

green futures

A SUSTAINABILITY PLAN FOR
THE SCHOOL DISTRICT OF PHILADELPHIA

MAY 2016



ALL SCHOOLS CAN BE
GREAT. ALL SCHOOLS
CAN BE **GREEN**.



Primary Authors: Francine Locke and Megan Garner, Office of Environmental Management and Services

Cover and Table of Contents design donated by WFGD Studio

GreenFutures logo design donated by Michelle Tomm

Cover and Table of Contents photographs by Jenna Stamm courtesy of The Trust for Public Land
Students examine native plants in the William Dick Elementary School Outdoor Classroom,



@SDPGreenFutures



facebook.com/SDPGreenFutures



Printed on Recycled Paper

green futures

A SUSTAINABILITY PLAN FOR
THE SCHOOL DISTRICT OF PHILADELPHIA

MAY 2016



TABLE OF CONTENTS

WELCOME

BY DR. WILLIAM HITE, SUPERINTENDENT

FOREWORD	1
----------	---

CHARTING THE COURSE	3
---------------------	---

HOW TO NAVIGATE THIS PLAN	4
---------------------------	---

EDUCATION FOR SUSTAINABILITY	6
-------------------------------------	---

CONSUMPTION AND WASTE	10
------------------------------	----

ENERGY AND EFFICIENCIES	14
--------------------------------	----

SCHOOL GREENSCAPES	18
---------------------------	----

HEALTHY SCHOOLS, HEALTHY LIVING	22
--	----

CASE STUDIES	28
---------------------	----

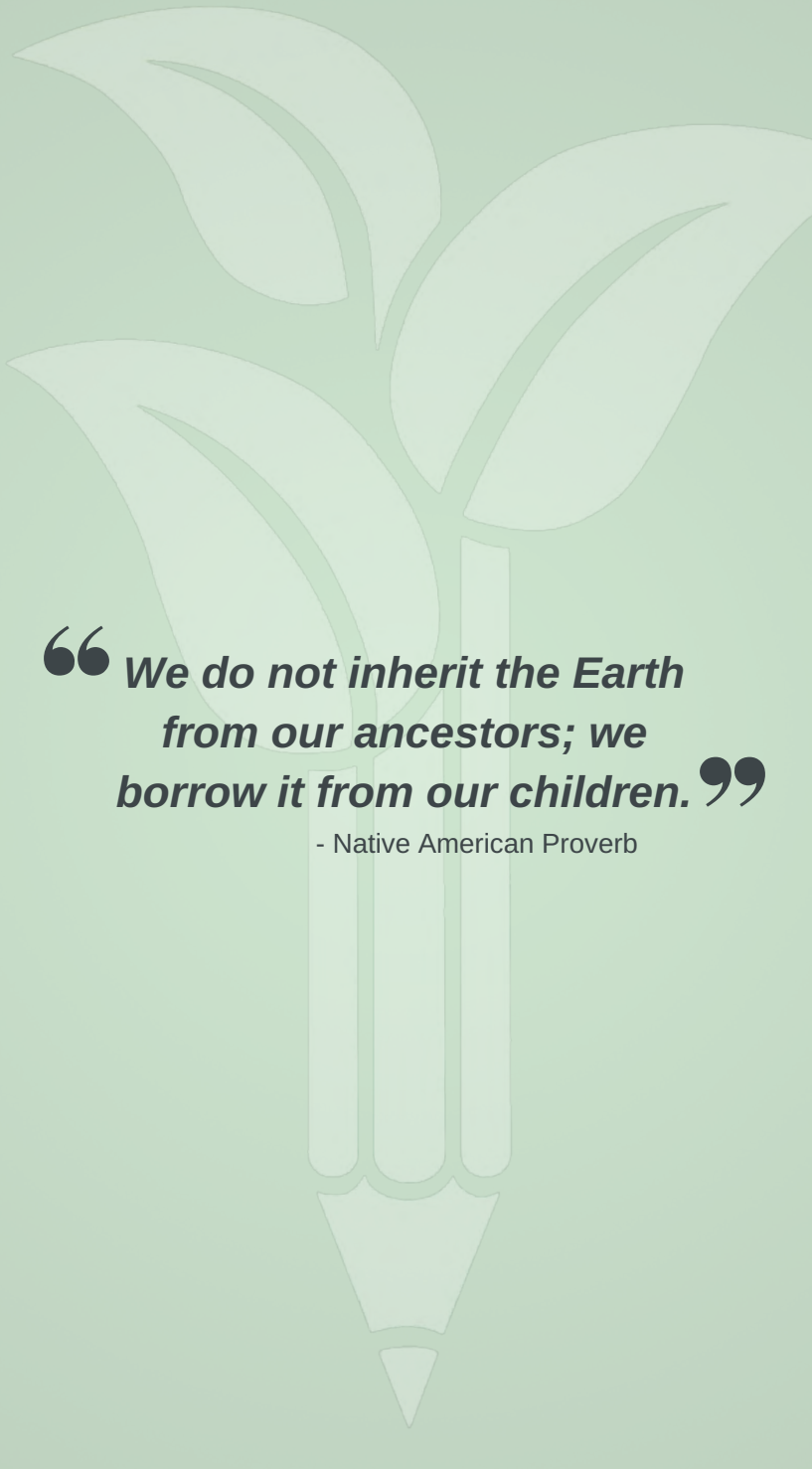
TARGETS AND INITIATIVES	32
--------------------------------	----

CALL TO ACTION	36
----------------	----

REFERENCES	37
------------	----

ACKNOWLEDGEMENTS	38
------------------	----





***“We do not inherit the Earth
from our ancestors; we
borrow it from our children.”***

- Native American Proverb



Nebinger Elementary School Rain Garden Ribbon Cutting Ceremony and Earth Day Celebration (April 27, 2015) - Photograph by Megan Garner

Dear Friends,

I am pleased to bring you The School District of Philadelphia's first sustainability management plan: GreenFutures. This plan supports Action Plan 3.0 in better serving all of our students by creating equitable access to green school resources in every neighborhood. Evidence shows that green schools help to develop critical thinking skills and a deeper understanding of science, social studies, math, reading and writing. With GreenFutures, our charge is unchanged: Every child can learn. Every school can be a great school.

This five year plan aims to reduce the District's environmental footprint, conserve resources, decrease consumption and waste, and create green school settings and healthy indoor environments. This plan connects student curriculum with facilities management and operations, teachers, students and school communities and stakeholders. The plan encourages school students, families and friends to participate in developing and implementing sustainability initiatives in every community. Through an annual report, the progress of GreenFutures will be shared and feedback will be sought.

I look forward to working to better serving our students through green schools in every Philadelphia neighborhood.

Sincerely,


Dr. William R. Hite, Jr.

THE SCHOOL DISTRICT OF
PHILADELPHIA



School District of Philadelphia Education Center
Photograph courtesy of the School District of Philadelphia

FOREWORD

“GreenFutures supports the vision that every student can learn and every school can be great.”

- Dr. William Hite, Superintendent

The School District of Philadelphia is a large, urban school district that serves over 130,000 diverse students from every community in the City of Philadelphia. We operate 218 schools and maintain 23 million square feet of buildings and grounds. The average age of our schools is 69.5 years.

Our vision is for all children to have a great school, close to where they live. This includes providing well-resourced, clean, comfortable, healthy, and safe school environments conducive to teaching and learning.

GreenFutures is a five-year sustainability plan that was created by District staff and stakeholders with a common goal: to make public schools great. This plan is an offshoot of Action Plan 3.0 and it aims to make every school a green school that will better serve our students and communities. A green school is defined here as a school that provides students with equitable access to healthy, clean and energy-efficient learning spaces as well as resources that cultivate student, staff, family and community engagement in environmental stewardship, social justice and Education for Sustainability (EfS) opportunities. This is necessary to prepare students for the next generation of green, sustainable career pathways and responsible citizenship.

There are limited resources in the world. As a public school district, we have the responsibility to lead by example through resource conservation and affect change that will positively impact thousands locally and millions globally.

In order to protect the future for our children and generations to come, we need to think about impacts of the decisions that are being made today. A reduction in the District's environmental footprint can have global impacts. By making the decision to be part of the action that helps to slow down climate change, we will create global citizens, promote cleaner green career pathways and equip the the future leaders and decion makers with the knowledge and skills needed in a changing world.

“Greenworks, the City’s first sustainability framework, has helped Philadelphia become a cleaner, healthier and more vibrant place to live and work. GreenFutures will help to ensure that the next generation, who will be most impacted by climate change, is engaged in being a part of the solution.”

- Christine Knapp, Director, City of Philadelphia Office of Sustainability

On December 12, 2015, in Paris, the United Nations Framework Convention on Climate Change finalized the first comprehensive global treaty to combat climate change. Our District can help the global community through our sustainability plan. With a sustainability plan, we can participate to the world’s pledge to act on climate change by contributing our part to the world’s goal for limiting global warming.

About Us

Schools in Every
Philadelphia Zipcode

Over 134,538 Students Enrolled
(2015)

57,500 Free Breakfasts and
92,500 Free Lunches Served Daily

218 Schools and over 300
Buildings

23 Million Square Feet of
Buildings

1,300 Acres of Land

16,680 Employees

Support for 24 Languages

12,951 English Language
Learners (2015)

GreenFutures: Five Guiding Principles

- It's about Education - Children learn better in green schools and can be global citizens.
- It's about Efficiency - Schools can be operated more efficiently to save money and resources.
- It's about Engagement - The Philadelphia community cares about sustainability and wants the District to be greener.
- It's about the Environment - Schools are present in every community with hundreds of acres of land and buildings, buses and food, all of which impact our environment.
- It's about Equity - Every student in every community deserves a green school.

CHARTING THE COURSE

The Approach

The Plan: Five Years, Five Focus Areas



**Education for
Sustainability**



**Consumption
and Waste**



**Energy
and Efficiencies**



**School
Greenscapes**



**Healthy Schools,
Healthy Living**

GreenFutures is an innovative sustainability plan with five guiding principles: Education, Efficiencies, Engagement, Environment and Equity. The plan was crafted by staff and stakeholders with a common desire to make public schools great – and green. These principles guide each of the five focus areas of the plan with measurable objectives and outcomes set over a five-year period.

Each focus area is defined by key initiatives that will help the District attain very specific targets. There are 65 specific actions that the District will take to attain the goals and targets set forth in GreenFutures. These initiatives are dependent upon partners and stakeholders to be successful.

Five sub-committees, were formed over a yearlong period through the School District of Philadelphia's Operations Division. Each subcommittee includes staff from District departments including Curriculum, Educational Technology, Career and Technical Education, Transportation, Food Services, Capital Programs, Environmental Management and Services, Procurement and Facilities Management. Additional subcommittee members included representatives from state and local government, nonprofit and private industry, neighboring school districts and local universities and colleges. The diverse background, wealth of knowledge, and combined years of experience that each committee offered is key to identifying and implementing best management practices and fostering innovation.

