

# CPS Climate Action Plan

## 2021 - 2023



## Table of Contents

<b>About Chicago Public Schools</b>	<b>3</b>
Vision Statement	3
CPS and COVID-19 Response Status	4
<b>Executive Summary</b>	<b>5</b>
<b>Energy Efficiency and Conservation</b>	<b>8</b>
Energy Efficiency	9
Information and Technology	13
Energy Conservation	14
Renewable Energy and Electrification	15
<b>Water Conservation</b>	<b>18</b>
<b>Waste Management and Recycling</b>	<b>22</b>
Composting	24
CPS Warehouse	25
<b>Transportation</b>	<b>26</b>
Alternative Fuels and Efficiency	26
Alternative Transportation	27
<b>Curriculum Networks</b>	<b>28</b>
Environmental Programs	28
School Gardens and Ecology	28
<b>Additional Resources</b>	<b>30</b>
Appendix	31
<b>Sponsors and Partners</b>	<b>33</b>
<b>Logo Source Links</b>	<b>34</b>
<b>Glossary</b>	<b>35</b>
Definitions	35

## Foreword

Dear CPS Stakeholders,

In the wake of the United Nations Intergovernmental Panel on Climate Change Sixth Assessment, we are pleased to present the CPS Climate Action Plan for 2021-2023.

This is CPS' first climate action plan and lays out the foundation for how we will do our part to mitigate climate change. The program aligns with the City of Chicago Climate Action Plan and demonstrates our commitment to collaboration.

Our mission is to conserve, protect and sustain resources to provide healthy and high-performing facilities that meet or exceed energy efficiency standards, bring real-world energy sustainability challenges and solutions into the classroom, and encourage community engagement to address climate change.

Our approach is to instill solutions to encourage a culture of sustainability through grid-interactive efficient buildings that optimize energy savings, meet renewable energy goals, and also reduce carbon emissions.

Our children are our future, and we owe it to them and you to ensure they have access to the highest quality education and a district that does its part to mitigate climate change.

Our responsibility is to lead and educate our students on the science, technology, and strategies to meet our environmental goals.

We thank you for your continued support and partnership.

Sincerely,



Pedro Martinez  
Chief Executive Officer  
Chicago Public Schools



Sandrine Schultz  
Energy and Sustainability Director  
Chicago Public Schools

## About Chicago Public Schools

As one of the largest school districts in the country, the CPS enrollment of more than 330,000 students is served by approximately 22,000 teachers in more than 630 schools and 1,000 facilities in total. The district's 64 million square feet includes offices, classrooms, laboratories, natatoriums, and stadiums.

### Vision Statement

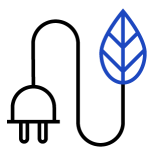
**CPS Vision and Mission: Success Starts Here.** Provide a high-quality public education for every child, in every neighborhood, that prepares each for success in college, career, and civic life. Provide a safe, healthy, comfortable, and welcoming environment for students and staff.

**Department of Facilities Mission:** Dedicated to providing CPS students with schools that are safe, warm and dry. Our mission is for students to feel proud of their school so that they can concentrate on their studies.

The Department assists schools in their day-to-day operations, striving to reduce the energy use of each building while providing more comfortable classrooms.

**Energy and Sustainability Vision Statement:** Conserve, protect and sustain resources to provide healthy and high performing facilities that meet or exceed energy efficiency standards. Bring real-world energy and sustainability challenges and solutions into the classroom and encourage community engagement to address the climate crisis.

### Commitments



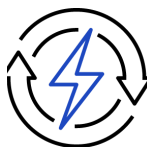
#### Conserve

Reducing the amount of energy we consume can help to make our district more efficient and environmentally responsible.



#### Protect

Maintaining, implementing and recovering healthy, natural environments and delivering long-term equitable solutions will benefit current and future generations.



#### Sustain

Investing in sustainable energy sources to power our district means a cleaner, better future for our students, staff and communities.

## CPS and COVID-19 Response Status

Our district's COVID-19 response is an opportunity to consider air change rates, filtration, and disinfection for future facilities. By analyzing efforts to support long-term energy and resource management, we can aim to meet our energy efficiency goals and address climate change. Long-term thinking is key to addressing all of our challenges simultaneously.

**Ensuring the health and safety of our students and staff remains our highest priority. The following procedures were implemented at all schools to ensure safety:**

- Implementing new access control and circulation protocols
- Cleaning and disinfecting protocols aligning with CDC recommendations and using EPA approved disinfectants
- Use and distribution of personal protective equipment (PPE) including face masks, disposable gloves, disposable masks, gowns, and face shields
- Installation of disinfectant wipes and hand sanitizer dispensers throughout schools
- Establishment of care rooms
- Placement of social distancing signs, safety, hygiene and directional signage
- Monitoring of ventilation systems
- Assessment of mechanical system air handlers to accommodate additional air flow and filtration
- Use of operable windows
- Regularly flushing plumbing systems and drinking fountains

## Executive Summary

CPS students are the leaders of the future. As global citizens, they will grapple with unprecedented challenges and opportunities stemming from the global climate crisis.

Our Climate Action Plan (CAP) outlines strategies that build on past successes and work toward reducing our emissions. The CAP builds on student and staff engagement and promotes sustainability in our curriculum. With this plan, we are helping our future leaders understand the importance of addressing the climate crisis, resource depletion, and other inequities in our communities.



Held in Ireland in the fall of 2021, the United Nations Climate Change Conference (COP 26) brought together global political, business, research, and student leaders to take the next step in addressing our climate crisis. It is clear that immediate action is needed to minimize global climate impacts. CPS has developed this Climate Action Plan as a first step in doing our part.

