the impact of Covid-19 on energy consumption in buildings, specifically that reduced building occupancy during the pandemic temporarily reduced energy consumption and emissions. We expected that the resumption of normal operations would result in comparatively higher emissions levels.

5 Compliance and reporting for Local Law 33 is by calendar year 2022.
 6 Score refers to a Building Identification Number (BIN)/ Borough, Block, and Lot (BBL) that is not covered under the LL33 criteria.
 7 Grades & Scores: scores are generated from annual Local Law 84–Energy Benchmarking compliance. Only the buildings benchmarked by NYCPS and included in the Municipal Benchmarking Report are included in this Annual Report.

Energy Management

As we transition from fossil fuels to clean and renewable energy sources, we also prevent energy waste.

Our Office oversees building retro-commissioning per [Local Law 87](#) compliance, energy retrofits, and building upgrades. We prioritize projects based on the existing Energy Use Intensity (EUI) of a building, which is the amount of energy used per square foot annually. Buildings with high EUIs and low benchmarking scores have the greatest potential for efficiency improvements that save energy and operating costs.

Energy Project Manager Spotlight:

TALUKDER MOHAMMED ISLAM, ENERGY PROJECT MANAGER, BOILERS & HEATING PLANTS

As an Energy Project Manager in our Office, Talukder (“Taluk”) plans and manages different energy projects in school buildings, ensuring they are completed on time and on budget, in effort to make progress towards climate and sustainability goals. Recently, Taluk completed two boiler burner retrofit projects of which we are all particularly proud: converting boilers from Fuel Oil #4 to a blend of Fuel Oil #2 and [biofuel](#) (#2B20). This was a complicated project, and the first time we converted boilers from #4 directly to #2B20. This not only reduces greenhouse gas emissions but reduces particulate matter to improve air quality for our schools and school communities. Thank you to Taluk and the team for your great efforts!



City-Funded Energy Efficiency Programs

Throughout each school year, our Office completes projects to reduce energy use and emissions in school buildings. The Division of Energy Management at the NYC Department of Citywide Administrative Services (DCAS) provides several funding programs, two of which (ACE and ExCEL) directly support a variety of different energy efficiency projects on a fiscal year cycle. These programs fund mechanical equipment and lighting upgrades, operational and maintenance improvements, and staff training. They are critical to keeping our buildings running optimally and contributing to our city's climate goals.

Project Type	# of Projects	Total Annual Cost Savings	GHG Savings (tCO ₂ e)
Electrical—LED Lighting Upgrade	28	\$615,255.69	1,169.01
Electrical—Refrigerator Controls	1	\$1,187.00	2.86
HVAC—BMS Controls	11	\$136,399.76	787
HVAC—Boiler Controls	4	\$14,650.00	81.88
HVAC—Cooling Equipment Optimization	30	\$0.00	0
HVAC—Domestic Hot Water Upgrade	26	\$556,057.00	2120.25
HVAC—Fuel Conversion	2	-\$9,163.00	126.2
HVAC—Motors/Pumps	1	\$4,286.02	5.75
HVAC—Pipe Insulation	9	\$12,996.97	78.59
HVAC—RTU/AHU/Ventilation	9	\$99,815.10	440.6
HVAC—RTU Upgrade	12	\$128,856.00	184
HVAC—Steam System	17	\$110,807.13	615.2
HVAC—Technical Studies	47	\$0.00	0
HVAC—Training	2	\$0.00	0
Total	199	\$1,671,147.67	5611.34

EXAMPLES OF ENERGY EFFICIENCY PROJECTS

AIR BALANCING

Air balancing is a type of retro-commissioning project to upgrade a building's ventilation system. Certain rooms are designed to have a certain amount of air based on size, windows, and use of the space; for example, a gym is different than a classroom. We upgrade louvers, the part of the HVAC system that allows airflow into the building, to make sure they are circulating air where it needs to go. The more efficient the ventilation system, the less energy we waste. Air balancing can also greatly help to increase comfort for building occupants by reducing hot or cold spots, drafts, and improving ventilation.

AUTOMATED BOILER CONTROLS

Automated boiler controls increase efficiency, equipment performance, and comfort for staff and students by preventing overheating. A thermometer outside the building notes when the temperature has dropped below 65 degrees. Sensors placed around the inside of the building measure the average indoor temperature. Based on the temperature average inside, controls will automatically turn on, slow down, or shut off the heat system to control the heat. This prevents overheating and is a more efficient use of energy.

BUILDING MANAGEMENT SYSTEMS

Building Management Systems (BMS) automate major systems to improve the comfort and efficiency of buildings, e.g. heating, cooling, ventilation, and lighting systems. This centralized control function simplifies building operations for facilities staff while also optimizing energy usage. An example of BMS benefits can be seen in the automation of equipment schedules to minimize overconsumption. Not only does this decrease energy usage and emissions, but it also helps to extend the useful life of equipment. In the 2022–2023 school year, eleven BMS systems in eleven school buildings (nearly \$9 million) were upgraded to improve efficiency for the systems and staff.

DEMAND CONTROL VENTILATION

With demand control ventilation, carbon dioxide sensors are installed in a room to regulate ventilation airflow rates. When a large space like a gym or auditorium is occupied, air circulation is increased to keep the space ventilated with fresh air. When they are unoccupied, we decrease air circulation to save energy.

Automated Boiler Controls in Action: Richard J. Reilly, Custodian Engineer at P.S. 123 Suydam in Brooklyn. Implementing automated boiler controls not only prevents staff and students from overheating during the school day, it also prevents his cleaning staff from overheating at night.



Boilers & Heat Pumps

Within facilities and operations, providing heating and cooling to schools is essential to maintain a comfortable and safe environment for all staff and students. Because every building is different, and the average age of the NYC Public Schools buildings is seventy years, we have a variety of different methods to update boilers and heating systems.

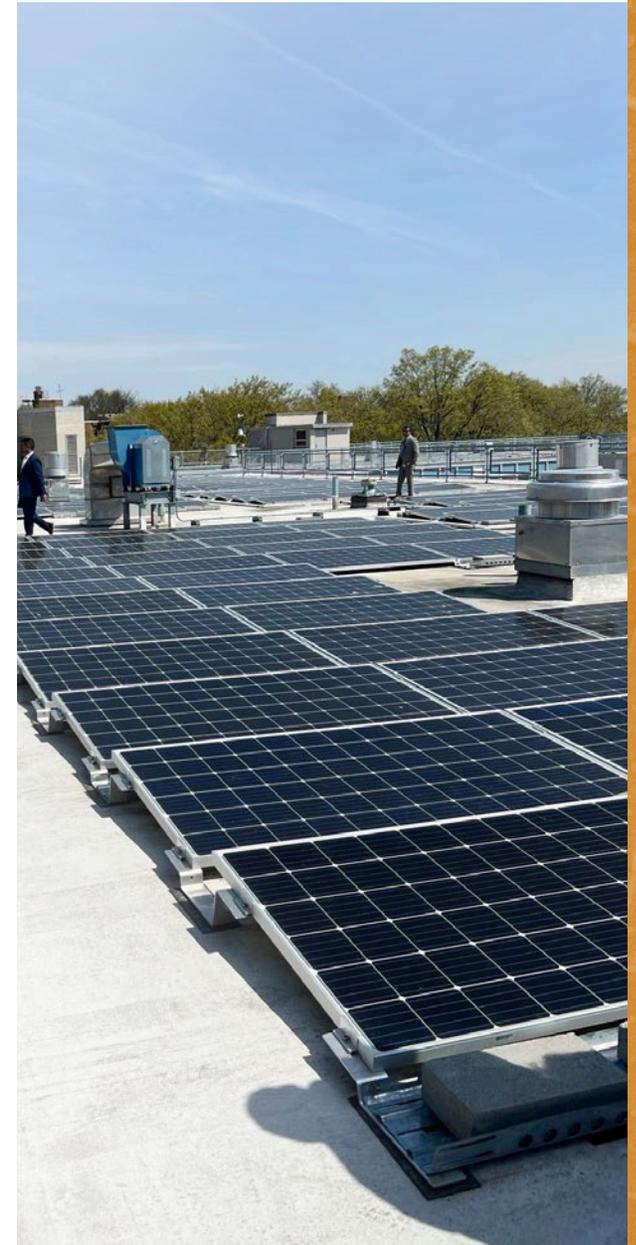
BIOFUEL IN BOILERS

Biofuels are renewable fuels derived from living matter such as plants, algae, or animal waste as an alternative to fossil fuels.⁸ Given that heating is a primary source of greenhouse gas emissions from buildings, making improvements to boiler operations is a critical component of energy and facilities management. This school year, eleven boilers were converted to “B20” biofuel (a blend that includes 20% biofuel). Using B20 is a milestone—it requires modifications to the physical boiler infrastructure and third-party approval to ensure safety and efficiency. NYC Public Schools worked with the Department of Buildings and School Construction Authority to develop new standards for boilers running on B20 biofuel. This laid the groundwork to increase use of biofuel—even up to 100% (or “B100”)—in future years!