The subcommittees met monthly to develop a vision, goals and targets for each focus area as well as the actions required to attain them. They will continue to meet monthly over the next five-years to monitor and track progress.

HOW TO NAVIGATE THIS PLAN

Each section of this plan contains the following components:

Mission

The “Mission” explains the purpose for each section of the plan.

Goal

The “Goal” explains a higher-level proposed outcome or vision for each section.

Target

The “Target” provides the desired measurable outcome for each section, with a specific timeline for completion.

Metrics

“Metrics” are provided for each section as quantitative measurable performance outcomes.

Snapshot

A one-page “Snapshot” is provided for each section to explain the current status of the District performance or operations in relation to the Focus Area. Data may be provided when available, as well as information on existing projects or programs.

Actions

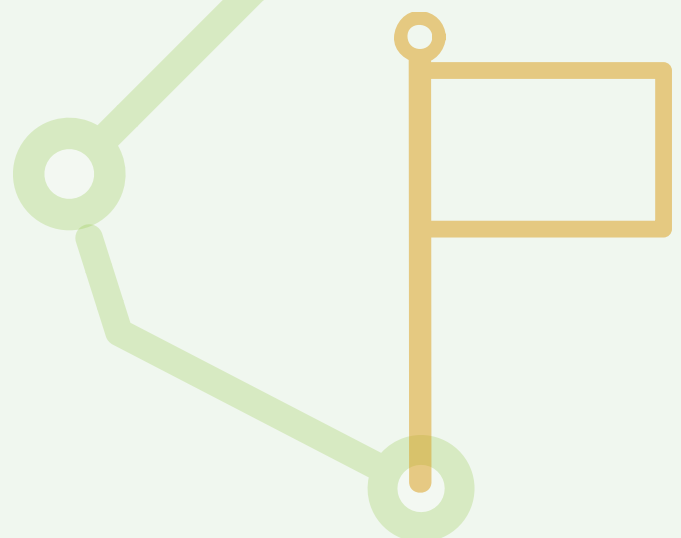
Each section contains a table of “Actions” that are needed to attain a particular “Target.” The “Lead Agencies,” “Partners,” and “Completion Dates” are listed in the table to ensure that there is a level of accountability for implementing the Actions.

Partnerships

A table of partners is included at the end of each section to illustrate who has been involved with the development of the plan and who will continue to monitor the plan over the five-year period.

Case Studies

The plan has several “Case Studies” that describe actual scenarios in which a sustainable practice or program is currently being implemented at the District. additional information may be found on the GreenFutures website (www.philasd.org/greenfutures).





Students learning in the William Dick Elementary School Outdoor Classroom.
Photograph by Jenna Stamm courtesy of The Trust for Public Land

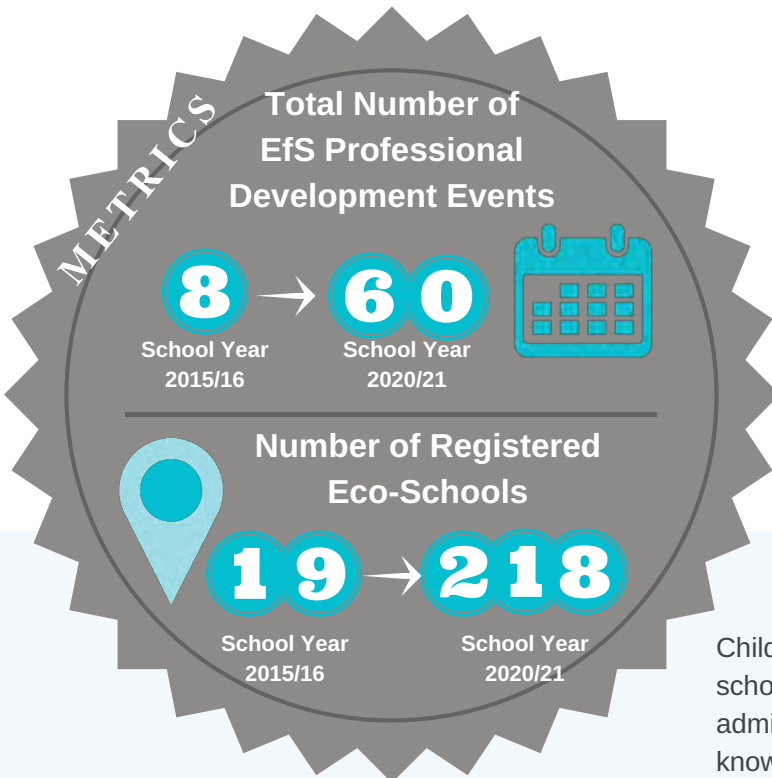


EDUCATION FOR SUSTAINABILITY



MISSION

- Integrate K-12 curriculum, instruction and assessment with Education for Sustainability (EfS) standards.
- Cultivate administrative practices and policies that support EfS throughout the District.
- Strengthen and expand school, family and community engagement so as to enrich EfS.



GOAL

Infuse Education for Sustainability (EfS) school curriculum, administrative practices, and family and community engagement.

TARGET

100% of schools and administrative offices will show evidence of EfS within 5 Years.

Education for Sustainability Defined

Children flourish when they attend and learn in green and healthy schools. EfS is a holistic framework to equip students, schools, administrators, families and the community with the skills, knowledge and habits of mind that will prepare them to create and contribute to a world where economic prosperity, social justice and responsible citizenship may be strengthened while restoring our health and that of the living systems upon which our lives depend.



“This is what I like. I want to be a professional gardener.”

**- Emonana Johnson,
Horticulture Student,
Lincoln High School**



Project-Based Learning

The EfS focus area includes tools for teachers to incorporate sustainability principles into their lessons. There are two evidence-based models that accomplish this: Project Learning and Project-Based Learning. An example of Project Learning includes students who learn about hunger and food security issues in their community and in other places in the world in their textbook. As a final project, students might make a poster that highlights hunger and food security issues. With Project-Based Learning, students would interview local experts such as social service workers, community organizations, and local leaders about food distribution and hunger issues in their community. As a final project students may decide to plan a service activity to cook a meal for a soup kitchen, write letters to local officials, or conduct a hunger awareness campaign at their school.

Model Project-Based Learning Tool

The District has formed a partnership with the National Wildlife Federation's (NWF) Eco-Schools USA. This program is a tool that provides K-12 schools with a series of steps and pathways to integrate sustainability principles throughout their schools and curriculum. NWF's Eco-Schools USA combines effective green management of school grounds, the facilities and the curriculum, truly providing students with a unique research and application based learning experience. Several District schools are currently registered Eco-Schools. These schools have access to grant opportunities through this program and are provided with a framework to successfully green their schools through ten possible pathways.



Students participating in Project Flow.
Photograph courtesy of the Fairmount Water Works

Ten Eco-School Pathways

- Biodiversity - Investigating and increasing biodiversity at school and beyond
- Climate Change - Incorporating climate change education into curriculum
- Consumption and Waste - Reducing, reusing, and recycling
- Energy - Addressing energy conservation
- Healthy Living - Promoting outdoor time, physical activity and other aspects of a healthy lifestyle
- Healthy Schools - Addressing issues that impact human health in the school building and grounds
- Schoolyard Habitats® -Developing "green" grounds
- Sustainable Food - Improving nutrition and food sustainability at school
- Transportation - Addressing school transportation
- Water - Addressing water conservation

Registered Eco-Schools

Abraham Lincoln High School
AMY @ James Martin
Bodine High School
Central High School
Chester A. Arthur Elementary
Cook-Wissahickon Elementary
Edwin Forrest Elementary
George Washington Carver
GW Childs Elementary
H.A. Brown Elementary

Lankenau High School
Lingelbach Elementary
Northeast High School
Penn Alexander Elementary
Roberto Clemente Middle School
Stephen A. Douglas High School
The U School
Thurgood Marshall Elementary
W.C. Longstreth Elementary



biodiversity



climate change



consumption & waste



energy



healthy living



healthy schools



schoolyard habitats®



sustainable food



transportation



water

**DISTRICT OFFICES:**

Career and Technology Education - Curriculum, Instruction and Assessment -
Educational Technology - Environmental Management and Services

EXTERNAL ORGANIZATIONS:

Bryn Mawr College - The Cloud Institute - Drexel University College of
Engineering - The Fairmount Water Works - The Franklin Institute - National
Wildlife Federation Eco Schools USA - PA Green & Healthy Schools - The
Philadelphia Zoo - Pennsylvania Horticultural Society - ProgressEd - The
Schuylkill Center - University of Pennsylvania - US Environmental Protection
Agency

The EfS focus area includes professional development opportunities for District teachers. These events are a joint effort between the District and partners, and Act 48 credits are often provided.

Participants will help to develop a learning community that has a shared understanding of EfS and engages educators in activities that combine systems thinking and cross curricular connections through the lens of sustainability. These professional development opportunities are designed to increase the awareness and understanding of the core concepts, content and outlook needed for instructional application.



EfS professional development workshop at the Fairmount Water Works
Photograph by Megan Garner.

Focus Area 1: Education for Sustainability - Actions

Curriculum - Office of Curriculum, Instruction and Assessment; OEMS - Office of Environmental Management and Services

Action	Lead Agency	Partner	Target Completion Date
Education for Sustainability: Target - 100% of schools and administrative offices will show evidence of EfS within 5 Years.			
1 Design, distribute and review a baseline EfS survey.	Curriculum	EfS Committee	2016
2 Develop rubric outlining metrics for evidence of EfS.	Curriculum	EfS Committee	2017
3 Communicate and support the District's engagement with EfS in all offices and departments.	OEMS	EfS Committee	2018
4 Create and facilitate professional learning communities and green teams.	OEMS	EfS Committee	2019
5 Identify an EfS point of contact for every school.	OEMS	Curriculum	2020
6 Embed EfS standards for lessons, projects and/or units across grades and subjects.	Curriculum	EfS Committee	2020
7 Design and facilitate periodic professional development opportunities for teachers, as well as administrative and operations personnel.	OEMS	EfS Committee	Ongoing
8 Identify partnerships, funding and/or research opportunities to support the integration of EfS and performance measurement outcomes.	OEMS	EfS Committee	Ongoing

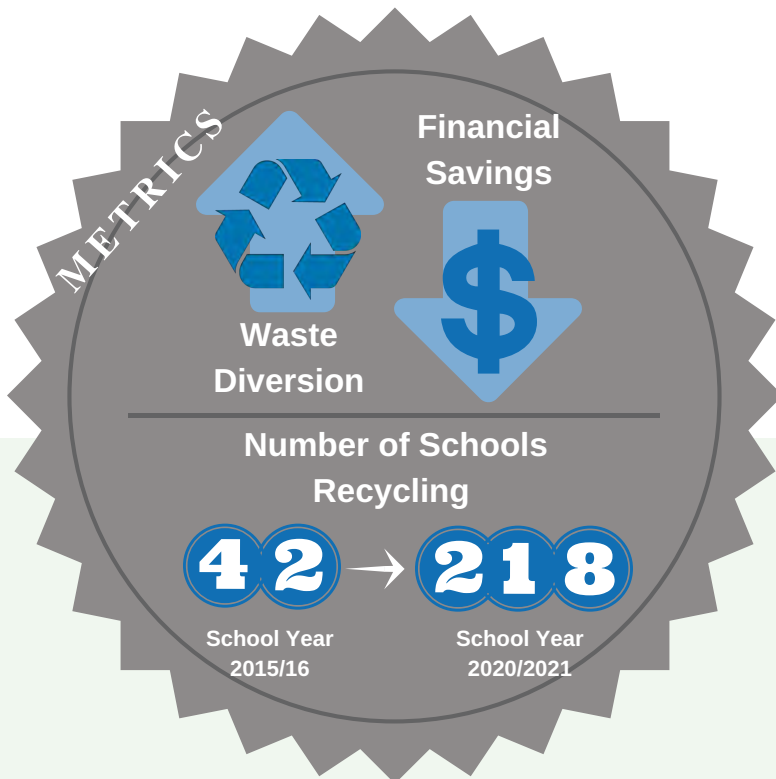


CONSUMPTION AND WASTE



MISSION

Every student will have access to a school that incorporates waste reduction practices and diverts its waste from landfills.