The development of the CAP signifies an important milestone for CPS, one that bridges capital projects as well as operations and maintenance, ensuring sustainability principles and goals are prioritized.<sup>1</sup> Maintaining building operations enables us to respond to current and future climate conditions. The CAP also recognizes emerging regulatory and legislative frameworks, as well as the abundance of programs and tools available to us.

The goals outlined in this plan are ambitious and designed to inspire innovation and continuous improvement. Each goal is supported by a number of activities currently underway or planned throughout the district.

Strong district support for meeting climate goals not only lowers emissions, but promotes healthier learning and work environments. The plan focuses on five areas: Energy and Water; Facilities; Renewable Energy; Waste Management and Recycling; and Transportation. Each area includes a brief overview of our current projects and outlines strategies to reduce our climate impact within our programs and operations.

---

## \$73M

The amount approximately  
spent per year on energy.

---

<sup>1</sup> Ensuring all new construction and renovations are high performance buildings is part of our efforts. We recently updated our Design and Construction guidelines which outline these standards.

## Goals

### **Reduce electricity consumption by 30 percent by 2025 from our 2019 baseline**

Reducing consumption by 2025 requires a multitude of strategies from installing energy efficient appliances, implementing energy management solutions, and encouraging smart energy behaviors.

### **Reduce natural gas consumption by 20 percent by 2025 from our 2019 baseline**

Reducing the consumption of natural gas requires balancing smart heating usage and ensuring equipment is tuned to maximize efficiency.

### **Transition to 100 percent renewable sources for electricity by 2025**

We are preparing for the shift to renewable energy by seeking electric appliances and equipment and implementing the CPS Goes Solar! program.

### **Reduce our overall greenhouse gas emissions by 45 percent by 2030 and achieve carbon neutrality by 2050 when compared to our 2010 baseline**

Emissions reductions will mostly come from the investments we are making in renewable energy and improved energy efficiency.

### **Achieve waste diversion rate of 80 percent by 2030**

We are committed to improving our usage of materials, reducing food waste, and making smart waste management policies easy to implement. We have focused efforts on construction and demolition, food waste, and other waste infrastructure.



## Energy Efficiency and Conservation

We are committed to conserve, protect, and sustain our natural resources by implementing programs that reduce our consumption of energy and increase the renewable resources used throughout the district. Collectively, these programs help reduce our greenhouse gas emissions and associated climate impact.

Essential to building operations, energy consumption is a major cause of climate change – resulting in impacts felt across the city. The impact of energy use and associated emissions has an impact on Chicago communities and represents an opportunity for us to mitigate our environmental impact.

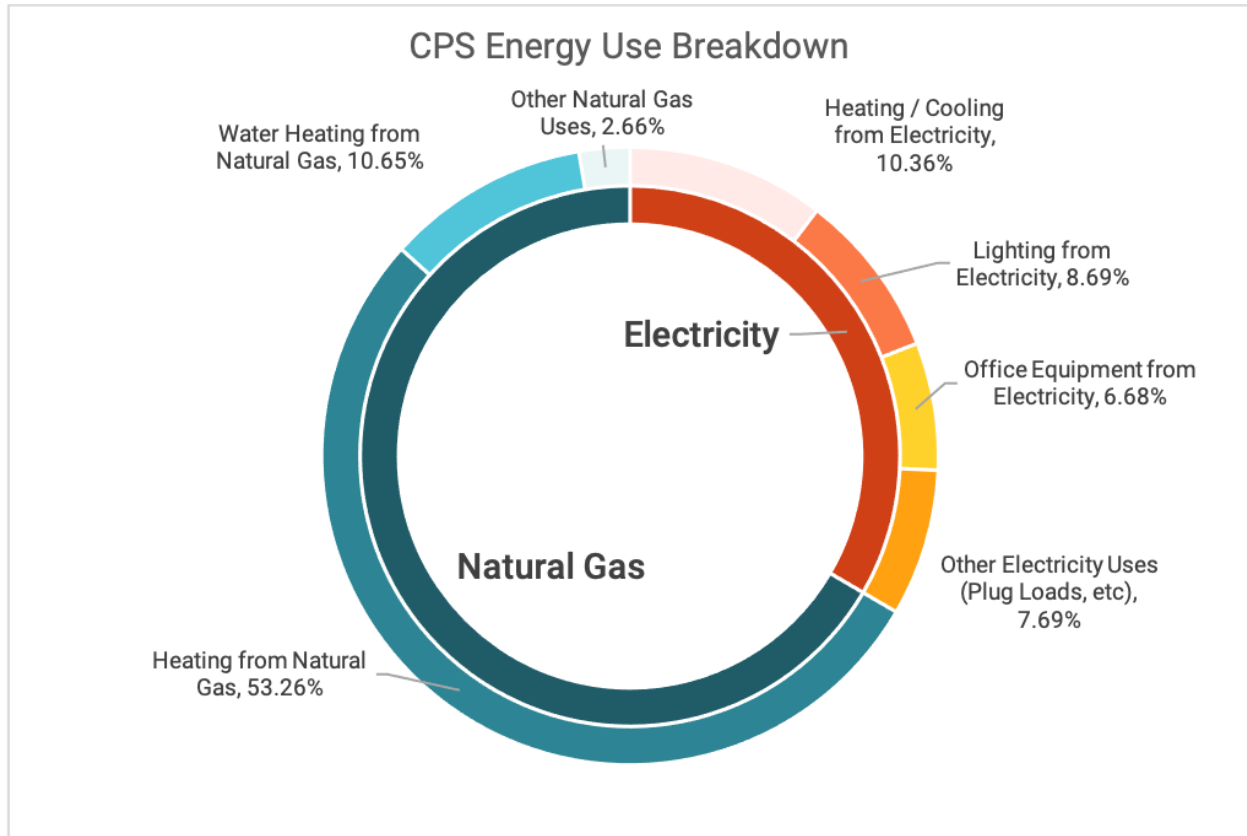
Energy is key to power school operations, heating and cooling buildings, and fueling equipment. We pursue both energy efficiency and energy conservation projects to mitigate emissions and save money. Energy efficiency means to use less energy to perform the same tasks, such as installing LED bulbs. While energy conservation aims to avoid using energy, for example by turning off lights. Schools can waste up to 25% of their energy use and the U.S. Department of Energy (DOE) estimates that schools possess \$2 billion worth of energy efficiency **nationwide**.<sup>2</sup>