ELECTRIC HEAT PUMPS: DOMESTIC HOT WATER

In some schools, there is a single boiler that heats both the building and water for use in, for example, kitchens and bathroom sinks/showers (called Domestic Hot Water or DHW). In others, there is a separate water heater that allows for more controlled DHW functionality. This school year, we prioritized sixteen school buildings that had a single heat source because these had the highest emissions. Domestic hot water heating directly from a boiler requires the boiler to often be oversized and run all year round, therefore using more energy and creating more emissions. By replacing these boilers with electric heat pumps, we decarbonize the building while still ensuring a mechanism to deliver hot water. In the future, we hope to next look at natural gas boilers for DHW upgrades via electric heat pumps to further lower emissions and energy consumption.

⁸ Source: SCA [NYC Green Schools Guide](#)



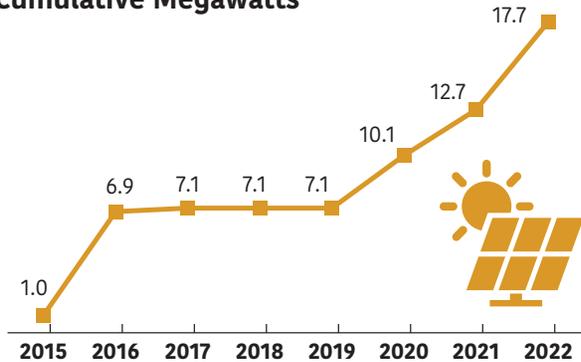
The rooftop solar array at Frank J. Macchiarola Educational Complex in Brooklyn.

Clean Energy

NYC SOLAR SCHOOLS PROGRAM

Our solar program is the largest of its kind in the nation. This school year, we installed an additional nineteen projects in NYC schools! These projects generate 5 megawatts (MW), equivalent to taking 458 passenger cars off the road for an entire year.⁹ As an agency, we continue to lead the city in solar installations. The nineteen projects installed in 2022–23 bring NYCPS’ total to 81 installations that generate 18 MW. Our Office has regularly improved our processes to accelerate progress and provide clean energy infrastructure on more school buildings. With the return to in-person school stakeholder meetings, our solar team continuously builds stronger relationships with Custodian Engineers and Principals, incorporating their feedback and increasing satisfaction with projects. We work with the School Construction Authority (SCA) to proactively identify conflicts and collaborate on project planning, streamlining formerly-siloed workstreams and reducing turnaround time for solar projects.

Cumulative Megawatts



⁹ US EPA

RESILIENCY: SOLAR AND BATTERY STORAGE

Resiliency is the ability to withstand exposure to climate hazards and recover quickly with minimal damage to a community’s well-being.¹⁰ Our office is partnering with New York City’s [Economic Development Corporation \(EDC\)](#) on our first resiliency projects, combining rooftop solar modules with battery storage on two NYC Public Schools: P.S. 048 Joseph R. Drake and the Bronx Academy for Multi-Media. Both schools are in the Hunts Point neighborhood of the Bronx, an environmental justice area prone to flooding and extreme heat. Incorporating a battery energy storage system with a rooftop solar installation enables these facilities to act as a “microgrid” in the event of a power outage: the rooftop solar generates electricity that is then stored in the battery energy storage system and can power critical building infrastructure.

These two schools serve as Tier 1 Emergency Shelters in the event of any major local emergencies. Providing a back-up power source through the battery-stored energy will enable these critical sites to perform even more reliably when it is most needed. Resilient solar projects are a great way to proactively implement more clean energy while also enhancing the school buildings’ service to surrounding communities.

Demand Response

We operate two Demand Response Programs, one for Electricity (453 buildings) and one for Natural Gas (75 buildings) to ensure the reliability of our energy infrastructure during periods of peak stress, such as extreme heat and extreme cold. By reducing electricity usage during emergency heat events and temporarily switching dual fuel boilers off natural gas during extreme cold, NYC is more resilient to power outages. When our buildings participate and perform, we generate revenue that is reinvested directly back into our school buildings, through energy efficiency upgrades and our [annual Sustainability Project Grant](#).

¹⁰ US EPA

Waste

To reduce the amount of waste sent to landfill, we all have to do our part. This year we worked with the [Department of Sanitation \(DSNY\)](#) to add over 400 more schools to the Curbside Compost program. Adding more Sustainability Specialists in our Office increased our ability to provide meaningful, direct support for schools to reduce waste. We also added a new cohort of schools to a Rat Mitigation Zone in Harlem, resulting in more support to provide necessary equipment, training, and ongoing outreach for schools to better manage waste.

Waste Diversion

Every NYC public school and building must comply with [Local Law 41](#) and the mandated [Annual School Sustainability Plan](#) in support of recycling and waste diversion goals and reducing greenhouse gas emissions from landfills. This school year, the expansion of Curbside Composting contributed significantly to our waste diversion goals—a 69% increase from the previous year!

Composting Collection in Tons¹¹



Summary of Total Waste Diversion FY21–FY23¹²

	FY21 tons	FY22 tons	FY23 tons
Metal, Glass, Plastics, Cartons	806	2,424	1,759
Compost	0 ¹³	7,963	13,469
Paper/ Cardboard ¹⁴	3,954	7,113	6,726
Total	4,760	17,500	21,954

¹¹ Yearly collection is measured over the municipal fiscal year, July 1–June 30.

¹² Waste diversion includes both recycling streams (paper/cardboard and metal/glass/plastics/cartons), and compostable materials (e.g., food scraps, plates, cutlery). DSNY is not able to provide landfill tonnage data due to containerized service (dumpsters) at some locations and other operational restrictions.

¹³ In FY21, due to Covid-19, all school truck routes were converted to traditional service. There was no organics service for NYC public schools.

¹⁴ Paper diversion is not inclusive of all schools due to DSNY limitations to separately measure school waste on all collection routes, including those with containerized (dumpster) service.

We heard from Sustainability Coordinators that operational challenges related to Covid in previous years disrupted waste sorting practices in their schools. DSNY had to temporarily pause compost collection services at the height of the pandemic, and we have subsequently been working to minimize confusion and maximize compliance with procedures and goals. With an expanded outreach team, we were able to better focus on the customer service aspect of sustainability programs, partnering with our schools to support systems and processes that work best in their unique environments. By visiting schools in-person and providing educational resources, we helped school communities rebuild best practices for recycling and composting.



Sustainability Specialist Bikal Dahal leads a waste-sorting game for students at P.S. 143 Louis Armstrong's "Go Green Festival."

Curbside Composting Expansion—Bronx Rollout

Over the 2022–23 school year, we worked with DSNY and [GrowNYC Zero Waste Schools](#) to add all Bronx K–12 schools to the Curbside Compost program. This expansion covered 444 schools, bringing NYCPS' total participation in Curbside Composting to 1,200 schools with daily collection. This was the largest expansion of the program to date and also represents the largest effort of its kind in the country! We look forward to adding the remainder of NYCPS schools to the Curbside Compost program in 2023–24.