GOAL

Every school will recycle.

TARGET

The District will increase its waste diversion rate by 10% over 5 years.

The District is committed to reducing the amount of trash it sends to landfills. By embracing sustainability principles in schools such as reducing, reusing and recycling, the District will not only lower costs, foster innovation and good citizenship, but improve the communities in which we live and work.

“Consistent and regular communication about making recycling an everyday action is key to helping students get into the habit in school, at home and throughout our city.”

- Phil Bresee, Former Recycling Director, Streets Department, City of Philadelphia

2015 Recyclebank Green School Program Award Ceremony
Photograph by Megan Garner.

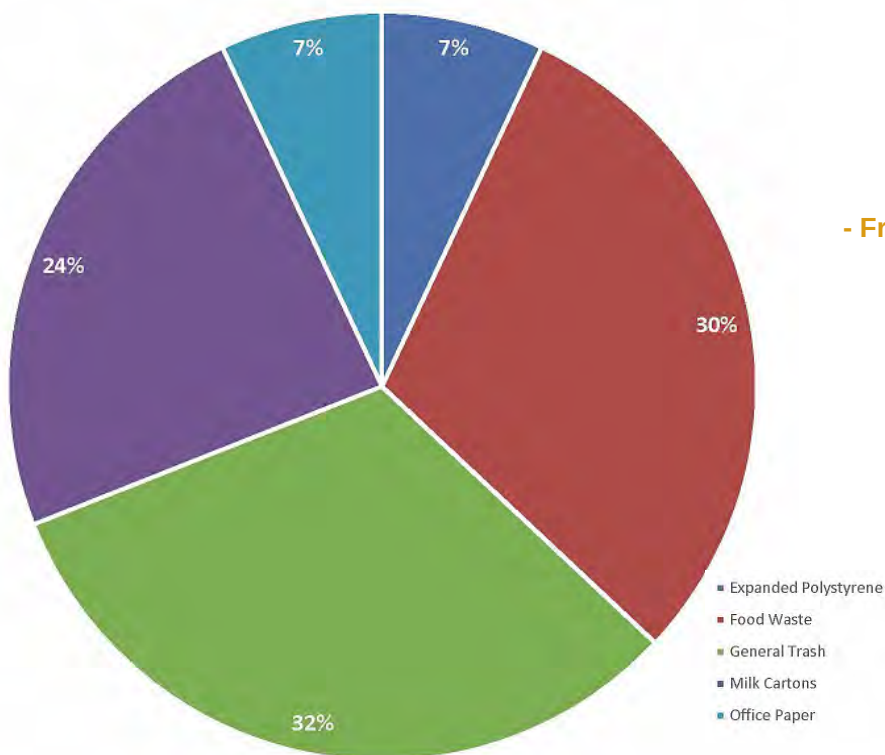




Waste Stream Characterization

The District's waste removal services contractor conducted a waste characterization audit in 2014. Understanding the quantities and types of waste material will allow the District to select the appropriately sized waste and recycling bins, dumpsters and collection schedules for each location.

Figure 1
2014 District Waste Stream
Characterization Study



“Recycling is one of the most visible student-led green school initiatives. It can be a great launching point toward whole school sustainability.”

- Francine Locke, District Environmental Director

Figure 1 illustrates that general trash was identified as 32% of the District's waste stream, followed by food waste (30%) and milk and juice cartons (24%). Periodic waste audits will be conducted to continue to monitor waste quantities and types as well as to determine the effectiveness of an individual recycling program at a given District facility. Continuous analysis will allow the District to develop ways to reduce its consumption and reuse and/or recycle more efficiently.



Students at Penn Alexander Elementary School inspecting their new cafeteria waste stations donated by Bryn Mawr College.
Photograph by Stephanie Kearney.



“ There is no such thing as "away." When we throw anything away it must go somewhere. ”

- Annie Leonard, Sustainability & Environmental Health Advocate



DISTRICT OFFICES:

Environmental Management and Services - Facilities and Operations -
Grants Development - Procurement Services

EXTERNAL ORGANIZATIONS:

City of Philadelphia Recycling Department - Keep Philadelphia Beautiful -
Recyclebank

Focus Area 2: Consumption and Waste - Actions

Food Services - Division of Food Services; Facilities - Facilities Management and Operations;
OEMS - Office of Environmental Management and Services; Procurement - Procurement Services

	Action	Lead Agency	Partner	Target Completion Date
Consumption and Waste: Target - The District will increase its waste diversion from landfills by 10% over 5 years.				
9	Provide recycling program contact information and hierarchy of responsibilities.	OEMS	Facilities	2016
10	Provide exterior trash and recycling dumpster services and pick-up schedule to every school.	Facilities	OEMS	2017
11	Provide interior recycling and trash bins to every school.	Procurement	Facilities, OEMS	2017
12	Identify sustainability/recycling coordinators for every school.	OEMS	Facilities	2017
13	Communicate support for recycling program through reoccurring outreach from District leadership.	OEMS	Facilities	2017
14	Provide student green team incentives.	OEMS	Facilities, Procurement	2017
15	Reduce use of polystyrene trays and plates.	Food Services	Procurement	2018
16	Calculate rate of waste diversion (%) from landfill.	Facilities	OEMS	2020
17	Report each facility's recycling program compliance.	OEMS	Facilities	2020
18	Measure environmental footprint impact from waste reduction.	OEMS	Facilities	2020
19	Initiate an organics collection/composting pilot program.	Facilities	Food Services, OEMS, Procurement	2020
20	Identify Sustainability Coordinator Incentives.	OEMS	Facilities, Procurement	Ongoing
21	Provide training for facilities staff, students and teachers.	OEMS	Capital, Facilities	Ongoing
22	Conduct comprehensive and periodic waste stream auditing.	Facilities	OEMS	Ongoing



MISSION

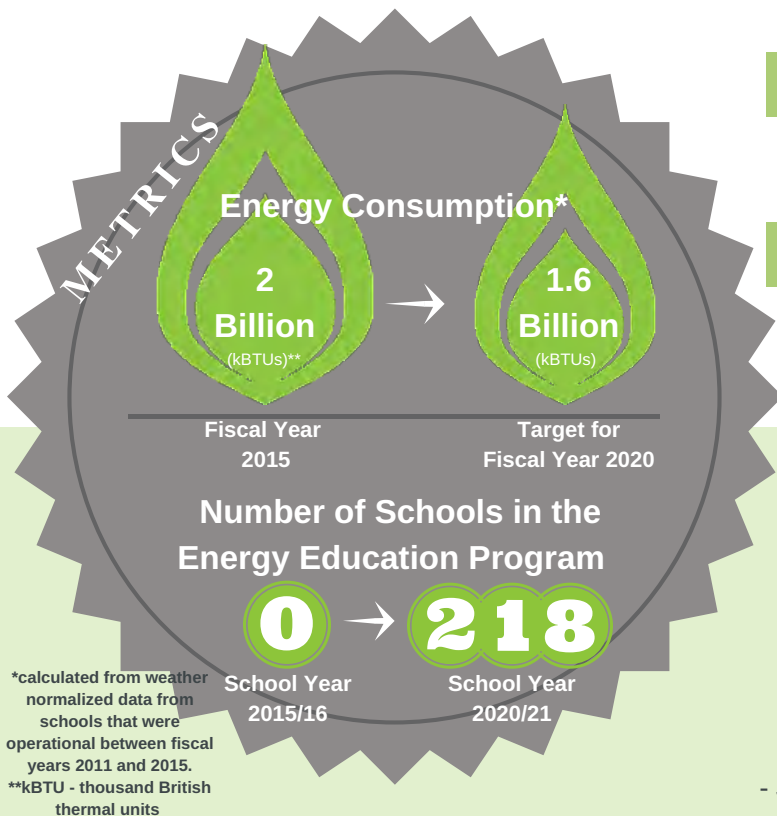
- Reduce spending on energy so that funds can be used for education.
- Instill a culture of energy conservation throughout the District.
- Reduce the environmental and human health impacts associated with fossil fuel combustion.

GOAL

Every school will conserve energy.

TARGET

The District will decrease its energy consumption by 20% over five years.



“When students have the opportunity to participate in a hands-on learning experience that is beneficial to both students and the school, everyone wins.”

- Jose Ramos, Teacher, Cook-Wissahickon Elementary School



Cook-Wissahickon students conduct an energy audit during a Green Apple Day of Service project. Photograph by Lori Braunstein.



The District has an approximate annual utility budget of \$45 million (fiscal year 2015). This includes electric, natural gas, heating oil, steam, water and sewer, fireline, and stormwater. The District is committed to communicating information about its energy management programs and data in a meaningful way. An overview is provided below, however additional information may be found on the GreenFutures website (www.philasd.org/greenfutures).

Utility Tracking and Auditing

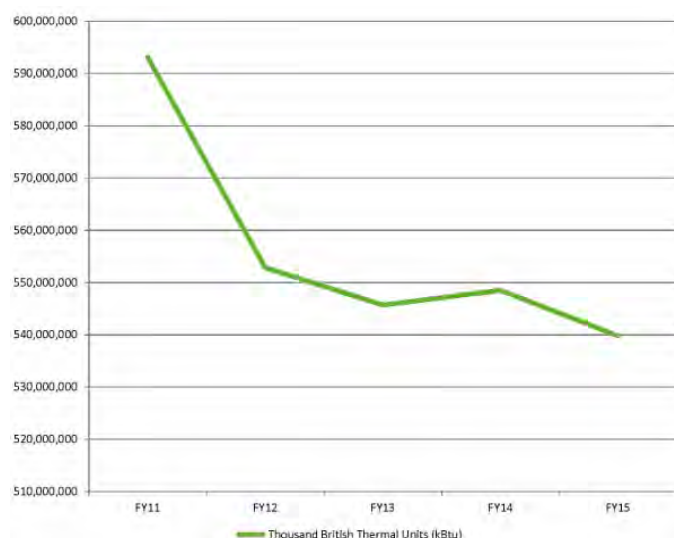
The District tracks utility consumption and energy performance ratings utilizing ENERGY STAR Portfolio Manager® for all of its buildings. The graph on the right illustrates the past five years of electricity consumption data. The data here has been normalized in order to compare year-to-year usage on a common basis. Weather normalized energy accounts for abnormal regional weather conditions in a given year and calculates what energy consumption would have been under normal regional weather conditions. One factor to consider when looking at the trends in the reduction of energy consumption is building improvements and renovations. The District has completed several major re-lighting projects and natural gas conversions.