Chart 1 identifies the impact of various end uses on a school's average energy consumption. Heating, cooling, and lighting are the largest energy consumers in schools. As a result, we are taking steps to reduce wasted energy and achieve significant energy cost savings, starting with heating, cooling, and lighting. These investments will produce environmental, economic and educational benefits.

The following subchapters outline our plans within major energy sectors of our portfolio as we decrease our emissions for a more sustainable future.

---

<sup>2</sup> 2016 - Business Direct Energy  
(<https://business.directenergy.com/blog/2016/March/Smart-Energy-Strategies-Schools>)



**Chart 1:** The CPS energy portfolio relies mostly on natural gas, about 65%, for heating and water heating needs, and is shown in the chart by blue colored slices. However, the remaining energy needs are met by electricity, which is needed for cooling and plug loads.

**Data:** [US Energy Information Administration](#) **Chart:** CPS

## Energy Efficiency

### Building Energy Use Analysis and Assessment

Meeting energy goals first requires understanding current building energy use. Energy use intensity (EUI) is a helpful measure in understanding how much energy is used by comparing energy consumption to building size. Comparing EUI throughout the district enables us to evaluate buildings against the commercial building energy consumption benchmark (CBECS BM). We plan on expanding our use of EUI to better target facilities for energy efficiency projects.

### Energy Efficiency Upgrades to Existing Buildings

Energy efficiency projects rely on using improved technology, maintenance, and design strategies to achieve energy savings. Our primary avenue for pursuing energy efficiency is through engagement with utility energy efficiency programs such as the ComEd Smart Ideas

and Peoples Gas energy efficiency programs.<sup>3</sup> These programs provide funding<sup>4</sup> for equipment and operational improvements that save energy. Collectively, these programs save us millions in avoided energy costs and associated emissions.

## Strategies



- Publish program statistics from participating schools utility incentive programs on the sustainability program website
- Track *therms* (natural gas) and *KWh* (electricity) saved from energy efficiency incentive programs
- Pursue incentive programs with **ComEd** and **Peoples Gas** targeting building efficiency
- Identify other incentive programs centered on building efficiency

## Strategies



- Evaluate new construction projects for net zero energy potential
- Track LEED certifications
- Share project status and success amongst ongoing projects
- Identify other incentive programs centered on building efficiency

<sup>3</sup> ComEd is CPS' electric utility while PeoplesGas supplies the District with natural gas.

<sup>4</sup> Formally referred to as dollar based incentives.

## CPS Design Guidelines

The CPS Design and Construction Guidelines have been updated to require that all new construction and major renovation projects are targeted to achieve high levels of resource efficiency through the pursuit of LEED v4 BD+C: Schools at the Gold level. The updated guidelines build on CPS standards to pursue energy efficient buildings through the use of best practices and innovative technologies. Topics covered include:

- Energy efficiency
- Solar ready design
- Water conservation
- Rainwater management
- Air filtration and ventilation rates

### Building Commissioning

Some buildings may be planned to meet high standards and performance levels but don't operate at those levels once construction is complete. Commissioning is the process of ensuring that a new building is designed, built, tested, and operates as planned. In practice, new building commissioning involves meeting with project stakeholders to review and verify engineering and planning documents against actual construction. When construction is complete, commissioning outlines operating procedures and testing to ensure buildings are operating at maximum efficiency.

In addition to commissioning for new buildings, we engage in retrocommissioning and virtual commissioning activities across the portfolio to improve building efficiency. In existing buildings, these activities often result in energy use improvements. These strategies are important not only as a sustainable practice, but for the financial benefits arising from operating buildings how they were intended.

### Retrocommissioning

Retrocommissioning is a comprehensive check-up for existing buildings to ensure they are operating as they were designed and identify technical measures to improve energy efficiency. With retrocommissioning, energy managers are able to isolate and understand the energy impacts of different end uses against the building or campus as a whole. This practice helps energy managers ensure buildings are operating as designed, which is especially important before investing in efficiency improvements. As a result, the retrocommissioning process

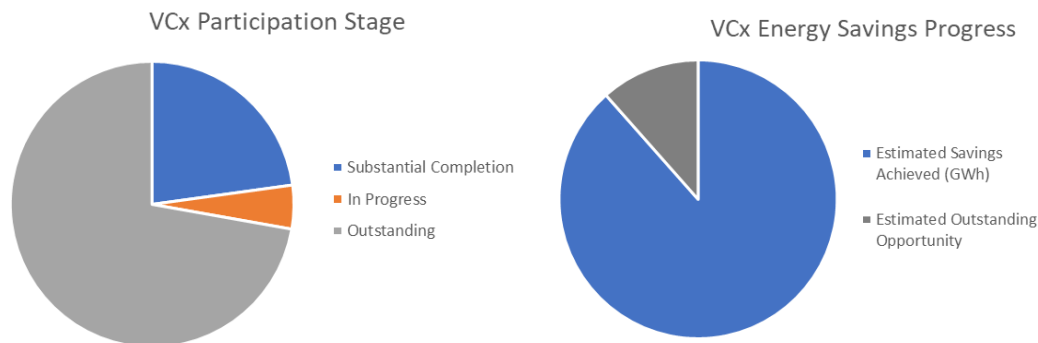
frequently results in no- and low-cost measures for improving energy efficiency, occupant comfort, and ventilation.