Successful waste sorting requires buy-in from everyone in the school community. We provided comprehensive trainings to all school stakeholders to delineate roles and responsibilities, and share best practices:

- Custodian Engineers and facilities staff
- Office of Food and Nutrition Services (OFNS) staff
- School Administrators
- Sustainability Coordinators
- Teachers



Left to right: GrowNYC conducts a workshop on plastic waste audits; GrowNYC Zero Waste Schools' Kate Wimsatt, NYC Public Schools Office of Energy & Sustainability's Thad Copeland, and DSNY Teaching and Training Unit's Jessica Wang and Pascal Hannou present at a Curbside Compost training in the Bronx. Photos provided by Camila Guzman, GrowNYC.

We also provided material support for these schools. Every school received complete cafeteria waste sorting stations (liquid buckets, colanders, blue bins, brown bins, and signs and stands) and orange and/or black tilt trucks to containerize compost and waste for curbside pickup.



Compost tilt trucks on the curb; A complete cafeteria waste-sorting station.

Policy Update: Local Law 65— School Food Waste Prevention Plan

New York City Council passed [legislation](#) in May 2021 that requires NYC Public Schools to develop a plan to reduce food waste. We are working closely with the Office of Food and Nutrition Services (OFNS) to implement this effort in the 2023–24 school year, including studying local food donation options. In the 2022–2023 school year, all field-based OFNS supervisors (approximately 350) were trained on Offer versus Serve, a practice that helps to reduce unnecessary food waste while supporting student nutrition and choice. We look forward to implementing further steps next year!



Mayor's Neighborhood Rat Reduction Plan

This school year, for the first time since Covid, the Mayor's Office designated a new area in Harlem as a [Rat Mitigation Zone \(RMZ\)](#) to join three other established RMZs across the city. The expansion added 66 buildings/124 schools to the RMZ Program, bringing resources to improve waste management operations. We worked closely with the Integrated Pest Management team and Custodial staff on a comprehensive plan to dramatically reduce signs of active rat activity, demonstrating that equipment, training, rigorous outreach and extermination are all essential ingredients in making such improvements at schools.

Circularity Day

In partnership with Barnard College, we helped plan NYC's first-ever Circularity Day, a sustainability concept focused on reuse and eliminating waste. The day recognized and celebrated citywide efforts to support circularity, including programming led by NYCPs. We awarded seven school-based Circularity Champions who are reducing food waste, hosting material swaps, upcycling, exemplifying leadership, and more:

- Bianca Bibiloni, Teacher at P.S. 014 Fairview
- Christopher Grullon and Victor Gelpi, Students at Columbia Secondary School
- Alfred McCoy, OFNS Heavy Duty staffer at building X131
- Samantha Nguyen, ENL Teacher at Sunset Park Avenues Elementary School
- Orlean Sorio & Paula Lucas, Secretary & Special Education Teacher at P.S. X811

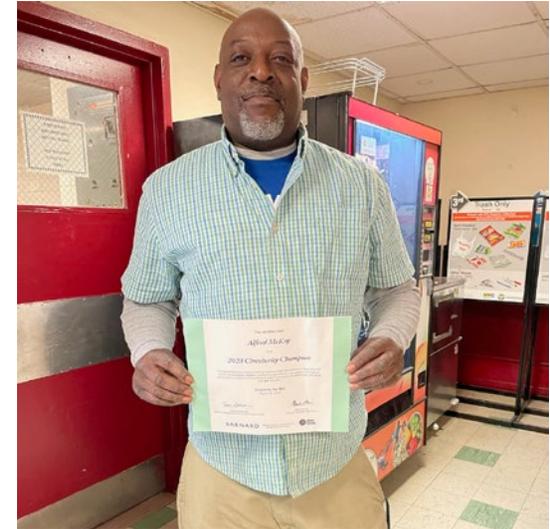
Congratulations to these champions—we thank you for all your contributions to school sustainability!



Circularity Champions with staff from the NYC Public Schools Office of Energy & Sustainability.

Office of Food & Nutrition Services (OFNS) Spotlight:

**ALFRED MCCOY,
HEAVY DUTY STAFFER AT X131**



Nominated for the Circularity Champion award by our partners at GrowNYC, Alfred modeled best practices in his cafeteria when they received Curbside Compost service. He diligently maintains the cafeteria sorting stations to make sure they are set up in the correct order and bins are not overfilled. By consolidating waste as much as possible, Alfred also minimizes the use of plastic liners in the bins. His leadership is essential to make sure cafeteria recycling is happening day after day, reducing waste in many ways.

Plastic Free Lunch Days

Our partnership with [Cafeteria Culture](#) and the Office of Food and Nutrition Services (OFNS) grew even more this school year through the regular implementation of Plastic Free Lunch Days. All elementary schools with on-site kitchens automatically participated, meaning that plastics were not used in meal preparation, packaging, or plating for students. To demonstrate the impact of Plastic Free Lunch Days, Cafeteria Culture conducted waste audits with students at P.S. 15 in Red Hook, Brooklyn to find:

On a typical lunch day:

694

pieces of plastic waste from cafeteria lunch



On Plastic Free Lunch Day:

28

pieces of plastic waste from cafeteria lunch



Additionally, the NYC Plastic Free Lunch Day effort has catalyzed a national movement! Through the initiative and leadership of Cafeteria Culture with partnership from OFNS and our office, the [Urban School Food Alliance](#) encouraged large school districts across the country to participate in the first National Plastic Free Lunch Day in November 2022. It is our hope that by implementing in NYC, we can help to ignite the interest and participation of more and more schools everywhere to reduce waste and take climate action in school cafeterias.

End-of-Year Classroom Supply Drop & Swaps

After a successful pilot last year and to further our waste reduction efforts, we hosted End-of-Year Classroom Supply Drop & Swaps again in partnership with [Materials for the Arts](#). This year, we went bigger, hosting six Drop & Swap events—at least one in every borough. Thank you to our [host schools](#) and their staff, who made it a success! Teachers and staff could bring excess materials from their classrooms to swap or donate, and could pick up supplies from other teachers.

In addition to all the supplies teachers picked up to reuse in their classrooms, we donated 8,999 pounds of supplies to Materials for the Arts, more than doubling the previous years' amount, 4,165 pounds!



Left to right: Teachers Nicole Valsalan and Janice Sandra drop off classroom materials at World View High School's Drop & Swap; co-teaching team Francellia McGee and Julie anne Dookran help organize The Emerson School's Drop & Swap.

Health, Wellness, and Green Space

Sustainability and wellness are interconnected, with a common goal to promote healthy students and healthy school environments. Our Office partners closely with the Office of School Wellness Programs and the Office of Food and Nutrition Services (OFNS)—along with several non-profit organizations—to achieve this goal.

Gardens

According to our annual Sustainability Survey, 49.81% of Sustainability Coordinators surveyed said their school developed a new garden this school year! This demonstrates the interest and demand for gardens in NYC public school communities.

School gardens across NYC serve many functions:

- Outdoor areas can enrich the school experience for students, staff, and school communities and support outdoor learning, connection to nature, and play
- Enhance opportunities for social-emotional learning
- Source of fresh produce to support food, nutrition, and urban agriculture education and for use in culinary classes
- Skill-building for careers and hands-on learning for STEM, Culturally-Responsive Sustaining Education, and wellness
- Connection to other sustainability initiatives such as composting and stewardship



Students and families planting out their new garden at P.S. 889K.

Annual Sustainability Project Grant

For the last seven years, we have offered our Annual Sustainability Project Grant as a means through which schools can apply for awards up to \$5,000 in funding or materials for a school-based sustainability project. In the 2022–23 school year, more projects were funded than ever before!

- 146 schools across all boroughs were awarded **\$611,513** across these categories:
 - Gardening & Outdoor Learning: **94 schools**
 - Green Team Supports: **13 schools**
 - Hydroponic Garden Tower: **19 schools**
 - Sustainability & Climate Education Programming: **20 schools**
- Average Economic Need Index of awarded schools: **81%** (citywide ENI average: 70%)
- Number of District 75 schools awarded: **22**

We are always seeking out ways to make our grant’s procurement process easier for schools. For the first time, we offered a Garden Materials category, which allowed schools to select garden items through a material request form. Schools that won in this category received these materials directly through our office, removing the multi-step process of transferring funds and purchasing items via school vendors. Our grant is funded by [Demand Response Programs](#).