A utilities billing audit program has resulted in over \$2.4 million in refunds from utility company billing errors and other discrepancies.

Demand Management and Response

The District participates in a demand management and response program that provides financial incentives for helping local utilities manage supply and demand of electricity during system wide emergencies. Peak electricity demand often surpasses the available supply and in order to prevent a power outage, the utility must increase generation or decrease consumption. The utility company pays the District a fee to reduce consumption to a predetermined level. During the summer of 2015, the District invited five Philadelphia public school students to participate in the demand management program. The students were responsible for communicating with principals and building staff in schools with no academic programs in place during event

Electricity Consumption*

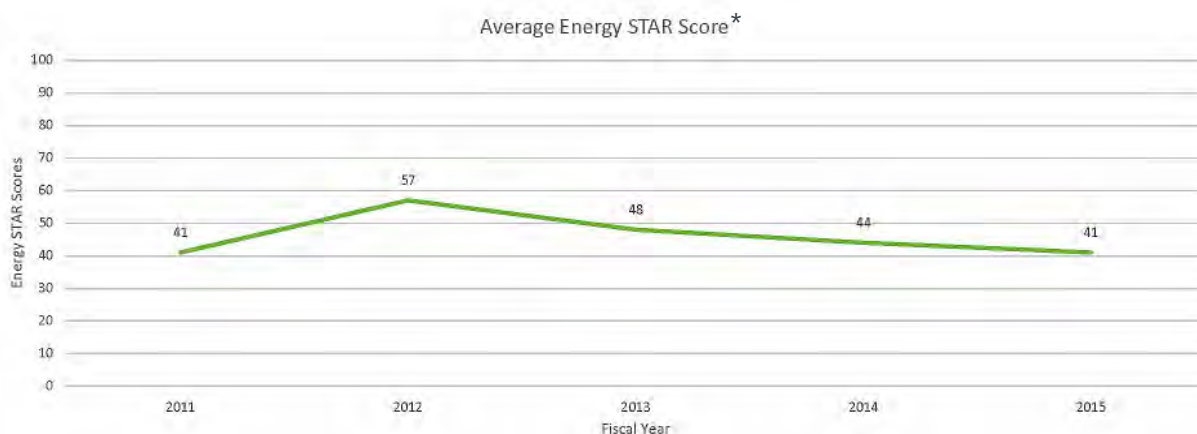


*calculated from weather normalized data from schools that were operational between fiscal years 2011 and 2015.

days, asking them to shut down building systems to reduce consumption. The program resulted in \$1.5 million in savings.

Energy Education Program

Every school will be included in an Energy Education program over a five year period. A team of District staff, industry experts and community partners, will visit every school with tools and resources to provide students with the opportunity to participate in a hands-on learning experience in the form of energy clubs or as part of a class. Students will conduct energy audits to track their schools' energy consumption and promote institutional changes throughout the building to reduce overall energy consumption.



*Using a scale from one to one hundred, the Energy STAR scoring system provides a comparative value to a facility's energy consumption relative to that of similar facilities nationwide. Calculations used to determine a building's score account for such variables as use, occupancy, square footage, mechanical systems, consumption data, climate zone, etc. A building's score increases relative to its energy performance, with a rating of fifty being defined as the industry average. A building with a rating of 75 means that it performs better than 75% of similar buildings nationally.



DISTRICT OFFICES:

Capital Programs - Curriculum and Assessment - Environmental Management and Services - Facilities and Operations - Procurement Services - Transportation

EXTERNAL ORGANIZATIONS:

City of Philadelphia Energy Office - City of Philadelphia Office of Sustainability - Consortium for Building Energy Innovation - Delaware Valley Green Building Council - Drexel University Institute for Energy & the Environment - North Penn School District - Philadelphia Federation of Teachers Health & Welfare Fund & Union - Philadelphia Zoo - Practical Energy Solutions - US Environmental Protection Agency

Focus Area 3: Energy and Efficiencies - Actions

Curriculum - Office of Curriculum, Instruction and Assessment; Capital - Office of Capital Programs; Facilities - Facilities Management and Operations; OEMS - Office of Environmental Management and Services; Procurement - Procurement Services;

	Action	Lead Agency	Partner	Target Completion Date
Energy & Efficiencies: Target - The District will decrease its energy consumption by 20% over five years.				
23	Track changes in energy use at every school and collectively as a District.	Facilities	Procurement, OEMS	2016
24	Provide energy education programs to help schools understand and intervene to reduce utility use.	Curriculum	OEMS, Energy & Efficiencies Committee	2016
25	Provide energy data for every school through a web-based system.	Facilities	Procurement, OEMS	2017
26	Provided an energy plan template and support development of energy management tools for every school.	OEMS	Energy & Efficiencies Committee	2017
27	Implement capital efficiency and energy savings projects.	Capital	Facilities, OEMS	2020
28	Develop a building system re-commissioning and educational training program for LEED certified facilities.	Facilities	Capital	2020
29	Measure, report, set target and reduce greenhouse gas emissions.	Facilities	OEMS, Energy & Efficiencies Committee	2020
30	Identify resources needed to reduce energy consumption.	Facilities	OEMS, Energy & Efficiencies Committee	2020
31	Identify indicators to connect energy reduction initiatives with student health and academic success metrics.	OEMS	Energy & Efficiencies Committee	2020
32	Identify funding and/or performance measurement outcomes research opportunities.	OEMS	Energy & Efficiencies Committee	2020
33	Conduct energy audits by students and staff.	OEMS	Energy & Efficiencies Committee	Ongoing



SCHOOL GREENSCAPES





MISSION

Every student will have access to outdoor learning environments that integrate stormwater management, play areas for passive and active recreation, and community resources into green spaces.

Number of Stormwater Infrastructure Projects

22

Fiscal Year
2015

47

Target for
Fiscal Year 2020

Number of Schools with Registered Greenscapes

0

Fiscal Year
2015

218

Target for
Fiscal Year 2020

GOAL

Every school will have green space.

TARGET

The District will increase its green schoolyards by five schools per year over 5 years.

School 'greenscapes' are a system of outdoor learning environments and natural play areas that connect curriculum to nature through the practical application of learned concepts, across curriculum for all grade levels and subjects. They are stages for discovery, learning and imaginative play.

“Just as we feel more comfortable in green spaces, so do our children. When they have that opportunity, you can see their energy and state of mind changes.”

- Dr. William Hite,
Superintendent



School greenscapes have a positive impact on student achievement and behavior. This plan aims to prioritize the equitable access of green educational spaces for every student. School greenscapes are more than just grassy areas, they are green features that enrich students' lives and can enhance the quality of life for entire communities. They can be living educational and recreational spaces such as rain gardens, edible gardens, tree nurseries, groves, simple rain barrels, storm water planters, group gathering spaces, outdoor classrooms and playgrounds. They can promote physical activity, an understanding and appreciation for nature and bring communities together in a natural setting that inspires organized play and healthy living. School greenscapes, when incorporated into school lessons, may also inspire students to be environmental stewards.

Site Selection

There are certain features of a school's campus that make it a good candidate for constructing a green schoolyard with stormwater infrastructure. Schools that have both high stormwater management potential and other interest for improvements are prioritized. Any plans for the surrounding neighborhood are considered and then the appropriate stormwater practice is determined. The table on the right shows existing stormwater infrastructure at District schools.

Every school might not be a candidate for a stormwater infrastructure project, but there is always room for greening. Green roofs, rain barrels, vertical and pollinator gardens, and meadows are just a few greenscape examples that would promote biodiversity and outdoor education.

Upcoming Planned Green Schoolyards

Adaire Elementary School
 Arthur Elementary School
 Cramp Elementary School
 EM Stanton Elementary School
 Hackett Elementary School
 Harding Middle School
 JB Kelley Elementary School
 Mayfair Elementary Schools
 McKinley Elementary School
 McMichael Elementary School
 ML King High School
 Patterson Elementary School
 Taggart Elementary School

Table 1

Existing Stormwater Infrastructure	
School	Stormwater Practice
Abraham Lincoln HS	Surface Infiltration Basin, Subsurface Infiltration Basin
Bridesburg Elementary School	Subsurface Infiltration Basin, Porous Pavers
Carver High School Engineering & Science	Subsurface Infiltration Basin
Commodore John Barry Elementary School	Porous Pavement (2 areas), Subsurface Infiltration Basin, Stormwater Reuse Cistern
Dobbins High School	1 Subsurface Detention Basin, Porous surface
Fels High School	Porous Pavers
Edwin Forrest Primary Education Center	4 Subsurface Detention Basins
General Kearny School Addition	2 Subsurface Detention Basins
George W. Nebinger School	Rain Garden, Infiltration, Storage Trench, Porous, Paving, Swale
Guion S. Bluford Elementary School	Subsurface Detention Basin, Porous Pavement
Greenfield Elementary School	Rain Gardens, Porous Pavement, Porous & Playsurface
Kensington Creative & Performing Arts High School	Green Roof (5 areas), Porous Pavement (2 areas), 2 Subsurface Detention Basins, 2 Rain Gardens
Lawton Elementary School Addition	Subsurface Detention Basin
Lea Elementary School	Porous Pavers, 3 Rain Gardens, 1 Subsurface Infiltration Basin & Porous Play Surface
Lincoln High School Athletic Field	Subsurface Detention Basin
Penn Alexander School	Subsurface Infiltration Basin, rain garden and porous paving
Solis-Cohen Elementary School	Subsurface Detention Basin, Bioretention Swale
South Philadelphia Athletic Super Site Sitework and Support Facilities	3 Subsurface Infiltration Basins
Vaux School	Subsurface Infiltration Basin
West Philadelphia High School	Subsurface Infiltration Basin, Stormwater Reuse Cistern, Porous Pavement (2 areas)
Willard Elementary School	9 Bioretention Areas, Subsurface Detention Basin
William Dick Elementary	Rain Garden and Subsurface Detention Basin

Community Collaboration

School greenscapes are an investment in the community and a work of collaboration between students, teachers, parents and community based groups who have a vested interest in the revitalization of their school and surrounding neighborhood. Through partnerships with Philadelphia Water, government officials, home and school associations, and community groups, the District has begun transforming Philadelphia's schoolyards into green schoolyards. Individual schools may apply for grant opportunities to design and construct green schoolyard spaces with the guidance and support of design professionals. The District's Office of Capital Programs has also been awarded funding from Philadelphia Water for Stormwater Management Improvement Program grants.