### Virtual Commissioning (VCx)

We are also actively engaged in virtual commissioning (VCx), a process where energy managers monitor high-level building energy use and trends remotely. This results in recommendations to facilities staff on how to improve operational efficiency. Using the VCx process, ComEd remotely analyzes energy data from our smart meters to improve performance in real time. With VCx systems deployed at all our schools, this level of management can be made possible district-wide, achieving significant cost and energy savings.

### Monitoring-based Commissioning (MBCx)

Monitoring-based commissioning (MBCx) leverages the use of available data from meters and sensors on the building systems to analyze energy use in real time to optimize equipment performance and efficiency. ComEd partners with us to provide MBCx at select schools across the district. This level of monitoring enables building engineers and energy analysts to tailor efficiency recommendations and increase savings.



**Chart 2:** shows the current status of VCx across CPS schools.

## Strategies



- Track impact of VCx on energy consumption
- Analyze impact of energy efficiency upgrades on building energy consumption
- Create database of retrocommissioning projects and track energy savings post commissioning

## Information and Technology

Smart sustainability policies require smart data management. We use advanced billing and energy data management services to understand and improve energy performance across the district.

We launched these efforts to improve the accuracy and accessibility of energy data. We use AssetPlanner to manage utility billing and payment and Building Automation Systems (BAS) to control and monitor the performance of various systems. While AssetPlanner is currently deployed across our facilities and schools, BAS has and will continue to be implemented at all schools in the near future. Further these technologies harness our ability to monitor and manage energy consumption and improve operational and maintenance efficiencies.

## Strategies



- Develop geospatial tools to facilitate energy management
- Continue to install BAS systems across CPS facilities
- Continue to monitor and evaluate billing data
- Establish initiative tracking dashboards using GIS

## Energy Conservation

### Energy Conservation

**Energy conservation** refers to when building occupants use less energy through smart behaviors. Turning lights and equipment off are examples of energy conservation.

Energy conservation programs are an important element of the district's strategy to save energy. Within CPS, every community member has the opportunity to help decrease energy costs and emissions.

Smart energy behavior doesn't just impact CPS but also the wider community. While most energy behaviors can be universally applied, at CPS, some groups are better suited to influence how certain equipment is used. Building managers can ensure infrastructure such as temperature controls and ventilation units are adjusted to operate only when students and staff are in the building. Staff and teachers can turn lights off when leaving classrooms or offices and unplug any appliances that do not need to operate at night. Students can shut down and unplug any devices after they are done using them.

#### **We have already implemented numerous programs around energy conservation:**

- Establishing building occupancy schedules
- Removing personal space heaters and appliances
- Procuring Energy Star equipment and appliances

Though we have begun the work toward developing a culture of energy conservation, there is more to do. The CAP strategies below frame how we will expand these efforts.

## Strategies



- Explore establishing an energy champions program
- Identify energy related behaviors and develop resources to educate students, staff, and faculty on smart energy behaviors
- Explore establishing working groups to promote a culture of energy conservation within CPS
- Develop 2022 Energy Policy

## Renewable Energy and Electrification

One of the strategies for reducing our climate impact is the use of renewable energy. Foundational to our success in reducing our carbon footprint is the deployment of renewable energy resources throughout our portfolio. Renewable energy sources include sunlight, wind, hydropower, and geothermal heat. Renewable energy does not produce harmful emissions and, in the case of photovoltaics, can be readily installed on buildings.

Electrification<sup>5</sup> leads to a greener future by making a larger amount of infrastructure available to be powered by renewable energy. In the long term, we envision a continued shift towards more efficient and solar powered schools that approach net zero energy use. Net Zero Schools are low energy buildings coupled with renewable energy.<sup>6</sup>

We also recognize the importance of electrification, particularly when advocating for renewable energy. At CPS, and across Chicago, natural gas powers cooking and heating appliances. Natural gas is not a renewable resource and CPS annually generates the CO<sub>2</sub> equivalent of nearly 900 railcars worth of coal from using natural gas.

<sup>5</sup> Electrification is replacing infrastructure or equipment that rely on coal, oil or natural gas, with equipment that can be run on electricity.

<sup>6</sup> Simply put, a school achieves net zero energy status when the renewable energy produced over the course of a year is equal to or greater than the total energy consumed.



## Strategies



- All new construction projects will be designed and constructed to be “solar ready” as specified in the updated CPS Construction and Design Guidelines.
- Evaluate existing rooftops and other structures for solar installations.
- Explore the potential for solar hot water for pools.
- Install and encourage electric vehicle charging stations at new and existing buildings.
- Implement the CPS Goes Solar! plan.



## CASE STUDY

# CPS Goes Solar!

In collaboration with industry partners, CPS Goes Solar! is a project designed to support the district's renewable energy goals. CPS is aiming to rely on renewable energy for 100 percent of electricity demands by 2025, and eventually 100 percent of all energy requirements by 2050. The plan outlines how to achieve high levels of resource efficiency throughout the district. Relying on industry advisors and diverse funding sources, renewable energy installations will be installed on schools across the district.

CPS Goes Solar! builds on existing efforts. More than 50 schools are already home to educational photovoltaic arrays. These small arrays, between 1-11 kW, demonstrate the application of renewable energy and new technologies to students.

