Sustainability Management
at The New York City Department of Education

The New York City (NYC) public school system, serving 1,094,138 students, is the largest school system in the country.\(^1\) Due to its size, decisions made within the NYC Department of Education (DOE) can have an immediate and long-lasting impact on city-wide sustainability goals. However, sustainability initiatives in such a large organization come with many challenges. The DOE’s Office of Sustainability relies heavily on school janitors and teachers. However, with wide disparities in education levels, school funding, cultural backgrounds, economic situations, and general interest in environmental sustainability, getting everybody on board to participate in the initiatives is difficult. Some schools, for example, do not have the resources or time to implement the composting program while other schools may choose to prioritize social sustainability over environmental or intersectional sustainability.

As the largest city agency, the NYC DOE will play a significant role in reaching OneNYC 2050 sustainability goals. As technology develops and public interest in environmental sustainability grows, the Office of Sustainability will continue collaborating with other agencies and organizations to revise programs and create new ones in the future.

Background

The NYC DOE is a public agency that provides education services to almost 1.1 million school-age children across the five boroughs. Its multiple mission statements show that the department is committed to improving the state of public education through building leadership, increasing diversity, holding students to high standards of academic achievement, working toward equity in the classroom, and supporting students with social development and emotional support.\(^2\)

As the largest city agency, there are nearly 150,000 employees, including teachers, related service providers, administrators, janitorial staff, and kitchen staff, among many others.\(^3\) For the current 2021-2022 school year, New York City provides 51% of the agency’s funding, NY State provides 34%, and the federal government and other sources provide 15% of the $38 billion

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The DOE created new summer programs to address the mental health and academic recovery of all students, in addition to hiring 500 new social workers. Although the focus for the past 18 months has been on social-emotional wellness and safely transitioning students back to the classroom, the DOE has continued progress toward achieving its environmental sustainability goals.

**Defining Sustainability in the DOE**

The Office of Sustainability has continued to broaden its definition of sustainability over the past several years. When the office started 11 years ago, the core focus was strictly environmental. The goal was to shrink the carbon footprint and the organization's environmental impact by reducing the amount of energy DOE buildings use (Fig. 1), reducing waste in schools, and building school

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gardens, among other initiatives. Currently, the DOE has a greenhouse gas reduction goal of 100% by 2050. According to the annual report, both greenhouse gas emissions and energy consumption have been declining each year since FY08 due to the various projects and policies put in place since then. For example, a new Chancellor's regulation that aims to reduce the number of personal appliances (i.e., refrigerators) in school buildings went into effect to reduce electricity consumption. There are also new requirements and specifications for school design, construction, and operations to reduce long- and short-term energy consumption.

More recently, the Office of Sustainability worked on linking the core mission of the DOE, which is to educate students, with city-wide sustainability goals. Referring to these goals, Thaddeus Copeland, the NYC DOE's Deputy Director of Sustainability, stated that "the only way they are really ever going to be effective or have impact is to get students…to create those new habits at that young age, and also looking at how our schools are in sort of the center of so many of our communities and the impact that they have."

The Office of Sustainability began focusing on instruction and curriculum four years ago. They have been working with other program offices on teaching and learning practices within the DOE to make sure environmental sustainability is included in every school's curriculum across all grade levels. Moreover, within the last two years, the Office of Sustainability created an Equity and Inclusion Task Force to ensure students from diverse backgrounds and traditionally underserved communities are included when planning curriculum and other initiatives.

Since schools are so deeply rooted in their communities, management at the Office of Sustainability must consider the impact of its choices on the "stakeholders" or the families it serves in addition to the just DOE programs, buildings, and staff members. To ensure that stakeholders are provided with sustainability resources, the DOE's Office of Sustainability works on creating partnerships with community organizations and relies on school leaders to play central roles in achieving sustainability goals. For example, community gardens cultivated in schoolyards are often run by parent volunteers and used by various staff members throughout the year. The Office of Sustainability works with 57 partner organizations, some shown in Fig. 2, to bring sustainability education and practice into schools. These organizations range from typical environmental education nonprofits like GrowNYC to Teachers College at Columbia University to the Department of Sanitation.

The Office of Sustainability designed several initiatives to directly involve students in meeting sustainability goals. There are currently three essential programs to build student voice and leadership relating to sustainability: Youth Leadership Council (YLC), the NYC DOE Climate

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7 Copeland, Thaddeus. Zoom interview. 2 November 2021.
Youth Summit (YCS), and rFUTURE. Throughout the COVID pandemic, these programs still met with students virtually and in-person for a Green Career Fair, to create and perform sustainability-inspired music, and to engage in community service, among other activities.