DISTRICT OFFICES:

Capital Programs - Environmental Management and Services - Facilities and Operations - Grants Development

EXTERNAL ORGANIZATIONS:

The Big Sandbox - The Food Trust - The Land Health Institute - Trust for Public Land - Pennsylvania Horticultural Society - Philadelphia Department of Parks and Recreation - Philadelphia Water - US Environmental Protection Agency

Focus Area 4: School Greenscapes - Actions

Capital - Office of Capital Programs; Facilities - Facilities Management and Operations; Grants Development - Office of Grants Development; OEMS - Office of Environmental Management and Services;

Action		Lead Agency	Partner	Target Completion Date
School Greenscapes: Target - An average of five schools will receive green schoolyard improvements per year over five years.				
34	Construct new green schoolyards.	Capital	Facilities	2016
35	Catalog all of the current District greenscapes.	Capital	School Greenscapes Committee	2016
36	Establish a school greenscape registry system for new projects.	OEMS	School Greenscapes Committee	2017
37	Develop a school greenscapes resource tool for teachers, parents and community members to learn how to apply for school greenscapes and green schoolyard funding.	Grants Development	School Greenscapes Committee	2018
38	Create an awareness campaign so schools understand the benefits of school greenscapes and related curriculum.	OEMS	School Greenscapes Committee	2019
39	Develop the green schoolyard milestone review process.	Capital	OEMS	2020
40	Develop sustainable operations and maintenance program for existing and new green schoolyards.	Capital	School Greenscapes Committee	2020

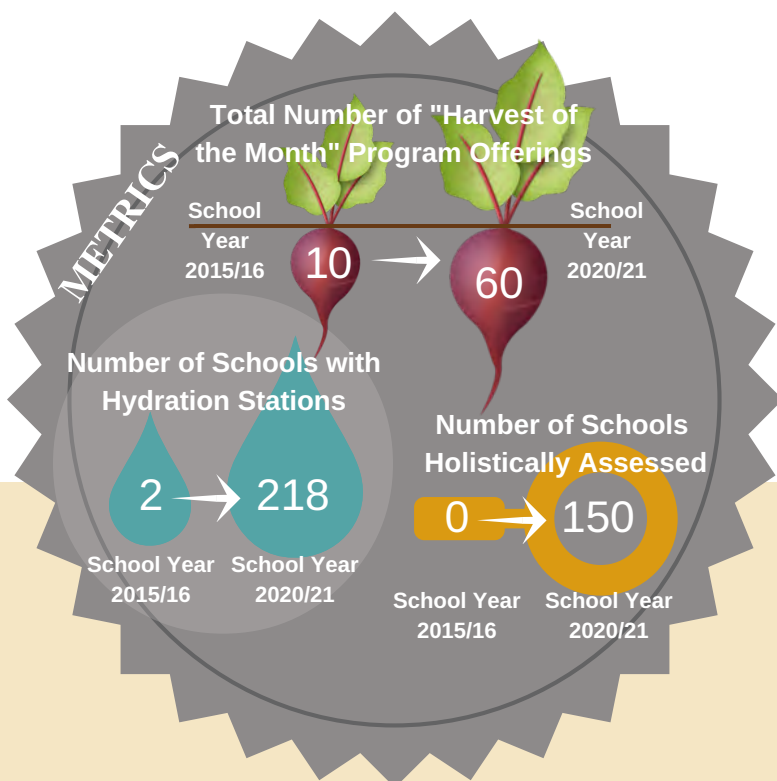


HEALTHY SCHOOLS, HEALTHY LIVING



MISSION

Every student will have access to a well-resourced, safe, healthy, clean and comfortable school that is conducive to learning.



GOAL

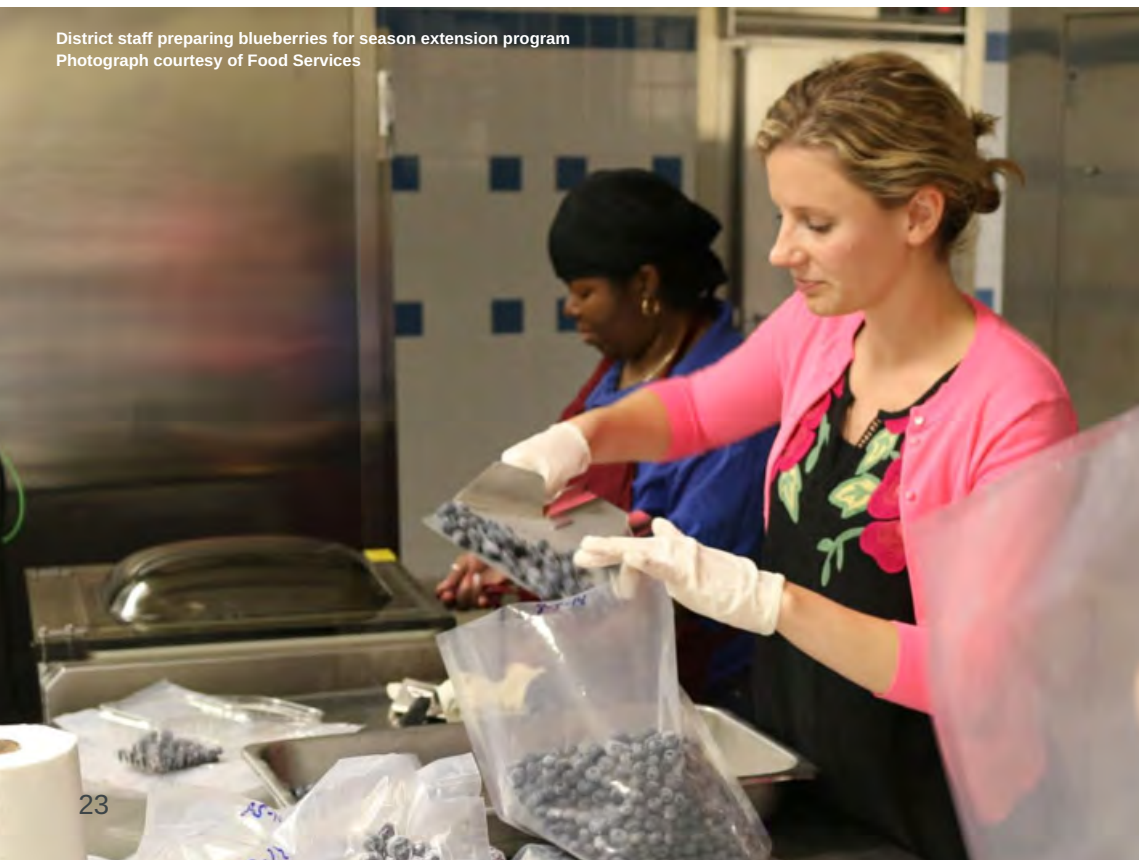
Every school will be healthy.

TARGET

Thirty schools per year will receive a healthy schools baseline report.

On average, students spend over 900 hours per year in school buildings. There are a variety of elements of the school environment that we can measure to determine if a school is healthy. The District is committed to providing students and staff with a well-resourced, safe, healthy, clean, comfortable learning and working environment

District staff preparing blueberries for season extension program
Photograph courtesy of Food Services



“The Farm to School Season Extension Program allows for a taste of summer in the winter.”

**- Amy Virus,
Food Services**



Healthy Schools

Both the facility and the occupants have a role to play when it comes to healthy schools and healthy living. Indoor environmental quality, proper lighting, access to healthy food and hydration stations and facility space management are all contributing factors to a healthy building. Over the next five years through GreenFutures, the District will work jointly with stakeholders and partners to identify exactly what a healthy school means to Philadelphia students.

There are health disparities among children in Philadelphia compared to the rest of the nation. For example, according to Dr. Tyra Bryant-Stephens, a physician at Children's Hospital of Philadelphia, roughly nine percent of children nationwide have asthma. In Philadelphia, one out of four children have been diagnosed with asthma, a rate of twenty-five percent. After we establish a way to measure "healthy school" parameters, we will develop a baseline for every school and measure progress over time so that every school can be measured equitably and every school can become a healthy school.



Indoor Environmental Quality

The District has established an Indoor Environmental Quality program that is based upon the US EPA's Indoor Air Quality Tools for Schools program. This program includes the inspection of every school twice per year to identify environmental health conditions that impact student academic performance and health. The District has also developed an Asthma Program that includes focused inspections of schools to identify asthma triggers, as well as provides training and outreach for teachers and staff.

District LEED Certified Schools

According to the United States' Green Building Council (USGBC), the Leadership in Energy & Environmental Design (LEED) green building certificate is the top program for the design, construction, maintenance and operation of green buildings. The School District of Philadelphia is proud to have a portfolio of eight LEED certified schools.

- John Barry Elementary - Gold (99, 287 sq. ft.)
- Bridesburg Elementary Addition - Gold (71,275 sq. ft.)
- Kensington CAPA - Platinum (89, 915 sq. ft.)
- High School of the Future - Gold (162,211 sq. ft.)
First LEED Platinum Public High School in the US
- Thurgood Marshall - LEED- EB, for Existing Buildings
(114,000 sq. ft.) First LEED-EB public school building in Pennsylvania
- West Philadelphia High School-Gold (170,013 sq. ft.)
- Frances Willard Elementary - Silver (97, 261 sq. ft.)

Thurgood Marshall was presented with the Energy Star Award in December 2011.

Best of Green Schools

In 2011, the School District of Philadelphia received The USGBC's Center for Green School's "Best of Green Schools" award for committing that all new schools certify to LEED Silver and rolling out a plan to address the city's existing schools.

Clean Diesel

Transportation Services is committed to replacing its fleet of old diesel school buses with new technologies that focus on low emissions, improved fuel economy and safety for students and drivers. Fifty clean diesel buses were recently purchased to replace some of the aging fleet. Using clean diesel school buses leads to less harmful emissions that affect human health and the environment in Philadelphia. New safety features include air disc brakes, LED lighting and back-up cameras. An anti-idling program is being developed as part of this sustainability plan.



Green Ribbon School

Greenfield Elementary School was selected as a 2013 U.S. Department of Education Green Ribbon School Award Winner. Only one public school from each state can be awarded the Green Ribbon every year. The award recognizes schools that reduce environmental impacts and costs, improve the health and wellness of students and staff, and provide cross-curricular environmental education by effectively incorporating science, technology, engineering and math, civic skills, and green career pathways. Features at Greenfield include a rain garden, solar panels and a rooftop weather station.

Farm to School

During school year 2015-2016, The District's Farm to School program has expanded from 32 schools to 106 schools through the Harvest of the Month initiative. Students will have access to local produce and special signage, with enhanced marketing materials and farmer information will be available to educate the school community.