Some, like the 10.8 kW (2002) photovoltaic array installed on Frazier Elementary School are roof mounted. Others, like the 1kW (2011) array installed at Payton College Preparatory High School are wall mounted, or can be ground mounted as shown at Audubon Elementary School.

Teachers are encouraged to integrate these educational arrays into the curriculum offered at each school. As CPS Goes Solar! expands and larger arrays are installed, it remains key that teachers are provided with resources to integrate solar panels into curriculum through inquiry-based learning.



## Water Conservation

Water is vital to our schools for drinking, food preparation, swimming pools, and restrooms. Fresh water is a precious resource that is important to our climate commitments.

### Water Conservation

We are committed to minimizing the use of potable water across the district. We are working to understand current potable water consumption patterns and make district-level recommendations for water usage. CPS currently has a number of building-level recommendations such as repairing water leaks and replacing aging water infrastructure.

### Stormwater Management

We have identified the importance of strategic stormwater management policies, from ensuring existing infrastructure is maintained or installed where needed, such as stormwater detention vaults, to researching the potential for green infrastructure solutions at sites across the CPS portfolio.

We also explore the need for best management practices (BMPs) across existing sites and new construction. CPS is investigating low-impact development (LID), a design strategy that minimizes runoff by mimicking natural processes. This type of green infrastructure, such as rain gardens and vegetated schoolyards, are encouraged at new facilities and are currently installed at existing schools through the Space to Grow program.<sup>7</sup>

---

<sup>7</sup> See Appendix

## CASE STUDY

# The Space to Grow Program

The **Space to Grow program** installs new playground equipment and vegetated areas to provide both opportunities for student physical activity and stormwater management. A partnership between Chicago Public Schools, Chicago Department of Water Management, the Metropolitan Water Reclamation District of Greater Chicago, and supported by the Healthy Schools Campaign and Openlands, each project provides benefits to both students and community members:

- 25 completed projects with nine more planned by 2022
- Prioritizes underserved and flood prone communities
- Stormwater infrastructure reduces community flooding
- Play equipment to keep kids active
- Conversion of asphalt to playgrounds and vegetation reduces the heat island effect
- Promotes gardens and learning landscapes
- Facilities are open for public use once constructed



## Green Infrastructure

**Green Infrastructure** is a range of techniques and systems that allow water to be absorbed, rather than runoff. These techniques and systems mimic natural processes and include permeable pavement, green roofs, vegetated landscaping, and bioswales. These interventions can also mitigate the impacts of extreme heat.

Green infrastructure can be implemented at several scales, including at the district level, such as ensuring new construction has a certain percentage of open space, to small-scale building interventions such as installing rain barrels.

### **Green infrastructure examples:**

- Permeable pavement
- Bioswales
- Cisterns

### **Water Quality Testing and Drinking Water**

Our schools are regularly tested for lead from potable water sources (fountains, sinks, kitchens), and all sample results are reported to school administration and the community. We recognize the importance of safe water for our students and staff. If high levels of lead are found, fixtures are replaced or taken out of service.

## Strategies



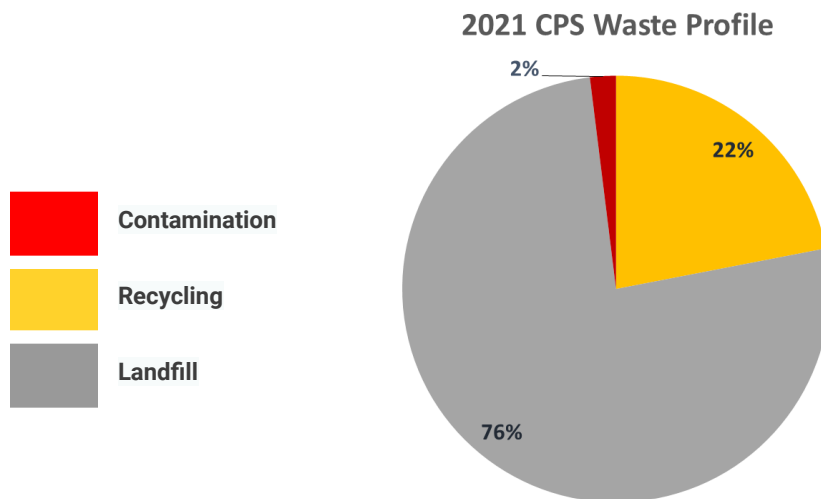
- Evaluate LID and BMPs on construction projects
- Continue to monitor cooling tower cycle management and identify areas for improvement
- Install efficient fixtures through planned maintenance, renovations, and new construction projects
- Install submeters for water intensive uses
- Promote green infrastructure solutions at new facilities and major renovation projects
- Encourage rain gardens and vegetated school yards at existing schools



## Waste Management and Recycling

City-wide, Chicagoans recycle less than 10 percent of waste. In the long-term, we aim to flip that paradigm and pursue zero waste by 2040.<sup>8</sup> We have an opportunity to educate students about waste diversion, resulting in not only less waste sent to landfills from our schools and facilities, but in our communities as well. We participate in regular meetings facilitated by the Chicago Sustainability Task Force to share best practices and lessons learned between the Field Museum, Cook County, and the City of Chicago.

Achieving 80 percent diversion is our goal, and we will take strategic steps to achieve it. First, we will address construction and demolition (C&D) waste, which is a major source of waste, much of which is recyclable. Our new construction and renovation projects are committed to reducing this impact by aligning with C&D diversion goals in LEED standards and the Chicago Sustainable Development Policy. Next, we address school waste, which is fairly consistent, and can be addressed through composting and recycling. The primary materials that can be diverted include commingled recyclables and food scraps as compost. In 2021, net recycling rates (in volume) for CPS was 22 percent.