Left to right: Fourth grade “harvest party” at P.S. 69 Vincent D. Grippo School; a student from P.S. 9 Ryer Avenue composting garden scraps from their hydroponic towers.

GARDEN TOWER

For the first time, our office expanded our Annual Sustainability Project Grant offering to include garden towers. These are mobile gardens with LED lights, where plants receive a combination of water and nutrients, allowing schools to grow plants indoors without soil. We awarded nineteen schools and held a training for the winners to show them in detail how to build and maintain the garden tower, co-led with D75 educators Cara Coffina and Alanna O'Donnell.



Garden tower workshop in March 2023.

Educator Spotlight:

CARA COFFINA, COORDINATOR OF APPLIED LEARNING FOR DISTRICT 75

Cara Coffina has been instrumental in expanding our program offerings to connect with District 75 schools and educators, including the Special Education Sustainability Professional Learning Community we ran in the 2021–22 school year. Cara runs D75 [Plant Learn Grow](#), a program that supports District 75 schools with sustaining indoor and outdoor edible gardens and exploring nature in our city's green spaces. She connects schools to resources to teach students about “sustainability, urban gardening, nutrition, and the “plant-to-plate” philosophy and lifestyle,” and leads a garden partnership program where classes do year-long nature investigations. She also co-led our first Garden Tower workshop this school year. We thank Cara for her leadership and dedication to representing and advocating for the entire D75 community!



Culinary Programs

In partnership with OFNS, we have catalyzed climate action in cafeterias and brought fresh and healthy foods to students.

FARM TO SCHOOL

Eighty-three schools are currently registered in the Farm to School Program. Under this program, OFNS held eighty-eight “tasting events” in school cafeterias during lunch, which feature seasonal New York State products and recipes.

MEET THE FARMER

This semi-annual event takes place at the Fulton Stall Market at the South Street Seaport. For each event, a New York State farmer supplies items from their farm, while the Farm to School program prepares the items for lunch with NYC students. The farmer and students talk with one another and learn more about their beliefs and perceptions of farm work and growing food.

Green Infrastructure

NYC Department of Environmental Protection (DEP) and School Construction Authority (SCA) partner with NYC Public Schools to implement green infrastructure. These projects absorb excess rainfall, which helps reduce flooding risks and support resiliency.

This school year, green infrastructure projects were constructed at six schools and initiated at another ten locations. Several new school green infrastructure projects are in design stages.

Most green infrastructure projects are part of playgrounds or athletic fields to allow for greater absorption of stormwater, and include the following examples:



- Storage under synthetic turf fields or paved play yards
- Permeable pavement
- Rain gardens or bioswales

GREEN INFRASTRUCTURE HIGHLIGHT:

The schoolyard retrofit at P.S. 38 The Pacific School in Brooklyn opened on June 20, 2023. Led by The Trust for Public Land as part of the Schoolyards to Playgrounds Program, the retrofit includes a synthetic turf field and a rain garden in the school’s yard. It will manage nearly 1.2 million gallons of stormwater each year, helping to reduce both neighborhood flooding as well as pollution in the nearby Gowanus Canal. Outside of school hours, the schoolyard will give quality open space access to over 32,000 residents within a 10-minute walk of the school.



Photo: NYC Department of Environmental Protection

Conclusion

In the 2022–23 school year, we broadened our capacity to better serve nearly 1,900 schools across the city. We increased in-person school visits and expanded in-person professional learning opportunities, including our new teacher-led *Urban Heat Island: Building Community Resilience* training series. We also expanded DSNY Curbside Composting across the entire borough of the Bronx, a long-time goal! We provided more resources than ever before to schools through our Annual Sustainability Project Grant, diversifying the categories and allocating the highest level of funding. Our energy team worked diligently to increase NYCPS' solar rooftop installations to eighty-one total sites, increase the number of Demand Response participants, and complete over 180 city-funded energy efficiency projects in school buildings.

While measures to reduce greenhouse gas emissions in NYC are often focused on buildings themselves, the call for climate action must also include the people who occupy them. We are tirelessly working to embed sustainability into all aspects of operations and education by directly aligning energy management programs with facility operations and creating more opportunities for our building occupants to participate in climate action. We know the year ahead will be pivotal for our office and City as we begin to implement our commitments in PlaNYC and solutions to mitigate the climate crisis.

Thank you for reading about the growing programs and movement, and for being a vital part of the overarching effort to prioritize school sustainability *in* NYC and *for* NYC. Such great progress would not happen without the support of everybody within NYCPS, partner agencies and organizations, higher education, and a myriad of national coalitions. Stay tuned for other exciting developments next year!

Appendix

Office of Energy & Sustainability Partners

[Action for the Climate Emergency \(ACE\)](#)

[American Museum of Natural History](#)

[Audubon New York—For the Birds!](#)

[Billion Oyster Project](#)

[Bronx Health Reach](#)

[Bronx River Alliance](#)

[Brooklyn Bridge Park Conservancy](#)

[Brooklyn Museum](#)

[Cafeteria Culture \(CafCu\)](#)

[Children’s Environmental Literacy Foundation \(CELF\)](#)

[Citizens Committee for New York City \(CCNY\)](#)

[City Growers](#)

[City Parks Foundation](#)

[CGMM, Inc.](#)

[Climate Generation](#)

[Coalition for Healthy School Food](#)

[Department of Sanitation New York City \(DSNY\)](#)

[Earth Day Initiative](#)

[Earth Rangers](#)

[EcoRise](#)

[Edible Schoolyard NYC](#)

[FABSCRAP](#)

[Farm to School](#)

[Garden Train](#)

[Genovesi Environmental Study Center](#)

[Gowanus Canal Conservancy](#)

[Green Bronx Machine](#)

[Green City Challenge](#)

[Green Schools Alliance](#)

[Greening Forward](#)

[GrowNYC School Gardens & Zero Waste Schools](#)

[LEGO Education](#)

[Materials for the Arts \(MFTA\)](#)

[National Geographic Society](#)

[National Wildlife Federation Eco-Schools USA](#)

[Newtown Creek Alliance](#)

[NY Botanical Garden](#)

[NY Hall of Science \(NYSCI\)](#)

[NY Restoration Project](#)

[NY Sun Works](#)

[NYC Compost Project hosted by Big Reuse](#)

[NYC Department of Citywide Administrative Services \(DCAS\)—Energy Management](#)

[NYS Department of Environmental Conservation \(DEC\)](#)

[NYC Department of Environmental Protection \(DEP\)](#)

[NYC Department of Parks & Recreation](#)

[NYC Department of Health and Mental Hygiene \(DOHMH\)—Healthy Living By Design](#)

[NYC Mayor’s Office of Climate and Environmental Justice](#)

[NYC Mayor’s Office of Food Policy](#)

[NYC Public Schools—Office of Curriculum, Instruction and Professional Learning](#)

[NYC Public Schools—Computer Science for All](#)

[NYC Public Schools—Office of Food and Nutrition Services](#)

[NYC Public Schools—Office of School Wellness](#)

[NYC Public Schools—Service in Schools](#)

[NYC School Construction Authority](#)

[NYU Wallerstein Collaborative for Urban Environmental Education](#)

[Passive House for Everyone](#)

[play:groundNYC](#)

[PowerMyLearning](#)

[Queens Botanical Garden](#)

[Resilient Schools Consortium Program \(RISC\)](#)

[Sanitation Foundation](#)

[SIMS Municipal Recycling](#)

[Solar One](#)

[Start: Empowerment](#)

[STEMteachersNYC](#)

[Teachers College, Columbia University](#)

[Teens for Food Justice](#)

[The Climate Museum](#)

[The Horticultural Society of NY](#)

[United Federation of Teachers \(UFT\)](#)

[Waterfront Alliance](#)

[WE ACT for Environmental Justice](#)

[Wearable Collections](#)

[Wellness in the Schools](#)

[WhyMaker](#)

[Wildlife Conservation Society](#)

Energy Management

Demand Response—Electricity

Schools enrolled	
FY21	338
FY22	366
FY23	453

Demand Response – Natural Gas (National Grid)