Food Services, froze 3,000 servings of blueberries in 2014 that were served in five schools to provide students a "taste of summer" in the winter and provide nutrition education to students about blueberries. Food Services also produced a video that is shown on LED monitors in the schools about the Season Extension work.

Supporting Healthy School Environments: A Three-Year Initiative

EAT.RIGHT.NOW. (ERN) is a large-scale, multi-component outreach program that provides free nutrition education and services to eligible students, families and staff in the District schools. ERN is funded by the

Pennsylvania (PA) Department of Human Services through PA Nutrition Education Tracks (PA TRACKS), a part of USDA's Supplemental Nutrition Assistance Program (SNAP). Because healthy schools are crucial to the success of ERN and the goals of PA TRACKS, in the 2015-2016 school year the ERN program office and the District's Office of Research and Evaluation (ORE) launched the Supporting Healthy School Environments study. The purpose of this three-year initiative is to assess the current state of health practices and policy implementation within selected District schools and to expand programming at multiple levels to support students, families and staff in maintaining healthy school environments.



DISTRICT OFFICES:

Capital Programs - Environmental Management and Services - Facilities and Operations - Food Services - Grants Development - Health, Safety and Physical Education - Research and Evaluation - Strategic Partnerships - Student Health Services - Transportation Services

EXTERNAL ORGANIZATIONS:

American Lung Association - The Bicycle Coalition - Childrens Hospital of Philadelphia - The Food Trust - Healthy Schools Network - PA Department of Health - PA Integrated Pest Management - Philadelphia Department of Public Health - Philadelphia Federation of Teachers Health & Welfare Fund & Union - Philadelphia Water - St. Christopher's Hospital - US Environmental Protection Agency





Focus Area 5: Healthy Schools, Healthy Living - Actions

Capital - Office of Capital Programs; Food Services - Division of Food Services; Facilities - Facilities Management and Operations; HSPE - Health, Safety and Physical Education - OEMS - Office of Environmental Management and Services; Procurement - Procurement Services; Transportation - Transportation Services

	Action	Lead Agency	Partner	Target Completion Date
Healthy School, Healthy Living: Target - Thirty schools per year will receive a healthy schools baseline report over the next five years.				
41	Develop a healthy school building indicators rubric with metrics.	OEMS	Facilities	2016
42	Develop a plan to increase breakfast participation by students.	Food Services	OEMS, Facilities	2016
43	Identify baseline of cafeterias locations and conditions at targeted schools to improve dining experience.	Food Services	OEMS, Facilities	2016
44	Develop a plan to increase drinking water access and appeal for all students at every school.	Facilities	Healthy Schools Healthy Living Committee	2016
45	Partner with Philadelphia Water to communicate information about school drinking water quality and safety through testing and outreach events that increase appeal and promote healthy hydration.	OEMS	Facilities	2016
46	Organize and launch a District-wide classroom de-cluttering campaign.	Facilities	OEMS	2017
47	Initiate school bus anti-idling campaign.	Transportation	OEMS	2017
48	Create transportation services fuel focus program such as route reduction.	Transportation	Procurement School Health Services	2017
49	Launch and evaluate outcomes of asthma management program.	OEMS		2017
50	Identify low cost ways to make cafeteria and physical spaces more appealing to students.	Food Services	OEMS, Facilities	2017
51	Promote Harvest of the Month program to students.	Food Services	OEMS	2017
52	Determine a method for tracking the number of students who currently walk/bike to school and set target for improvement.	Transportation	OEMS, Facilities	2017
53	Develop a means to determine which schools are interested in bike racks.	Facilities	OEMS, Transportation	2017
54	Identify and connect common goals and initiatives for the "Safe Route to School", the Philadelphia Water's "Green Streets" and the District's "GreenFutures" programs.	OEMS	Transportation	2018
55	Analyze walkability audit data currently available and identify funding sources to implement audit recommendations.	OEMS	Transportation	2018
56	Set priorities for improving infrastructure to and from schools to make active transportation more appealing to students.	Facilities	OEMS, Transportation, Capital	2018
57	Create initiative to help children dress appropriately to be seen (e.g., reflectors, coats, cool helmets, etc.) while walking or biking to school.	OEMS	Transportation	2018
58	Develop a plan to assess and increase the number of students who walk/bike to school.	OEMS	Transportation	2018
59	Assess feasibility of acquiring CNG and/or additional clean diesel buses for student transportation.	Transportation	OEMS	2018
60	Develop a plan to help schools purchase and install bottle filling hydration stations.	OEMS	Capital	2018
61	Develop a healthy schools award program based upon report card to incentivize schools.	OEMS	Facilities	2019
62	Develop criteria for and implement a holistic healthy schools action plan and policy.	OEMS	Food Services, Facilities, Capital	2020
63	Assess schools to determine a healthy schools baseline.	OEMS	Facilities	2020
64	Provide every school with their facility's Indoor Environmental Quality report (IEQ Dashboard).	OEMS	Facilities	2020
65	Build the capacity of schools to improve student and family healthy eating and physical activity behaviors.	HSPE	Eat.Right.Now	Ongoing



Student provides feedback on Green Schoolyard plans
Photograph courtesy of The Big Sandbox

GREEN SCHOOLS ALLIANCE DISTRICT COLLABORATIVE

In the spring of 2015, the School District of Philadelphia joined the Green Schools Alliance's District Collaborative as a charter member. The District Collaborative aims to harness the collective power of schools to support greener, more efficient solutions. The Collaborative is comprised of 21 U.S. school districts - 8 of which are among the 12 largest districts in the country. Collectively, these districts affect the lives of 3.6 million children in 5,726 schools with more than 550 million square feet of building area. Districts will create and share best practices, leverage their combined purchasing power to increase access to sustainable alternatives, promote market transformation, and influence policy decisions. The charter members of the District Collaborative include:

- Austin Independent School District, TX
- Boston Public Schools, MA
- Broward County Public Schools, FL
- Chicago Public Schools, IL
- Clark County School District, NV
- Denver Public Schools, CO
- Detroit Public Schools, MI
- District of Columbia Public Schools, DC
- Fairfax County Public Schools, VA
- Fayette County Public Schools, KY
- Houston Independent School District, TX
- Kansas City Public Schools, MO
- Lincoln Public Schools, NE
- New York City Department of Education, NY
- Oakland Unified School District, CA
- Orange County Public Schools, FL
- The School District of Palm Beach County, FL
- The School District of Philadelphia, PA
- San Diego Unified School District, CA
- San Francisco Unified School District, CA
- Virginia Beach City Public Schools, VA

The District has committed to taking action to reduce climate and ecological impact, educate and engage the community, and connect students to nature. Being a GSA member offers the District a platform for schools to share their best practices in facilities and operations, education, and administration and to affect national standards and industries.

SCHOOL-BASED INITIATIVES – PENN ALEXANDER

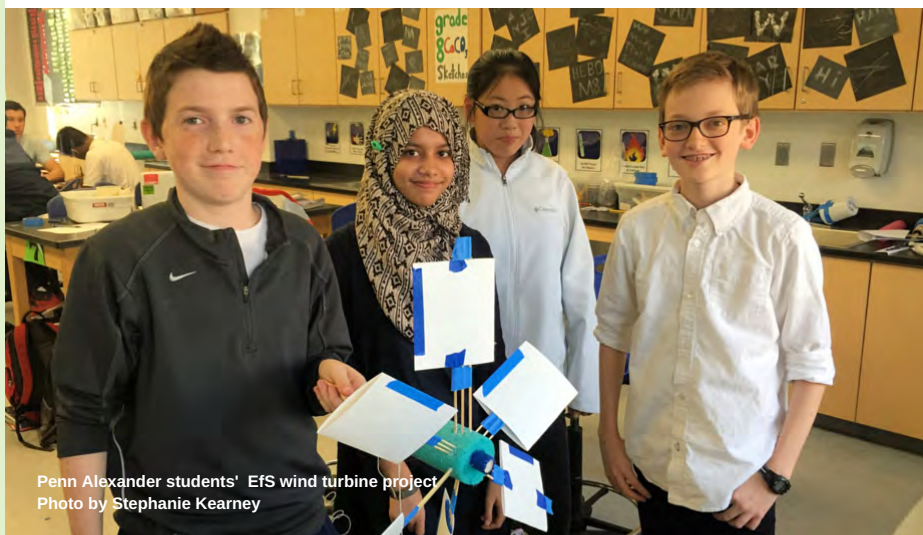
At Penn-Alexander, teacher Stephanie Kearney infuses environmental responsibility and sustainable practices into all of her lesson plans. When a deeper message is streamed through the core-curriculum, whether it is reading, writing, math, science or social studies, students are able to demonstrate their knowledge and understanding of the course content through the application of real world situations.

“Whenever possible, I teach the curriculum through projects that promote environmental responsibility and sustainable practices.”

- Stephanie Kearney, Teacher, Penn Alexander

Through the National Wildlife Federation's Eco-campus partnership, Ms. Kearney's classes are collaborating with a school in Taiwan that is completing a similar project. Students share their experiences through an online forum. In Physical Science, students investigate wind turbines as alternative energy. Student groups are given a Science, Technology, Engineering and Math (STEM) challenge to design and build fully functioning windmills.

Penn Alexander students and University of Pennsylvania student volunteers, from the Penn Eco-Reps program, performed a waste audit and designed and implemented a successful recycling program at Penn-Alexander. Several months later, a second waste audit showed that cafeteria waste was reduced by 38%. One of the greatest results of this project was the attitude students showed towards recycling. Recycling has become a part of the school's culture, and students are really excited about the positive impact it has on the environment. Ms. Kearney's teaching philosophy is that, by raising students' awareness of important environmental issues and how we can help solve them, students are compelled to live greener lives and encourage others to do the same. She hopes that her students will go on to help solve some of our planet's most urgent problems.



Penn Alexander students' Efs wind turbine project
Photo by Stephanie Kearney

SCHOOL-BASED INITIATIVES – SAYRE HIGH SCHOOL

Education for Sustainability (EfS) means including the principles of sustainability and key issues into teaching and learning. Teacher Bertram Johnson has incorporated the EfS model framework into the the Sayre High School "Maker's" and "Aquaponics" programs. In addition to preparing students for future career opportunities, these programs develop systems-thinking and apply classroom knowledge to real world scenarios.

Maker's Program

The "Maker's Program" is an all female program that was created to address the need for women in science, technology, engineering, and math. Students learn the basic concepts of electricity, electronics, soldering, and fabrication of circuits, while they manipulate programs called "sketches" to achieve the desired results on the very circuits they build. The integration of the two concepts provides the students with the critical thinking skills needed for real world application.