**Chart 2:** Lakeshore Recycling Services (LRS) provides CPS with their waste and recycling numbers by quarter. The 2021 totals are presented.

<sup>8</sup> Recycling, composting or otherwise diverting 90% of waste from landfills and incineration by 2040

While we maintain and plan on expanding a number of waste, recycling, and composting programs, previous efforts show that even the seemingly small ideas can have an impact. These efforts have included removing straws from utensil packets and obtaining recycling bins for every classroom. Even milk carton recycling is implemented at some schools.

## Strategies



- All construction projects are required to create a Waste Management Plan that outlines how the project will achieve 80 percent waste diversion.
- Provide resources and guidance to facility managers and school administrators for waste management
- Develop waste and recycle strategies for athletic events and fields
- Seek grants and other support for purchase of compost equipment
- Engage students and partner organizations to conduct food waste audits and develop food waste diversion plans
- Right size waste management equipment
- Promote reuse of furniture, equipment, and supplies through the CPS Warehouse

< 10%

Chicagoans recycle less than 10% of waste.



## Composting

Between 2015 and 2021, with support from Seven Generations Ahead and Lakeshore Recycling Systems, the CPS composting program contributed to an improved diversion rate from 22 percent in 2015 to almost 50 percent in 2021 across 14 schools.<sup>9</sup> While the program was suspended in 2020 due to the COVID-19 pandemic, in 2022, an additional 10 schools were added to the program.

The program includes consultations with composting experts and discussions with Lakeshore Recycling Systems on hauling practices. The program also includes training for students on the collection and separation of recyclables and compost at participating schools. Students are also expected to actively participate in the program both in the cafeteria and in the classroom.

### CASE STUDY

## Composting at Thomas J Waters

Though most schools that participate in the program send their compost to compost facilities, some have on-site composting. For over 12 years, the students at **Waters Elementary** have supported an on-site composting program that has both diverted waste while providing a hands-on learning opportunity. The compost diverts 1,500 pounds of food waste every year which is then fed to gardens at the school.



<sup>9</sup> See Appendix for full school list

## CPS Warehouse

We operate a warehouse program that collects and redistributes unused equipment, furniture, educational materials, and other assets for district schools and administrative offices. The five-year-old program operates out of a 284,000 square foot warehouse and provides free delivery and pick-up of excess items for redistribution within CPS.

The CPS warehouse hosts a quarterly Furniture Fair as part of the re-use program. The program allows for schools to shop for excess CPS inventory to identify items that can fill school needs, such as textbooks and furniture or IT products. The program attracts up to 125 schools each quarter.

## Transportation

The disruption caused by the COVID-19 pandemic, particularly within CPS transportation models, has created an opportunity to re-evaluate how transportation services are provided. We anticipate the pursuit of ambitious goals to both continue to improve service and mitigate associated emissions when transportation service is normalized.

Alternative transportation strategies not only reduce emissions but can improve air quality and promote physical activity. We envision an emissions-free transportation infrastructure that includes electric vehicles and buses, enhanced opportunities for public transportation, and walking and biking as primary transportation modes for students and staff.

## Alternative Fuels and Efficiency

Alternative fuels help reduce the impact of road vehicles through fuel conservation measures and electrification. Working with our partner bus companies, we are optimizing routing to provide service using shorter bus routes. We continue to explore the use of electric buses and will utilize them as they become more readily available.



## Strategies



- Establish student pick up policy to decrease idling time
- Improve school bus efficiency through route pairing and sharing
- Integrate electric vehicle infrastructure as part of new construction and major renovation projects
- Lease electric vehicles or vehicles with advanced emissions controls for CPS operations
- Establish preferred parking programs for low-emitting vehicles at resurfaced lots

## Alternative Transportation

Alternative transportation strategies reduce the use of single occupancy vehicles through promoting and incentivizing walking, biking, and public transportation. These strategies also support regular physical activity.

## Strategies



- Place bicycle racks in high priority areas
- Develop bike repair stations and vending
- Develop a plan to reduce fuel use for employee commutes through transit benefits, active transportation, and carpooling
- Develop active transportation plans for students utilizing the Safe Passage program, safe routes, and walking school buses
- Complete a transportation survey for staff and students to better understand transportation choices

## Curriculum Networks

Energy and sustainability are interwoven in environmental programs, educational outreach and sustainability classes at CPS. Similarly, these educational opportunities are found throughout this plan in sections ranging from waste diversion and composting to health and wellness.

There are co-benefits to our actions that stretch beyond just reducing emissions, such as developing the green workforce. IUOE Local 399 (building operating engineers) has been a strategic partner for the operation and maintenance of our schools for a number of years. Local 399's emphasis on building engineer education and development supports our Energy and Sustainability mission. IUOE Local 399's new state of the art training facility offers hands-on and continuing education throughout the year on a wide range of topics, including sustainability.

Schools across the CPS system have created educational programs that connect students with the local environment and with local groups. These invaluable educational experiences highlight the importance of sustainability for students.

## Environmental Programs

We have numerous schools that have been awarded the U.S. Department of Education Green Ribbon Schools award. This award recognizes schools that:

- reduce environmental impact and costs;
- improve the health and wellness of schools, students, and staff; and
- provide effective environmental and sustainability education



## School Gardens and Ecology

Our facilities strive to enhance and create sustainable urban ecologies by using low-impact materials and green infrastructure to minimize environmental impacts. School gardens are a point of entry for schools and students to engage with the natural environment on their own campus. Nearly 60 schools have gardens on their campus, engaging 33,000 students, while an additional 100 schools have campus parks.