**Strategy and Metrics**

The DOE is working to meet the sustainability goals outlined in Mayor de Blasio's OneNYC 2050 Plan. This plan, which starts from a 2005 baseline, aims to achieve carbon neutrality by 2050. The Office of Sustainability's Annual Report states that buildings generate about 80% of NYC's overall greenhouse gas (GHG) emissions, and DOE buildings account for 27% of total municipal energy consumption. Therefore, if the DOE reduces GHG emissions, it would significantly impact the city's ability to reach its overall sustainability goals. To reduce the DOE's carbon footprint, it focuses on streamlining operations, maintaining and retrofitting buildings, energy management, clean energy projects, and sustainability education for students, staff, and the community. Since 2008, the DOE has reduced its GHG emissions by 27.8%; however, the DOE's building portfolio has also expanded year over year. To make sure maintaining more buildings does not amount to increasing GHG emissions, the Division of School Facilities, which includes the Office of Sustainability, "ramped up efforts to increase the efficiency of buildings and operations."

However, the goals put forth by the mayor's office are quite broad and far-reaching. For example, there is a goal for NYC to send zero waste to landfills by 2030 but does not specify each sector or city agency's specific role in achieving that benchmark. Thaddeus Copeland described reaching carbon neutrality by 2050 as a massive challenge for large and complex organizations such as the DOE. He mentioned that managing waste in DOE office buildings, for example, is relatively easy. However, in places like school cafeterias, managing waste is particularly difficult because there must be a system of organization that everyone in the school community follows, strong leadership within the school building to enforce the system, and a janitorial staff that follows waste protocols set forth by the Office of Sustainability and Department of Sanitation. Schools across the city struggle with this, so one of the responsibilities of the Office of Sustainability is to work with building stakeholders to try to make the system work. For example, a school lunch aide at PS 185 who preferred to remain anonymous for this interview

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10 (Copeland, 2021)
explained that she could not focus on making sure students sort waste properly in the cafeteria because she is also responsible for general safety, helping students open food products, escorting students to the bathroom, and helping children zip up their coats to go outside.\footnote{Anonymous. Personal interview. 9 November 2021.} P.S.185 is part of the 47.6\% of schools participating in an organics collection program (Fig.3). However, the reality is that food is not sorted into the bins correctly, and therefore, this particular school is not contributing to the DOE’s goal to send zero waste to landfills by 2030.

One key strategy in bridging the communications gap between the Office of Sustainability and schools is implementing a sustainability coordinator position. The sustainability coordinator creates an annual sustainability plan for the school and runs Green Teams or green clubs for teachers, family members, and students. The Office of Sustainability relies heavily on sustainability coordinators, who are often teachers, to support waste reduction efforts in the building. The success of these efforts depends on the amount of time sustainability coordinators have after their typical teaching responsibilities. Success also depends on the school's general interest in sustainability, and again, the janitorial staff since they are the ones handing off waste to the Department of Sanitation whether it is sorted or not.

Although sustainability coordinators are vital to the success of the Office of Sustainability, the program needs many improvements. In an interview with Meghan Walsh, a kindergarten teacher at PS 185, she said that she was unaware of the school’s sustainability coordinator position and had not discussed waste protocol or management with anyone in her two years working there.\footnote{Walsh, Meghan. Personal interview. 5 November 2021.} The school's dance teacher/sustainability coordinator, Kelly Dinoa, said that since the beginning of the pandemic, she had not been able to fully keep up with the demands of the position on top of her teaching and committee commitments. Still, the Office of Sustainability highlights the success of their sustainability coordinators in the annual report (Fig. 4). Generally, the success of any DOE sustainability program depends on the number of schools or students that participate each year. However, in this case, there is no data to identify the degree to which sustainability...
coordinators and schools are fulfilling their responsibilities and there is a disconnect between school-based staff and the sustainability-related information.

To address the operations and energy-related consumption that the sustainability coordinator has no control over, the Office of Sustainability gives extensive custodial training each year to teach the janitorial staff how to operate buildings more efficiently. This might involve basic things like turning lights off at the end of the day and more significant actions like maintaining the boiler and fan systems.

Going back to city-wide goals, NYC wants to create 100 megawatts of solar power by 2025. The DOE, as it turns out, has the most extensive portfolio of city buildings that can house solar panels. A solar team within the Office of Sustainability has completed over 60 solar installations and is working on another 200 in contract or pre-construction. The Office of Sustainability then put together a New York City Solar Schools education program where students and teachers can learn about solar energy and 15 high school students can install solar panels and learn about work in the solar industry.

COVID-19 has also had a significant effect on sustainability goals. As mentioned earlier, energy consumption in 2020 decreased when teaching went remote, but health policies are now working at odds with sustainability goals. For example, the DOE is working to reduce energy consumption by 40% by 2025, but since classrooms reopened, Mayor de Blasio is mandating electric air purifiers in every classroom. The health of students and staff members comes first, so the Office of Sustainability is now in a place where they need to develop solutions that balance out these new sources of energy consumption. Last year, schools were also mandated to serve meals in classrooms instead of cafeterias. While this kept students safe, classrooms did not have the supplies necessary to manage solid or liquid food waste. These are just two juxtapositions within city policy that make doing this work during simultaneous health and climate crises difficult.