	Max Schools enrolled	Max Capacity enrolled Dekatherm (Dth)/Event
FY21	45	1586
FY22	45	2015
FY23	71	2843

Energy Use Intensity (EUI)

	Total square footage	EUI (kBtu/sq. ft.)	EUI year over year change	EUI change from FY08 baseline
FY21	161,329,200	64.15	10.2%	-13.5%
FY22	162,082,800	71.54	11.5%	-3.6%
FY23	163,144,800	62.90	-12.1%	-15.2%
Average	162,185,600	66.20	3.2%	-10.8%

Energy Star Performance for NYCPS Properties

Score	FY21 (CY 20 Rpt)		FY22 (CY 21 Rpt)		FY23 (CY 22 Rpt)	
	Number of Bldgs*	% of Bldgs	Number of Bldgs*	% of Bldgs	Number of Bldgs*	% of Bldgs
75 or higher	858	59.21%	548	39.40%	372	26.90%
50–74	353	24.36%	464	33.36%	520	37.60%
25–49	138	9.52%	211	15.17%	298	21.55%
24 or below	52	3.59%	121	8.70%	154	11.14%
No score available	48	3.31%	47	3.38%	39	2.82%
Total buildings	1449		1391		1383	

To align with citywide energy efficiency building performance reporting, NYCPS has updated reporting criteria from EPA Energy Star Portfolio Manager property accounting to report only active NYCPS buildings published in Municipal Benchmarking Report. This is based on City Covered Buildings List annually updated by NYC Department of Finance.

NYCPS shifted on reporting Energy Star Performance from number of properties to Borough-Block-Lot or BBLs as required by NYC Departments of Buildings and Finance to align with their naming convention. The Energy Star scores for FY23 (using CY22 data), under this reporting criteria are below as reported in the NYC Municipal Benchmarking Report.

Energy Star Score	# of Borough-Block-Lot (BBLs)	% of School Buildings
A	162	13.18%
B	271	22.05%
C	268	21.81%
D	491	39.95%
N	37	3.01%

ACE Energy Efficiency Projects in FY23

Borough	Building Code	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Brooklyn	K018	Steam System Optimization	\$3,487.17	24
Brooklyn	K025	Steam System Optimization	\$5,825.32	40
Brooklyn	K072	Domestic Hot Water Heater	\$22,120.00	83
Brooklyn	K093	Domestic Hot Water Heater	\$18,604.00	75
Brooklyn	K099	Steam System Optimization	\$4,538.00	31.2
Brooklyn	K137	Steam System Optimization	\$4,834.22	14.4
Brooklyn	K221	Domestic Hot Water Heater	\$21,255.00	78
Brooklyn	K270	Domestic Hot Water Heater	\$15,940.00	59
Brooklyn	K273	Domestic Hot Water Heater	\$17,954.00	73
Brooklyn	K290	Domestic Hot Water Heater	\$6,087.00	24
Brooklyn	K306	Domestic Hot Water Heater	\$19,433.00	79
Brooklyn	K318	Domestic Hot Water Heater	\$23,200.00	97
Brooklyn	K391	Domestic Hot Water Heater	\$22,031.00	84
Brooklyn	K486	Steam System Optimization	\$7,384.24	34.4
Brooklyn	K590	Steam System Optimization	\$5,895.86	35.5
Brooklyn	K610	Steam System Optimization	\$5,640.10	38.7
Bronx	X030	Domestic Hot Water Heater	\$14,453.00	62
Bronx	X062	Domestic Hot Water Heater	\$28,541.00	105
Bronx	X109	Domestic Hot Water Heater	\$20,453.00	75
Bronx	X126	Domestic Hot Water Heater	\$20,159.00	82
Bronx	X145	Domestic Hot Water Heater	\$26,348.00	109
Bronx	X161	Domestic Hot Water Heater	\$12,942.00	54

Borough	Building Code	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Bronx	X192	Domestic Hot Water Heater	\$31,296.00	116
Bronx	X206	Domestic Hot Water Heater	\$4,089.00	16
Bronx	X600	Domestic Hot Water Heater	\$43,277.00	191
Manhattan	M137	Domestic Hot Water Heater	\$8,701.00	19
Manhattan	M833	Domestic Hot Water Heater	\$43,281.00	95
Manhattan	M894	Domestic Hot Water Heater	\$45,631.00	100
Queens	Q022	Domestic Hot Water Heater	\$11,437.00	49
Queens	Q041	Steam System Optimization	\$4,625.96	28.5
Queens	Q133	Steam System Optimization	\$3,995.00	27.4
Queens	Q179	Domestic Hot Water Heater	\$12,829.00	41
Queens	Q219	Domestic Hot Water Heater	\$14,167.00	57
Queens	Q460	Domestic Hot Water Heater	\$40,631.00	200
Staten Island	R007	Steam System Optimization	\$12,100.32	60.4
Staten Island	R008	Steam System Optimization	\$4,182.36	28.7
Staten Island	R016	Steam System Optimization	\$10,108.28	47.1
Staten Island	R020	Steam System Optimization	\$6,580.56	32.8
Staten Island	R022	Steam System Optimization	\$5,867.28	38.8
Staten Island	R032	Steam System Optimization	\$7,497.17	42.3
Staten Island	R042	Steam System Optimization	\$9,159.16	45.7
Staten Island	R042	Domestic Hot Water Heater	\$11,198.00	45
Staten Island	R045	Boiler Controls Upgrade	\$3,535.74	18.71
Staten Island	R054	Steam System Optimization	\$9,086.13	45.3
Staten Island	R440	Boiler Controls Upgrade	\$6,339.17	33.54

ExCEL Energy Efficiency Projects completed in FY23

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Brooklyn	K007	Condenser Coil Coating	\$13,393.00	19.1
Brooklyn	K007	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$8,225.66	36.7
Brooklyn	K017	Insulation (Pipe, Tanks, Boilers)	\$252.00	1.67
Brooklyn	K020	Insulation (Pipe, Tanks, Boilers)	\$3,742.11	19.17
Brooklyn	K043	Upgrade Existing Lighting to LED	\$39,656.11	116.64
Brooklyn	K102	Upgrade Existing Lighting to LED	\$23,493.12	54.25
Brooklyn	K132	Insulation (Pipe, Tanks, Boilers)	\$108.00	0.65
Brooklyn	K160	Upgrade Existing Lighting to LED	\$12,595.81	24.26
Brooklyn	K194	EER ECM AHU Controls Upgrade: DCV, DDC, VFDs	\$2,644.00	11.2
Brooklyn	K194	Insulation (Pipe, Tanks, Boilers)	\$4,288.00	30.24
Brooklyn	K211	Upgrade Existing Lighting to LED	\$28,323.37	61.63
Brooklyn	K219	Insulation (Pipe, Tanks, Boilers)	\$218.00	0.15
Brooklyn	K219	Upgrade Existing Lighting to LED	\$10,844.33	14.54
Brooklyn	K228	Upgrade Existing Lighting to LED	\$18,231.90	42.2
Brooklyn	K229	Condenser Coil Coating	\$6,727.00	9.6
Brooklyn	K259	Condenser Coil Coating	\$4,783.00	6.8
Brooklyn	K259	Upgrade Existing Lighting to LED	\$26,714.40	43.23
Brooklyn	K290	Insulation (Pipe, Tanks, Boilers)	\$445.00	3.10
Brooklyn	K298	Insulation (Pipe, Tanks, Boilers)	\$65.00	0.35
Brooklyn	K298	Upgrade Existing Lighting to LED	\$17,164.83	39.9
Brooklyn	K313	LED Lighting upgrade—Full Building	\$46,262.93	82.9
Brooklyn	K331	Upgrade Existing Lighting to LED	\$15,744.33	46.6