## CASE STUDY

## The Waters Ecology Program

Beginning in 1991 with the introduction of a Local School Council, Pete Leki has worked with students, staff, and community members to transform the Waters School property into a thriving community garden with native plantings. The gardens remain the foundation of the Waters School field-based Ecology and Environment program for grades K-8. The Waters program, for which Leki is the Executive Director, covers three areas of environmental interest:

1. Field-based studies
2. Recycling and conservation
3. School and community gardens

**The curriculum he designed and delivers in partnership with teaching staff teaches students about the following topics:**

- **K/1st graders** study trees
- **2nd graders** participate in an off-site field ecology project that helps manage the nearby riverbank on the North Branch of the Chicago River
- **3rd - 5th graders** participate in the Mighty Acorns, a program that connects students to multiple, meaningful and sustained interactions with their local ecosystems
- **6th graders** are exposed to river studies and forest preserve work
- **7th graders** support the restoration of Montrose Dunes, a nesting habitat for the piping plover, a threatened bird species
- **8th graders** engage in a comprehensive capstone project and solidify their legacy on-site through the continued maintenance and expansion of the gardens at Waters.

## Additional Resources

### ComEd School Incentives:

<https://www.comed.com/WaysToSave/ForYourBusiness/Pages/Schools.aspx#:~:text=ComEd%20offers%20a%20variety%20of,cafeteria%20equipment%2C%20and%20much%20more>

### People's Gas CPS Case Study:

<https://www.peoplesgasdelivery.com/savings/business/pdf/chicago-public-schools.pdf>

### People's Gas Resources for Educators:

<https://www.peoplesgasdelivery.com/partners/educators/default>

### Healthy Schools Campaign:

<https://healthyschoolscampaign.org/>

### Chicago Solar Express:

[https://www.chicago.gov/city/en/progs/env/solar\\_in\\_chicago.html](https://www.chicago.gov/city/en/progs/env/solar_in_chicago.html)

### Chicago Energy Benchmarking:

<https://www.chicago.gov/city/en/progs/env/building-energy-benchmarking--transparency.html>

### CPS Goes Solar!:

<https://drive.google.com/file/d/1HDkK3u35KnDkQhylYIGg6iTvnfotwbhr/view?usp=sharing>

### U.S. Green Building Council:

<https://www.usgbc.org/>

### Illinois Green Alliance Green Schools Project:

<https://illinoisgreenalliance.org/initiatives/green-your-school/illinois-green-schools-project/>

<https://illinoisgreenalliance.org/initiatives/green-your-school/>

### Green Schools Alliance:

<https://www.greenschoolsalliance.org/home>

### Center for Green Schools:

<https://www.centerforgreenschools.org/>

### U.S. Department of Education Green Ribbon Schools:

<https://www2.ed.gov/programs/green-ribbon-schools/index.html>

## Appendix A

### Composting Schools

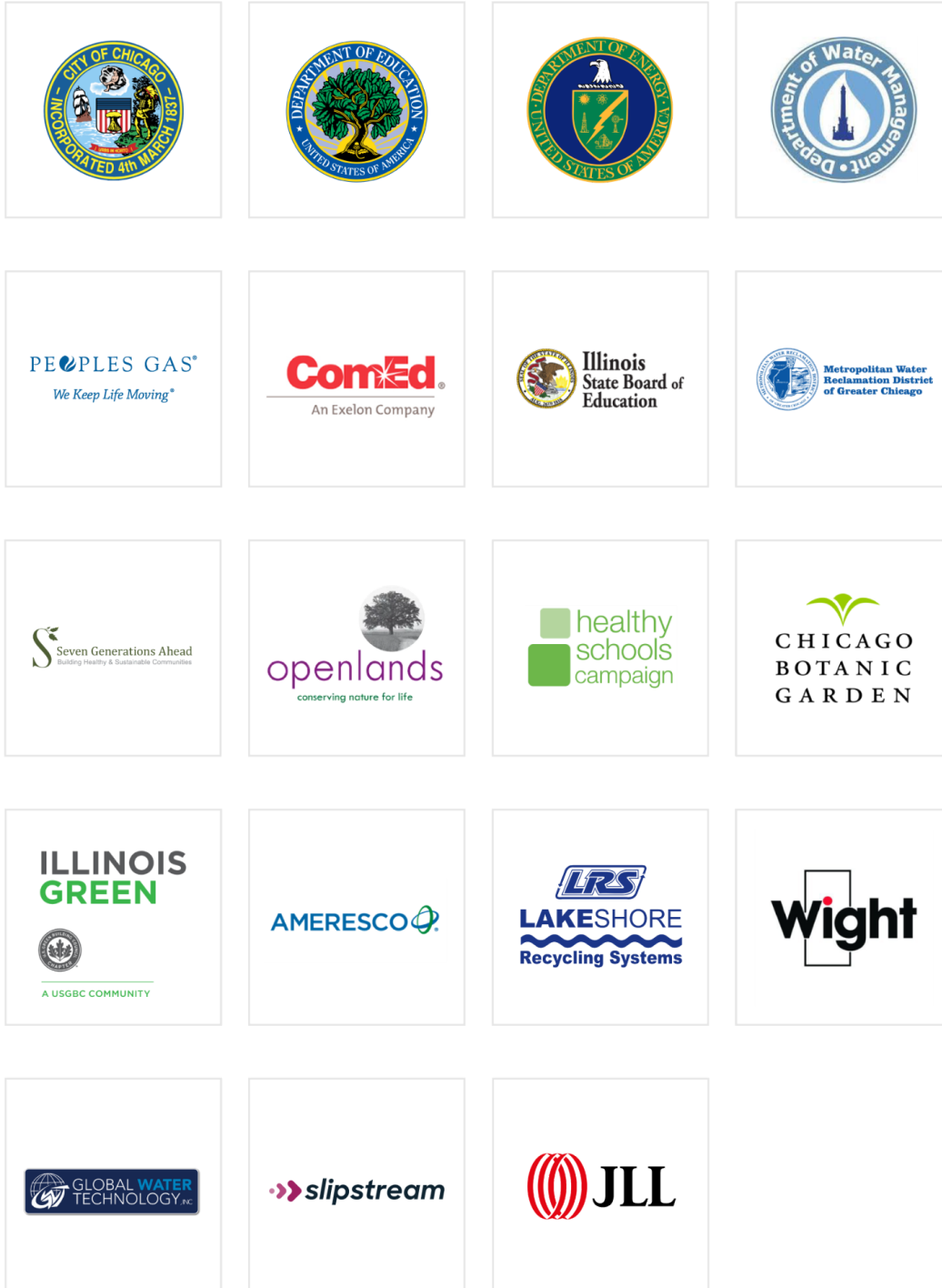
	CPS School Name	Community
1	Hamilton Elementary	Lake View
2	McAuliffe Elementary	Hermosa
3	Southside Occupational High	West Englewood
4	Suder Montessori	Near West Side
5	Von Linne Elementary	Avondale
6	Bell Elementary	North Center
7	Marine Leadership Academy High	Logan Square
8	Northside College Prep High	North Park
9	Solorio Academy High	Gage Park
10	Waters Elementary	Lincoln Square
11	Hernandez Middle	Gage Park
12	Mitchell Elementary	West Town
13	Peterson Elementary	North Park