Sayre High School Student working on Maker's Program project
Photo by Bertram Johnson

“The students started coming up with modifications and other uses on their own. That is the difference between teaching and educating. That day the LED was not the only light that came on! ”

- Bertram Johnson, Teacher, Sayre High School



Sayre High School Aquaponics Program
Photo by Bertram Johnson

Aquaponics Program

Students learn the basics of aquaculture, and hydroponic horticulture through the aquaponics program with the support of Dr. Steven Hughes and Cheney University. This hands-on learning experience provides students with the opportunity to learn about the nitrogen cycle and the balance that is needed to make it all work together. Under the right conditions, the fish feed the plants and the plants filter the water and the students get to taste the tomatoes that grew as a result.



W.B. Saul High School of Agricultural Services 2016 entry at the Philadelphia Flower Show: Valley Green Inn
Photograph by Bradley Maule



TARGETS AND INITIATIVES

5-Focus Areas – 5-years – 65 Actions

Sixty-five actions or initiatives will be taken to achieve specific goals and targets for each focus area of the plan. An annual report will be published to share successes. Below is the complete list of actions and their focus areas. Lead agencies from the District will sponsor each action with the support of partners.

Guiding Principles

1 - Education; 2 - Efficiencies; 3 - Engagement; 4 - Environment; 5 - Equity

Curriculum - Office of Curriculum, Instruction and Assessment; Capital - Office of Capital Programs; Food Services - Division of Food Services; Facilities - Facilities Management and Operations; Grants Development - Office of Grants Development; HSPE - Office of Health, Safety and Physical Education; OEMS - Office of Environmental Management and Services; Procurement - Procurement Services; Transportation - Transportation Services

	Action	Guiding Principle	Lead Agency	Partner	Target Completion Date
Education for Sustainability: Target - 100% of schools and administrative offices will show evidence of EfS within 5 Years.					
1	Design, distribute and review a baseline EfS survey.	1,2	Curriculum	EfS Committee	2016
2	Develop rubric outlining metrics for evidence of EfS.	1	Curriculum	EfS Committee	2017
3	Communicate and support the District's engagement with EfS in all offices and departments.	1,2,3	OEMS	EfS Committee	2018
4	Create and facilitate professional learning communities and green teams.	1,2	OEMS	EfS Committee	2019
5	Identify an EfS point of contact for every school.	1,2,3	OEMS	Curriculum	2020
6	Embed EfS standards for lessons, projects and/or units across grades and subjects.	1,3	Curriculum	EfS Committee	2020
7	Design and facilitate periodic professional development opportunities for teachers, as well as administrative and operations personnel.	1,3	OEMS	EfS Committee	Ongoing
8	Identify partnerships, funding and/or research opportunities to support the integration of EfS and performance measurement outcomes.	1,2	OEMS	EfS Committee	Ongoing
Consumption and Waste: Target - The District will increase its waste diversion from landfills by 10% over 5 years.					
9	Provide recycling program contact information and hierarchy of responsibilities.	2	OEMS	Facilities	2016
10	Provide exterior trash and recycling dumpster services and pick-up schedule to every school.	3, 4, 5	Facilities	OEMS	2017
11	Provide interior recycling and trash bins to every school.	3	Procurement	Facilities, OEMS	2017
12	Identify sustainability/recycling coordinators for every school.	3	OEMS	Facilities	2017
13	Communicate support for recycling program through reoccurring outreach from District leadership.	2	OEMS	Facilities	2017
14	Provide student green team incentives.	2	OEMS	Facilities, Procurement	2017
15	Reduce use of polystyrene trays and plates.	2	Food Services	Procurement	2018
16	Calculate rate of waste diversion (%) from landfill.	4, 5	Facilities	OEMS	2020
17	Report each facility's recycling program compliance.	1, 2	OEMS	Facilities	2020
18	Measure environmental footprint impact from waste reduction.	2, 4, 5	OEMS	Facilities	2020
19	Initiate an organics collection/composting pilot program.	4, 5	Facilities	Food Services, OEMS, Procurement	2020
20	Identify Sustainability Coordinator Incentives.	2	OEMS	Facilities, Procurement	Ongoing
21	Provide training for facilities staff, students and teachers.	3	OEMS	Capital, Facilities	Ongoing
22	Conduct comprehensive and periodic waste stream auditing.	4, 5	Facilities	OEMS	Ongoing

Action		Guiding Principle	Lead Agency	Partner	Target Completion Date
Energy and Efficiencies: Target - The District will decrease its energy consumption by 20% over five years.					
23	Track changes in energy use at every school and collectively as a District.	3,4,5	Facilities	Procurement, OEMS	2016
24	Provide energy education programs to help schools understand and intervene to reduce utility use.	1,2,3,4,5	Curriculum	OEMS, Energy & Efficiencies Committee	2016
25	Provide energy data for every school through a web-based system.	1,2,3,	Facilities	Procurement, OEMS	2017
26	Provided an energy plan template and support development of energy management tools for every school.	1,2,3,4,5	OEMS	Energy & Efficiencies Committee	2017
27	Implement capital efficiency and energy savings projects.	4,5	Capital	Facilities, OEMS	2020
28	Develop a building system re-commissioning and educational training program for LEED certified facilities.	4,5	Facilities	Capital	2020
29	Measure, report, set target and reduce greenhouse gas emissions.	2,4,5	Facilities	OEMS, Energy & Efficiencies Committee	2020
30	Identify resources needed to reduce energy consumption.	5	Facilities	OEMS, Energy & Efficiencies Committee	2020
31	Identify indicators to connect energy reduction initiatives with student health and academic success metrics.	3,4	OEMS	Energy & Efficiencies Committee	2020
32	Identify funding and/or performance measurement outcomes research opportunities.	3,4,5	OEMS	Energy & Efficiencies Committee	2020
33	Conduct energy audits by students and staff.	1,2,5	OEMS	Energy & Efficiencies Committee	Ongoing
School Greenscapes: Target - An average of five schools will receive green schoolyard improvements per year over five years.					
34	Construct new green schoolyards.	1,2,4,5	Capital	Facilities	2016
35	Catalog all of the current District greenscapes.	2	Capital	School Greenscapes Committee	2016
36	Establish a school greenscape registry system for new projects.	2,3	OEMS	School Greenscapes Committee	2017
37	Develop a school greenscapes resource tool for teachers, parents and community members to learn how to apply for school greenscapes and green schoolyard funding.	1,2,3	Grants Development	School Greenscapes Committee	2018
38	Create an awareness campaign so schools understand the benefits of school greenscapes and related curriculum.	1,2,3	OEMS	School Greenscapes Committee	2019
39	Develop the green schoolyard milestone review process.	2,5	Capital	OEMS	2020
40	Develop sustainable operations and maintenance program for existing and new green schoolyards.	4,5	Capital	School Greenscapes Committee	2020

	Action	Guiding Principle	Lead Agency	Partner	Target Completion Date
Healthy School, Healthy Living: Target - Thirty schools per year will receive a healthy schools baseline report over the next five years.					
41	Develop a healthy school building indicators rubric with metrics.	2, 3	OEMS	Facilities	2016
42	Develop a plan to increase breakfast participation by students.	3	Food Services	OEMS, Facilities	2016
43	Identify baseline of cafeterias locations and conditions at targeted schools to improve dining experience.	2,3	Food Services	OEMS, Facilities	2016
44	Develop a plan to increase drinking water access and appeal for all students at every school.	3	Facilities	Healthy Schools Healthy Living Committee	2016
45	Partner with Philadelphia Water to communicate information about school drinking water quality and safety through testing and outreach events that increase appeal and promote healthy hydration.	1,2,3	OEMS	Facilities	2016
46	Organize and launch a District-wide classroom de-cluttering campaign.	2, 3	Facilities	OEMS	2017
47	Initiate school bus anti-idling campaign.	4,5	Transportation	OEMS	2017
48	Create transportation services fuel focus program such as route reduction.	4,5	Transportation	Procurement	2017
49	Launch and evaluate outcomes of asthma management program.	3	OEMS	School Health Services	2017
50	Identify low cost ways to make cafeteria and physical spaces more appealing to students.	3	Food Services	OEMS, Facilities	2017
51	Promote Harvest of the Month program to students.	1,4,5	Food Services	OEMS	2017
52	Determine a method for tracking the number of students who currently walk/bike to school and set target for improvement.	1, 2, 3	Transportation	OEMS, Facilities	2017
53	Develop a means to determine which schools are interested in bike racks.	3	Facilities	OEMS, Transportation	2017
54	Identify and connect common goals and initiatives for the "Safe Route to School", the Philadelphia Water's "Green Streets" and the District's "GreenFutures" programs.	3	OEMS	Transportation	2018
55	Analyze walkability audit data currently available and identify funding sources to implement audit recommendations.	3	OEMS	Transportation	2018
56	Set priorities for improving infrastructure to and from schools to make active transportation more appealing to students.	2,3	Facilities	OEMS, Transportation, Capital	2018
57	Create initiative to help children dress appropriately to be seen (e.g., reflectors, coats, cool helmets, etc.) while walking or biking to school.	1,2,3	OEMS	Transportation	2018
58	Develop a plan to assess and increase the number of students who walk/bike to school.	1, 3, 4	OEMS	Transportation	2018
59	Assess feasibility of acquiring CNG and/or additional clean diesel buses for student transportation.	2,3	Transportation	OEMS	2018
60	Develop a plan to help schools purchase and install bottle filling hydration stations.	2,3,3	OEMS	Capital	2018
61	Develop a healthy schools award program based upon report card to incentivize schools.	2, 3	OEMS	Facilities	2019
62	Develop criteria for and implement a holistic healthy schools action plan and policy.	3	OEMS	Food Services, Facilities, Capital	2020
63	Assess schools to determine a healthy schools baseline.	3	OEMS	Facilities	2020
64	Provide every school with their facility's Indoor Environmental Quality report (IEQ Dashboard).	1, 2, 3	OEMS	Facilities	2020
65	Build the capacity of schools to improve student and family healthy eating and physical activity behaviors.	1, 3, 5	HSPE	Eat.Right.Now	Ongoing

A CALL TO ACTION

The District is calling on corporations, community organizations, colleges and universities, and concerned community members to support the Actions listed in GreenFutures. Through partnerships, donated funds and collaborative thinking, GreenFutures' Targets can be realized. The plan lists clear metrics for each focus area, so that performance outcomes are measurable and reportable. Through annual reports, progress outcomes will be shared with the public.

The Fund for the School District of Philadelphia

The Fund for the School District of Philadelphia is an independent 501(c)3 nonprofit organization that serves as a fiscal intermediary between the private sector and the Philadelphia public education system. This is the only philanthropic organization that works directly with school leaders to align the investments of partners, private foundations, corporations and businesses, community organizations and individual donors, with the strategies that will impact the success of students attending our neighborhood public schools. For more information visit www.thefundsdp.org.

Office of Strategic Partnerships

The Office of Strategic Partnerships (OSP) assists the District in developing a system of excellent schools by ensuring that all schools are porous. OSP serves the District by identifying, coordinating, and matching partner and volunteer resources and aligning them with the goals and priorities of Action Plan 3.0. to maximize student outcomes.