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Brooklyn	K370	EER ECM AHU Controls Upgrade: DCV, DDC, VFDs	\$5,745.00	18.9
Brooklyn	K395	Cooling Equipment Optimization	\$-	0
Brooklyn	K398	Burner Retrofit from #4 to #2B20	\$(5,457.60)	63.6
Brooklyn	K425	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$10,732.36	62.4
Brooklyn	K455	Cooling Equipment Optimization	\$-	0
Brooklyn	K525	Cooling Equipment Optimization	\$-	0
Brooklyn	K564	LED Lighting upgrade—Full Building	\$43,435.54	77.7
Brooklyn	K695	Cooling Equipment Optimization	\$-	0
Brooklyn	K743	Upgrade Existing Lighting to LED	\$7,292.91	9.27
Brooklyn	K801	Cooling Equipment Optimization	\$-	0
Brooklyn	K802	Cooling Equipment Optimization	\$-	0
Brooklyn	K914	Cooling Equipment Optimization	\$-	0
Brooklyn	K989	Cooling Equipment Optimization	\$-	0
Brooklyn	KBKU	Upgrade Existing Lighting to LED	\$9,108.23	23.1
Bronx	X005	Burner Retrofit from #4 to #2B20	\$(3,705.20)	62.6
Bronx	X056	Insulation (Pipe, Tanks, Boilers)	\$1,147.00	6.07
Bronx	X066	Insulation (Pipe, Tanks, Boilers)	\$496.00	2.53
Bronx	X095	BMS Upgrade	\$11,500.39	66.0
Bronx	X131	Upgrade Existing Lighting to LED	\$-	0
Bronx	X137	Cooling Equipment Optimization	\$-	0
Bronx	X153	Cooling Equipment Optimization	\$-	0
Bronx	X167	Cooling Equipment Optimization	\$-	0

ExCEL Energy Efficiency Projects completed in FY23 continued

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Bronx	X194	Cooling Equipment Optimization	\$-	0
Bronx	X229	Cooling Equipment Optimization	\$-	0
Bronx	X405	Cooling Equipment Optimization	\$-	0
Bronx	X423	BMS Upgrade	\$11,202.97	66.0
Bronx	X423	Condenser Coil Coating	\$11,004.00	8.1
Bronx	X440	Boiler System Upgrades: Boiler Controls	\$4,775.00	29.6
Bronx	X498	BMS Upgrade	\$11,077.53	67.0
Bronx	X655	Cooling Equipment Optimization	\$-	0
Bronx	X973	BMS Upgrade	\$9,727.03	59.0
Manhattan	M007	Upgrade Existing Lighting to LED	\$13,591.22	25.2
Manhattan	M089	Cooling Equipment Optimization	\$-	0
Manhattan	M098	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$18,666.45	77.0
Manhattan	M098	Walk-in Freezer Controls	\$1,187.00	2.9
Manhattan	M267	Cooling Equipment Optimization	\$-	0
Manhattan	M271	Cooling Equipment Optimization	\$-	0
Manhattan	M282	Cooling Equipment Optimization	\$-	0
Manhattan	M477	Cooling Equipment Optimization	\$-	0
Manhattan	M485	Cooling Equipment Optimization	\$-	0
Manhattan	M490	Cooling Equipment Optimization	\$-	0
Manhattan	M520	Cooling Equipment Optimization	\$-	0
Manhattan	M535	Cooling Equipment Optimization	\$-	0
Manhattan	M540	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$4,888.77	20.5

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Manhattan	M620	Cooling Equipment Optimization	\$-	0
Manhattan	M833	Cooling Equipment Optimization	\$-	0
Manhattan	M834	Cooling Equipment Optimization	\$-	0
Manhattan	M841	Cooling Equipment Optimization	\$-	0
Manhattan	M868	Cooling Equipment Optimization	\$-	0
Manhattan	M876	BMS Upgrade	\$12,644.94	70.0
Manhattan	M894	Cooling Equipment Optimization	\$-	0
Queens	Q007	Condenser Coil Coating	\$21,757.00	31.1
Queens	Q012	BMS Upgrade	\$8,858.94	48
Queens	Q013	Condenser Coil Coating	\$8,929.00	12.8
Queens	Q013	Upgrade Existing Lighting to LED	\$38,263.42	72.3
Queens	Q015	Perimeter Heating Controls Upgrade: DDC, CVs, TRVs, Tstats, WPTs	\$2,979.16	20.92
Queens	Q020	Condenser Coil Coating	\$7,344.00	10.5
Queens	Q031	Upgrade Existing Lighting to LED	\$19,123.70	35.1
Queens	Q042	BMS Upgrade	\$11,578.26	64
Queens	Q045	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$2,334.01	9.4
Queens	Q050	Upgrade Existing Lighting to LED	\$26,246.03	60.5
Queens	Q052	Premium Efficiency Motor Upgrade	\$793.00	1.08
Queens	Q052	Upgrade Existing Lighting to LED	\$13,335.80	30.6
Queens	Q064	Insulation (Pipe, Tanks, Boilers)	\$48.66	0.26
Queens	Q066	Upgrade Existing Lighting to LED	\$5,123.02	13.1
Queens	Q082	Insulation (Pipe, Tanks, Boilers)	\$63.49	0.43

ExCEL Energy Efficiency Projects completed in FY23 continued

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Queens	Q099	Upgrade Existing Lighting to LED	\$18,396.06	35.6
Queens	Q100	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$2,588.88	12.0
Queens	Q100	Perimeter Heating Controls Upgrade: DDC, CVs, TRVs, Tstats, WPTs	\$3,243.00	24.31
Queens	Q105	Condenser Coil Coating	\$3,069.00	4.4
Queens	Q116	Insulation (Pipe, Tanks, Boilers)	\$39.00	0.24
Queens	Q116	Perimeter Heating Controls Upgrade: DDC, CVs, TRVs, Tstats, WPTs	\$29.00	0.18
Queens	Q122	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$1,903.23	8.4
Queens	Q127	Upgrade Existing Lighting to LED	\$35,301.26	74.4
Queens	Q143	Insulation (Pipe, Tanks, Boilers)	\$316.21	1.96
Queens	Q149	Insulation (Pipe, Tanks, Boilers)	\$482.89	2.95
Queens	Q149	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$3,542.86	17.2
Queens	Q152	Upgrade Existing Lighting to LED	\$38,553.48	78.7
Queens	Q162	Upgrade Existing Lighting to LED	\$16,966.82	36.1
Queens	Q181	Insulation (Pipe, Tanks, Boilers)	\$270.77	1.90
Queens	Q183	Upgrade Existing Lighting to LED	\$2,598.40	61.2
Queens	Q200	Upgrade Existing Lighting to LED	\$12,756.42	26.2
Queens	Q242	Non-EER AHU Controls Upgrade: DCV, DDC, VFDs	\$9,436.67	41.5
Queens	Q242	Premium Efficiency Motor Upgrade	\$981.02	1.53
Queens	Q253	Condenser Coil Coating	\$11,742.00	16.8
Queens	Q254	Insulation (Pipe, Tanks, Boilers)	\$117.67	0.82

Borough	Building ID	Type of Work	Annual Cost Savings	GHG Savings (tCO ₂ e)
Queens	Q263	BMS Upgrade	\$13,870.00	78
Queens	Q263	Condenser Coil Coating	\$5,640.00	31.1
Queens	Q287	BMS Upgrade	\$8,209.55	46.0
Queens	Q460	Premium Efficiency Motor Upgrade	\$2,512.00	3.14
Queens	Q570	BMS Upgrade	\$25,340.38	149.0
Queens	Q600	Upgrade Existing Lighting to LED	\$35,113.46	69.0
Queens	Q801	Boiler Operators Training	\$-	0.0
Queens	Q801	NDT Testing	\$-	0.0
Queens	Q801	VFD & Motor Training	\$-	0.0
Staten Island	R014	Upgrade Existing Lighting to LED	\$8,133.73	34.6
Staten Island	R043	Condenser Coil Coating	\$12,540.00	17.9
Staten Island	R861	BMS Upgrade	\$12,389.76	73.0
Staten Island	R880	Aerial Study	\$-	

Waste

Drop & Swap Host Schools

Borough	Building ID	School Name
Brooklyn	K445	New Utrecht High School
Bronx	X440	World View High School
Manhattan	M118	Manhattan School for Children, Lafayette Academy, Community Action School
Queens	Q008	The Emerson School
Queens	Q227	Louis Armstrong Middle School
Staten Island	R062	The Kathleen Grimm School for Leadership and Sustainability