14	Sandoval Elementary	Gage Park
15	Von Steuben High	Kimball
16	Arthur Ashe Elementary	Chatham
17	Coonley Elementary	St. Bens
18	Doolittle Elementary	Groveland Park
19	Lake View High	Sheridan Park
20	Lincoln Park High	Lincoln Park
21	Solomon Elementary	Sauganash
22	Sutherland Elementary	Beverly
23	George Washington Elementary	East Side
24	LaSalle Language Academy	Lincoln Park

## Sponsors and Partners

CPS would like to extend a special thank you to our community partners who advise, finance, and participate in our programs.



## Logo Source Links

<https://www.chicago.gov/city/en.html>

<https://www.ed.gov/>

<https://www.isbe.net/>

<https://www.energy.gov/>

<https://www.peoplesgasdelivery.com/>

<https://www.comed.com/Pages/default.aspx>

<https://www.chicago.gov/city/en/depts/water.html>

<https://mwrdd.org/>

<https://healthyschoolscampaign.org/>

<https://www.openlands.org/>

<https://sevengenerationsahead.org/>

<https://www.lrsrecycles.com/>

<https://www.chicagobotanic.org/>

<https://www.ameresco.com/>

<https://slipstreaminc.org/>

<https://illinoisgreenalliance.org/>

<https://www.wightco.com/>

<https://www.gwt-inc.com/>

## Glossary

### Definitions

- **Energy Conservation**
  - Focus on reducing energy consumption to save energy and money by changing behavior and instill a culture of conservation throughout the district.
    - Turning lights and equipment off when not in use
- **Energy Efficiency**
  - Reduce the amount of wasted energy to perform the same functions by using improved technologies and design strategies to achieve energy savings in our schools while lowering greenhouse gas emissions and costs.
    - Purchasing EnergyStar labeled equipment
    - Installing LED and lighting controls
- **Energy Resilience**
  - Ensuring schools have a reliable, regular supply of energy and contingency measures in place in the event of a power failure.
    - Causes may be power surges, weather, natural disasters, or equipment failure.
- **Renewable Energy**
  - Clean energy generated from naturally replenished resources, such as sunlight, wind, rain, and geothermal sources
- **Renewable Energy Credits (RECs)**
  - RECs represent renewable energy (primarily solar and wind) produced by a third party and sold to the grid. The energy attribute certificate is sold as a REC and assigned to the purchaser to claim the associated renewable energy to offset conventional energy use.

- Type of energy attribute certificate that may be acquired by CPS as part of our strategy to comply with the Chicago Renewable Energy Challenge.
- **Chicago Renewable Energy Challenge**
  - A new City of Chicago initiative designed to accelerate the adoption of renewable energy across the city. In 2017, Mayor Rahm Emanuel committed the City of Chicago to reaching 100 percent renewable energy for all electricity used in municipal buildings by 2025 as part of City of Chicago Executive Order 2017-1.
- **Renewable Electricity Building**
  - A facility that eliminates non-renewable (fossil) electricity usage through energy efficiency, on-site and off-site renewable energy, or renewable energy credits (RECs).
    - Renewable electricity buildings directly support CPS in meeting the Chicago Renewable Energy Challenge. Gas and other fuels are not considered.
- **Net Zero Energy Building**
  - Produces as much energy as it consumes over the course of a year. Net Zero energy buildings use passive strategies such as natural ventilation and daylighting, offer superior comfort, are healthier to work in, are more resilient to the impacts of climate change and are less vulnerable to the instability of energy prices.
- **Sustainability**
  - Meeting the needs of the present without compromising the ability of future generations to meet their needs.
- **Solar-Ready Schools**
  - Solar-ready schools install renewable energy infrastructure such as additional structural capacity to support PV installation, pre-installed wiring, and allocated space to install inverters and other associated equipment.

## Charts and Graphs

[Please click to view the Excel sheet.](#)