At this point, sustainability goals are agency-wide. There is no additional compensation for achieving sustainability targets, nor is there a sustainability component on employee

Fig. 4 This graph shows that 88% of schools have a sustainability coordinator, but there is no data indicating to extend to which the coordinators have fulfilled their responsibilities. (“DOE Office of Sustainability Annual Report 2019-2020 (FY20),” 2020.)

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13 (Copeland, 2021)
performance reviews. The DOE's partnership compensation and reward structure does not include sustainability requirements. The Office of Sustainability partners with organizations that will further its mission and bring the DOE closer to meeting its sustainability goals, but the DOE as a whole, does not consider sustainability as an indicator of partnership eligibility.

Resources

The Office of Sustainability, prior to COVID-19, had 20 staff members. Unfortunately, several people left for various reasons over the last 18 months. The DOE will not fill the nine vacancies until it lifts the current hiring freeze.

Unlike other offices in the DOE or other city agencies, the Office of Sustainability generates revenue. Some of this revenue goes toward sustainability project grants where each school can apply for up to $5,000. A significant portion of the budget for sustainability projects such as retrofitting buildings, installing LED lights, and upgrading thermostats comes from money earned through a program called Demand Response. This program is activated when there are multiple, consecutive 90+ degree days and there is too much stress on the electrical grid. The DOE then calls on custodians with special training at 350 designated buildings throughout the city to cut energy consumption, thus taking pressure off the grid. If DOE buildings meet a reduction goal set by Con Edison, it receives an energy rebate. This money goes directly to the Office of Sustainability to reinvest into school buildings. This past year, the Office of Sustainability received over $5 million from Con Edison, but $2 million of that was spent on MERV-13 air filters. However, in a typical year, all of the money received through Demand Response is reinvested into either custodial supplies or operations.

Another source of funding for the Office of Sustainability is the Department of Citywide Administrative Services (DCAS). They have several energy-funded programs to help buildings run more efficiently, focusing on capital expenses like boiler upgrades and maintenance. However, the caveat here is that the Office of Sustainability can only spend this money on materials and supplies that make buildings run more efficiently. Between Demand Response rebates and DCAS funding, the Office of Sustainability has sufficient and stable resources to carry out its responsibilities for the foreseeable future.

The Future of Sustainability in New York City Public Education

To improve the sustainability performance of the DOE, Thaddeus Copeland mentioned that "there needs to be more buy-in from the top, and I don’t just mean at Tweed, I’m talking about principals…."\(^{14}\) The resources for high-impact sustainability programs in DOE office buildings and schools already exist. DOE employees now need to be more motivated to meet sustainability

\(^{14}\) (Copeland, 2021)
goals. With crowded classrooms, a teacher shortage, and now COVID, school-based staff members are spreading themselves thin. To convince staff members to add another responsibility to their plates, strong leadership focused on sustainability must be present in all districts and schools.

With Eric Adams' mayoral inauguration just around the corner, things look good for the DOE Office of Sustainability. Adams is very pro-school gardens and is an outspoken advocate for health and wellness, which are both threads of sustainability. There are also more opportunities to widen the Office of Sustainability's reach by partnering with other offices or departments within the DOE. For example, the Office of Sustainability met with the DOE Civics Team to build a curriculum that addresses intersectionality in the sustainability field and bring environmental justice to light in the classroom.

The DOE will have to adapt to changing mayoral administrations and social priorities in the coming years but support for sustainability initiatives across the city and country are continuously gaining momentum. With a continued focus on integrating sustainability into Pre-K-12th grade curricula, there is a generation of sustainability leaders on the horizon.

**Applicability**

The DOE is composed of increasingly diverse employees and works with equally, if not more, diverse communities across the city. One thing that the DOE has mastered is communicating important information to these different groups of people. Unlike with other organizations, information about sustainability in schools needs to be communicated to administrators, teachers, janitorial staff, students, and families, all in different ways. The DOE also recognizes that young people can have a profound impact on their communities and society as a whole. In response to the student-led climate justice movement, the Office of Sustainability created a high school youth leadership council to solve sustainability issues in schools. Young people have the opportunity to make a lasting impact on their school communities, and other organizations should learn from that and work to bring in youth voices to solve problems. As Thaddeus Copeland said: "Our students are curious. They know how to use their voices to make change and I think the more we tap into that, the more successful we will be."15

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15 (Copeland, 2021)
Works Cited

Anonymous. Personal interview. 9 November 2021.

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