Sustainability Project Grant Winners

Category: Gardens & Outdoor Learning— Funding up to \$5,000

Borough	Building ID	School Name
Brooklyn	K014	J.H.S. 014 Shell Bank
Brooklyn	K086	P.S. 086 The Irvington
Brooklyn	K088	P.S. K053
Brooklyn	K136	I.S. 136 Charles O. Dewey
Brooklyn	K152	School of Science & Technology
Brooklyn	K153	P.S. 153 Homecrest
Brooklyn	K174	Brooklyn Gardens Elementary School
Brooklyn	K188	P.S. 188 Michael E. Berdy
Brooklyn	K196	M.S. 582
Brooklyn	K206	P.S. 206 Joseph F Lamb
Brooklyn	K240	Andries Hudde
Brooklyn	K258	P.S. K140
Brooklyn	K276	P.S. 276 Louis Marshall
Brooklyn	K296	Evergreen Middle School for Urban Exploration
Brooklyn	K298	Brownsville Collaborative Middle School
Brooklyn	K303	Rachel Carson High School for Coastal Studies
Brooklyn	K338	P.S. 889

Borough	Building ID	School Name
Brooklyn	K338	M.S. 890
Brooklyn	K450	East Williamsburg Scholars Academy
Brooklyn	K525	Edward R. Murrow High School
Brooklyn	K746	Sunset School of Cultural Learning
Bronx	X015	P.S. 291
Bronx	X083	P.S. 083 Donald Hertz
Bronx	X096	P.S. 096 Richard Rodgers
Bronx	X109	P.S. 109 Sedgwick
Bronx	X193	I.S. X318 Math, Science & Technology Through Arts
Bronx	X285	The Highbridge Green School
Bronx	X440	DeWitt Clinton High School
Bronx	X455	P.S. X176
Manhattan	Multiple	School for Cooperative Technical Education
Manhattan	M079	P.S. M079 - Horan School
Manhattan	M099	M.S. 224 Manhattan East School for Arts & Academics
Manhattan	M132	Dos Puentes Elementary School
Manhattan	M143	Washington Heights Expeditionary Learning School
Manhattan	M206	P.S. 206 Jose Celso Barbosa
Manhattan	M751	Manhattan School for Career Development
Queens	Q104	P.S. 104 The Bays Water
Queens	Q162	P.S. 162 John Golden
Queens	Q207	P.S. 207 Rockwood Park

Borough	Building ID	School Name
Queens	Q217	J.H.S. 217 Robert A. Van Wyck
Queens	Q315	P.S. 110
Queens	Q329	East Elmhurst Community School
Queens	Q389	District 30 Pre-K Center
Queens	Q392	Mosaic Pre-K Center
Queens	Q452	Long Island City High School
Queens	Q686	Metropolitan Expeditionary Learning School
Queens	Q722	John F. Kennedy Jr. School
Staten Island	R029	P.S. 029 Bardwell
Staten Island	R840	The David Marquis School of the Arts

Sustainability Project Grant Winners

Category: Gardens & Outdoor Learning— Materials Valued up to \$5,000

Borough	Building ID	School Name
Brooklyn	K041	P.S. 041 Francis White
Brooklyn	K081	P.S. 081 Thaddeus Stevens
Brooklyn	K090	P.S. 90 Edna Cohen School
Brooklyn	K128	P.S. 128 Bensonhurst
Brooklyn	K157	P.S./I.S. 157 The Benjamin Franklin Health & Science Academy
Brooklyn	K198	P.S. 198 Brooklyn
Brooklyn	K235	P.S. 235 Janice Marie Knight School
Brooklyn	K259	J.H.S. 259 William McKinley
Brooklyn	K273	P.S. 273 Wortman
Brooklyn	K286	P.S. K811 Connie Lekas School
Brooklyn	K314	P.S. 503: The School of Discovery
Brooklyn	K345	P.S. 345 Patrolman Robert Bolden
Brooklyn	K396	Sid Miller Academy
Brooklyn	K490	Fort Hamilton High School
Brooklyn	K564	Sunset Park High School
Brooklyn	K804	Cobble Hill School of American Studies
Brooklyn	K902	P.S. K077
Brooklyn	KBNU	Brooklyn Urban Garden Charter School

Borough	Building ID	School Name
Bronx	X032	P.S. 032 Belmont
Bronx	X034	P.S. X188
Bronx	X036	P.S. 036 Unionport
Bronx	X064	Lucero Elementary School
Bronx	X091	P.S. 091 Bronx
Bronx	X098	Explorations Academy H.S.
Bronx	X122	P.S. 310 Marble Hill
Bronx	X132	P.S. 132 Garret A. Morgan
Bronx	X136	P186X Walter J. Damrosch School
Bronx	X167	P.S. 214
Bronx	X254	I.S. 254
Manhattan	M020	P.S. 020 Anna Silver
Manhattan	M115	P.S. 115 Alexander Humboldt
Manhattan	M129	P.S. 129 John H. Finley
Manhattan	M600	The High School of Fashion Industries

Borough	Building ID	School Name
Queens	Q014	P.S. 014 Fairview
Queens	Q064	P.S. 064 Joseph P. Addabbo
Queens	Q085	P.S. 085 Judge Charles Vallone
Queens	Q099	P.S. 099 Kew Gardens
Queens	Q109	Jean Nuzzi Intermediate School
Queens	Q120	P.S. 120 Queens
Queens	Q137	M.S. 137 America's School of Heroes
Queens	Q145	I.S. 145 Joseph Pulitzer
Queens	Q186	P.S. Q224
Queens	QAPM	P.S. Q023 @ Queens Children Center
Staten Island	R040	P.S. R373
Staten Island	R077	The Richmond Pre-K Center

Sustainability Project Grant Winners

Category: Green Team Supports

Borough	Building ID	School Name
Brooklyn	K015	P.S. 015 Patrick F. Daly
Brooklyn	K127	P.S. 127 Mckinley Park
Brooklyn	K184	P.S. 184 Newport
Bronx	X008	P.S. 008 Isaac Varian
Bronx	X156	Concourse Village Elementary School
Manhattan	M281	The River School
Manhattan	M460	Academy for Software Engineering
Manhattan	M620	Murray Hill Academy
Queens	Q079	P.S. 079 Francis Lewis
Staten Island	R049	I.S. 49 Berta A. Dreyfus
Staten Island	R054	P.S. 054 Charles W. Leng
Staten Island	R086	The Richard H. Hungerford School
Staten Island	R455	Tottenville High School

Category: Garden Tower + Training

Borough	Building ID	School Name
Brooklyn	K016	P.S. 016 Leonard Dunkly
Brooklyn	K041	Mott Hall IV
Brooklyn	K069	P.S. 69 Vincent D. Grippo School
Brooklyn	K085	P.S. K753 - School for Career Development
Brooklyn	K094	P.S. 094 The Henry Longfellow
Brooklyn	K258	P.S. K140
Brooklyn	K275	Brooklyn Democracy Academy
Brooklyn	K420	Multicultural High School
Bronx	X009	P.S. 9 Ryer Avenue Elementary School
Bronx	X020	P.S. 168
Bronx	X070	P.S. 070 Max Schoenfeld
Bronx	X075	P.S. 75 School of Research and Discovery
Bronx	X094	P.S. 094 Kings College School
Bronx	X104	P.S. 199X - The Shakespeare School
Bronx	X819	P.S. 207
Bronx	X970	Mott Hall Bronx High School
Bronx	XAGG	Bronx Arts and Science Charter School
Manhattan	M101	Mosaic Preparatory Academy
Manhattan	M440	James Baldwin School, The: A School for Expeditionary Learning

Category: Sustainability & Climate Education Programming

Borough	Building ID	School Name
Brooklyn	K148	P.S. 373 Brooklyn Transition Center
Brooklyn	K159	P.S. 159 Isaac Pitkin
Brooklyn	K216	P.S. 216 Arturo Toscanini
Brooklyn	K217	P.S. 217 Colonel David Marcus School
Brooklyn	K288	P.S. 288 The Shirley Tanyhill
Brooklyn	K383	J.H.S. 383 Philippa Schuyler
Brooklyn	K480	The Academy of Urban Planning and Engineering
Bronx	X050	Fairmont Neighborhood School
Bronx	X084	P.S. X811
Bronx	X139	International Community High School
Bronx	X149	The Laboratory School of Finance and Technology: X223
Bronx	X159	P.S. 159 Luis Munoz Marin Biling
Bronx	X162	I.S. 584
Manhattan	M164	Community Math & Science Prep
Manhattan	M276	P.S. M094
Manhattan	M490	High School of Arts and Technology
Manhattan	M520	Urban Assembly Maker Academy
Manhattan	M877	Urban Assembly New York Harbor School
Staten Island	R022	P.S. 022 Graniteville
Staten Island	R861	Staten Island School of Civic Leadership

Policies and Regulations

NYCPS POLICY

- **Chancellor's Regulation A-850:** Outlines the roles of the CEO of Division of School Facilities (DSF), Director of Sustainability, Deputy Director of Recycling, Deputy Director of Energy, Principals, Custodian Engineers, and Sustainability Coordinators. Personal appliances that would unnecessarily increase school plug load, such as personal refrigerators and microwaves, are banned from NYCPS offices and classrooms.

ENERGY

- **Local Law 33/95:** requires that all buildings covered by Local Law 84 (Energy Benchmarking) post the building's Energy Efficiency Rating (A-D) and score (1–100) near all public main entrances to increase transparency of energy performance. Grade and score are determined by the EPA ENERGY STAR data established by LL84 from the previous calendar year to be posted annually by October 31.
- **Local Law 24:** Outlines NYCPS contribution to solar readiness assessment for NYC municipal buildings.
- **Local Law 45:** Requires the Department of Citywide Administrative Services (DCAS) to report on electricity and fossil fuel usage, real-time metering, and assessments of or improvements made to the envelopes of covered facilities.
- **Local Law 84:** Requires owners of large buildings to measure (benchmark) energy consumption and submit the data to the city.
- **Local Law 85:** Requires building renovation and alteration projects to meet New York City Energy Conservation Code (NYCECC).

- **Local Law 86:** City-funded capital projects with construction costs of \$2 million or more must be designed to LEED Silver or higher ratings; projects with costs of \$12 million or more must reduce energy costs by 20–30% below ASHRAE standards.
- **Local Law 87:** Buildings over 50,000 square feet or larger must undergo audits and retro-commissioning every ten years to determine energy consumption.
- **Local Law 88:** Large non-residential buildings are required to upgrade lighting fixtures to NYCECC code and electrical sub-meters must be installed.
- **Local Law 92/94:** Both new construction and properties that are undergoing replacement of the entire roof deck or roof assembly are required to install a sustainable roofing zone.
- **Local Law 97—Climate Mobilization Act:** Requires a reduction in emissions by a minimum of 40% by 2025 and 50% by 2030, with One City Built to Last requiring a 63% reduction in building emissions by 2050.
- **Executive Order 26:** New York City's commitment to Principles and Goals of Paris Climate Agreement.

WASTE

- **Local Law 36:** Every New York City agency, including NYCPS, must submit a waste prevention, reuse, and recycling report.
- **Local Law 41:** Outlines the recycling requirements for NYCPS, including:
 - All buildings owned and leased by NYCPS, including schools and administrative buildings, are to recycle all recyclable materials.

- The chancellor must appoint a Director of Sustainability to oversee the recycling program, outline goals and policies to promote waste prevention, reuse, and recycling programs in all NYCPS Schools, charter schools, and other facilities and offices under their jurisdiction.
- All school Principals must appoint a Sustainability Coordinator from the school staff. The Sustainability Coordinator cannot be the Principal or the Custodian Engineer.
- All schools and administrative offices must prepare and submit a recycling plan, which at a minimum requires that every class have separate and appropriately labeled bins for trash and recyclable paper, and for school buildings to have recycling bins for metal, glass, and plastic materials as close to the school exit as possible without violating safety codes.
- The school Principal or Sustainability Coordinator must participate in an annual survey conducted by the NYCPS Director of Sustainability; which helps review each school's and the City's progress on recycling activities. The Director of Sustainability must submit an annual recycling report to the NYC Department of Sanitation.
- All primary and secondary schools that are not under the jurisdiction of the NYCPS but receive department collection services must also appoint a Sustainability Coordinator and implement a waste prevention and recycling plan.
- **Local Law 65:** Requires NYCPS to develop a plan to reduce food waste.

- **Local Law 77:** Requires the NYC Department of Sanitation to establish a voluntary residential organic waste curbside collection pilot program and school organic waste collection pilot program.
- **Executive Order 42:** City agencies must stop purchasing single-use plastic foodware and replace it with compostable or recyclable alternatives; a small supply of plastic items must be available upon request for people who need them.

GREEN PROCUREMENT

- **Local Law 118 (2005):** Mandated the creation of a Director of Citywide Environmental Purchasing to institute new purchasing standards as according to environmental guidelines. The Director must also update environmental legislative standards and submit an annual report on the City's purchasing of environmentally sound products.

- **Local Law 119 (2005):** Reviews current usage of energy efficient merchandise and set the water and energy efficiency minimum standards for products purchased by the City.
- **Local Law 120 (2005):** The law formed the standards for acquiring products comprising of hazardous materials, while also developing regulations on reducing the volume of hazardous materials produced from the goods purchased by the City. In addition to the hazardous materials policy, the law also mandates that the City set up a plan to reuse and recycle electronic goods.
- **Local Law 121 (2005):** The law revised printer default settings for City offices to print double-sided, while also establishing the minimum recycled content standards for a number of goods set by the Federal Comprehensive Procurement Guideline.
- **Local Law 123 (2005):** The law established that the City of New York develop a program to evaluate the practicability of green cleaning and

implement a citywide green cleaning program by 2009.

- **New York State Green Cleaning Law:** Enacted as Chapter 584 of the Laws of 2005, the State Green Cleaning Law requires elementary and secondary schools to obtain and utilize environmentally delicate cleaning and maintenance products. The New York State Office of General Services updated the law in 2010 to include state agencies and public authorities.

WATER

- **MS4 (Municipal Separate Storm Sewer System) Permit:** This permit is required under the Clean Water Act, issued by New York State Department of Environmental Conservation (DEC), and coordinated by the NYC Department of Environmental Protection (DEP). The intent is for the City to implement measures to reduce pollution in stormwater runoff.

Methodology

ENERGY & CLIMATE

To calculate greenhouse gas (GHG) emissions, we examined NYCPS energy bills. Electricity, natural gas and municipal steam consumption data was obtained through the Department of Citywide Administrative Services (DCAS)'s Energy Cost Control and Conservation (EC3) online portal using the latest available data. Fuel oil and biodiesel blend consumption is based on fuel oil delivery bills, as tracked by Division of School Facilities' Office of Finance, under the assumption that the amount of fuel oil delivered reflects its usage during the year.

Greenhouse gases included in these calculation—carbon dioxide (CO₂), methane (NH₄) and nitrous

oxide (N₂O)—were normalized into metric tons of carbon dioxide equivalent (CO₂e), using emission factors and conversion units established by the 2021–2022 NYC City Government GHG Inventories and the Global Protocol for Community-Scale GHG Inventories, per the U.S. Environmental Protection Agency. Emissions factors for fuel oil and biodiesel blends were derived as proportional estimate for respective fuel oil type, based on the percentage of biodiesel at each facility.

The emissions profiles described in the Energy and Climate section refer to emissions from all buildings under NYCPS' operational control, meaning those under the supervision of a

NYCPS Custodian Engineer and the Division of School Facilities and for which NYCPS pays energy bills, delivers fuel oil, and is required to benchmark energy consumption. For energy efficiency projects, estimated energy consumption reductions, cost savings, and emissions reductions were obtained through our applications to the DCAS ACE and ExCEL funding programs. These applications require calculations for each specific project type, as prioritization of funding is based on impact potential (i.e. greatest reductions). Solar data is based on two main criteria: (1) new solar installations- system size (capacity); and (2) project completion dates. The Demand Response data comes directly from NuEnergy, the City's third party program provider.

Office of Energy & Sustainability

NYC Public
Schools

Annual Report

2022–23