OSP works to cultivate sustainable partnerships at the system and school levels to create a permanent service delivery system that connects corporate and community resources with schools to meet student needs with fidelity and equity. Throughout, OSP seeks to provide the best possible customer service to our partners and schools throughout the City. For more information visit www.philaosp.weebly.com.

Office of Grants Development

The Office of Grant Development (OGD) supports schools and administrative offices in securing available resources for enriching educational opportunities for students in line with the District's guiding document, Action Plan v3.0. OGD assists in communication and collaboration linkages; grant writing and technical assistance workshops; and during the school year, issues a well-researched, monthly grant opportunities newsletter for school staff. Look out for OGD's forthcoming

Join the Effort!

- Donate to design and install an outdoor recreational play area or playground
- Contact the Office of Environmental Management and Services to sponsor the design and installation of solar energy equipment at a school
- Contact the Office of Strategic Partnerships to organize a volunteer day to paint games and activities on the ground of the school yard
- Provide a school with a start up kit for a rain garden, butterfly garden or outdoor classroom, including plants and installation supplies & equipment
- Purchase and install a water bottle filling station in a school, by contacting the Office of Environmental Management and Services
- Sponsor a package of Education for Sustainability (EfS) programs such as professional development for teachers, or student fieldtrips
- Team up with volunteers on a school cleaning project, to declutter, dust bookshelves, remove allergens and create a positive learning environment
- Volunteer on a "Career Day" to talk with students about careers in sustainability
- Provide students with equipment for active transportation to school: bicycles, bike racks, helmets & safety gear

To bring one of these projects to a local school, or to discuss additional ideas, please contact us at greenfutures@philasd.org.

how-to guide for writing grants and fundraising, with special sections on greening schools and working with the District on collaborative projects. For more information visit www.sdpgrants.weebly.com.

REFERENCES

1. Blair, D. (2009). The child in the garden: an evaluative review of the benefits of school gardening. *Journal of Environmental Education*.
2. "Denver Public Schools Sustainability Management Plan." Prepared for Denver Public Schools by the Brendle Group. 2012. See more at: <http://static.dpsk12.org/gems/sustainability/DPSS MPLongVersionFINAL.pdf>
3. "Greening America's Schools: Costs and Benefits." Written by Greg Kats. 2006. See more at: <http://www.usgbc.org/Docs/Archive/General/Docs2908.pdf>
4. "Greening Boston Public Schools." 2013. Boston Public Schools. See more at: http://bostongreenschools.org/wp-content/uploads/2013/06/Greening_BPS_2013_Report.pdf
5. "Greenworks Philadelphia" 2009. City of Philadelphia Mayor's Office of Sustainability. See more at: http://www.phila.gov/green/greenworks/pdf/Greenworks_OnlinePDF_FINAL.pdf
6. "Harvard University Sustainability Plan" 2015. See more at: <http://green.harvard.edu/commitment/our-plan>
7. "Linking Performance & Experience: An Analysis of Green Schools." A study by DLR Group and Colorado State University April 2013. See more at: http://www.dlrgroup.com/media/424339/Linking_Performance_Experience_CSU-Research.pdf
8. "National Wildlife Federation - Eco-Schools USA". See more at: <http://www.nwf.org/Eco-Schools-USA.aspx>
9. "New York City 2013-2014 Annual Sustainability Report." New York City Department of Education. See more at: <http://schools.nyc.gov/NR/rdonlyres/373D028D-2D7C-4578-8A3A-07065E85E822/0/20132014NYCDOEAnnualSustainabilityReportweb.pdf>
10. "Foundation for Environmental Education" - <http://www.fee.global/>
11. "The Whole-School Sustainability Framework." April 2, 2014. Written by Anisa Baldwin Metzger. Posted in Center for Green Schools. See more at: <http://www.usgbc.org/articles/whole-school-sustainability-framework>
12. U.S. Department of Education. Green Ribbon Schools. See more at: <http://www2.ed.gov/programs/green-ribbon-schools/index.html>
13. U.S. Green Building Council. (n.d.) "What makes a school green?" From the Center for Green Schools K-12 Education. See more at: <http://www.centerforgreenschools.org/green-school-interactive.aspx>
14. U.S. Environmental Protection Agency. (2012). Voluntary Guidelines for States: Development and Implementation of a School Environmental Health Program. Office of Children's Health Protection (1107A). EPA-100-F-12-002. October 2012.
15. U.S. Environmental Protection Agency. (2003). IAQ tools for schools program: Benefits of improving air quality in the school environment. Washington, DC: U.S. Environmental Protection Agency, Office of Air and Radiation, Indoor Environments Division. EPA 402-K-02-005. October 2003. <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=60000GY6.txt>
16. U.S. Environmental Protection Agency. (2011). School Siting Guidelines. Office of Children's Health Protection. Washington, DC 20460. EPA-100-K-11-004. October 2011.

ACKNOWLEDGEMENTS

The School District of Philadelphia would like to acknowledge the hard work and dedication of those who helped to develop GreenFutures. All of the partners and stakeholders who developed this plan did so with no financial compensation from the District. Without the tireless work of genuinely concerned and motivated friends, GreenFutures would not exist.

SPECIAL THANKS TO:

DISTRICT STAFF

- GALEET COHEN, TEACHER, CENTRAL HIGH SCHOOL
- PAULA DON, EDUCATIONAL TECHNOLOGY
- VICKI ELLIS, STRATEGIC PARTNERSHIPS
- DANIELLE FLOYD, CAPITAL PROGRAMS
- WAYNE GRASELA, DIVISION OF FOOD SERVICES
- CRAIG HARNITCHEK, CAPITAL PROGRAMS
- TIM HOLMAN, FACILITIES AND OPERATIONS
- BOB HUNTER, FACILITIES AND OPERATIONS
- PETER JEPSEN, CURRICULUM, INSTRUCTION AND ASSESSMENT
- BERTRAM JOHNSON, TEACHER, SAYRE HIGH SCHOOL
- JERRY JUNOD, ENVIRONMENTAL MANAGEMENT AND SERVICES
- STEPHANIE KEARNEY, TEACHER, PENN ALEXANDER
- DAVID KIPPHUT, CAREER AND TECHNOLOGY EDUCATION
- KAREN KOLSKY, CHIEF EXECUTIVE OFFICE
- LUBOMYR KONRAD, CURRICULUM, INSTRUCTION AND ASSESSMENT
- LAURA LAU, GRANTS DEVELOPMENT
- MARVIN LEE, PROCUREMENT AND TRANSPORTATION
- KRISTINE LEN, CURRICULUM, INSTRUCTION AND ASSESSMENT
- KARYN LYNCH, STUDENT SUPPORT SERVICES
- MATT MELADY, FACILITIES AND OPERATIONS
- TAHISE MOORE, FACILITIES AND OPERATIONS
- MICA NAVARRO LOPEZ, STRATEGIC PARTNERSHIPS
- LISA NORTON, DIVISION OF FOOD SERVICES
- DIANE POWERS, TEACHER, COOK-WISSAHICKON
- JOSE RAMOS, TEACHER, COOK-WISSAHICKON
- TOM SCHWEIKER, CAPITAL PROGRAMS
- CHRIS SHAFFER, CURRICULUM, INSTRUCTION AND ASSESSMENT
- NAJWA SMITH, CAREER AND TECHNOLOGY EDUCATION
- SHANNON SMITH, STUDENT HEALTH SERVICES
- DEVON SUNDBERG, DIVISION OF FOOD SERVICES
- AMY VIRUS, DIVISION OF FOOD SERVICES
- TRACEY WILLIAMS, STUDENT HEALTH SERVICES

Additional thanks to:

- CARVER HIGH SCHOOL OF ENGINEERING AND SCIENCE
- HEALTHY SCHOOLS NETWORK
- KEATING ENVIRONMENTAL MANAGEMENT
- KENSINGTON CREATIVE AND PERFORMING ARTS
- NATIONAL NURSING CENTERS CONSORTIUM PENNFUTURE
- SCHUYLKILL CENTER FOR ENVIRONMENTAL EDUCATION
- SAINT CHRISTOPHER'S HOSPITAL
- THE BIG SAND BOX
- THE CLOUD INSTITUTE
- UPPER MERION SCHOOL DISTRICT
- US DEPARTMENT OF ENERGY

COMMUNITY PARTNERS

- ANISA BALDWIN METZGER, U.S. GREEN BUILDING COUNCIL
- CLAIRE BARNETT, HEALTHY SCHOOLS NETWORK
- HELAINE BARR, PHILADELPHIA WATER
- DEBORAH BENTZEL, THE FOOD TRUST
- LORI BRAUNSTEIN, FORMERLY OF PA GREEN AND HEALTHY SCHOOLS
- PHIL BRESEE, FORMERLY OF THE CITY OF PHILADELPHIA RECYCLING OFFICE
- WADE BROSIUS, GARNET VALLEY SCHOOL DISTRICT - PA
- EMILY BRYANT, THE PHILADELPHIA ZOO
- VIRGINIA CAIN, FORMERLY OF RECYCLEBANK
- MARCY COFFEY, WFGD STUDIO
- DANIELLE DENK, TRUST FOR PUBLIC LAND
- ALEX DEWS, DELAWARE VALLEY GREEN BUILDING COUNCIL
- MARDI DITZE, CITY OF PHILADELPHIA OFFICE OF ENERGY
- VICTOR DONNAY, BRYN MAWR COLLEGE
- RALUCA ELLIS, THE FRANKLIN INSTITUTE
- MICHELLE FELDMAN, KEEP PHILADELPHIA BEAUTIFUL
- RICH FREEH, PHILADELPHIA OFFICE OF SUSTAINABILITY
- KATHERINE GAJEWSKI, FORMERLY OF THE PHILADELPHIA MAYOR'S OFFICE OF SUSTAINABILITY
- MIKE GIURANNA, U.S. ENVIRONMENTAL PROTECTION AGENCY
- SHANA JARVIS, THE FOOD TRUST
- SHARON JAYE, GREEN SCHOOLS ALLIANCE
- HUGH JOHNSON, DREXEL UNIVERSITY
- JOHN KEITH, THE AMERICAN LUNG ASSOCIATION
- CHRISTINE KNAPP, PHILADELPHIA OFFICE OF SUSTAINABILITY
- DION LERMAN, PA INTEGRATED PEST MANAGEMENT
- KIM MARTINEZ, ECO-SCHOOLS USA
- SALLY MCCABE, PA HORTICULTURAL SOCIETY
- DR. KATERA MOORE, URBAN NUTRITION INITIATIVE
- WAFFIYYAH MURRAY, BICYCLE COALITION OF GREATER PHILADELPHIA
- MICHELLE NIEDERMEIER, PA INTEGRATED PEST MANAGEMENT
- NICK OSPA, YOUTH UNITED FOR CHANGE
- RAPHEAL RANDAL, YOUTH UNITED FOR CHANGE
- MICA ROOT, PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH
- JERRY ROSEMAN, PHILADELPHIA FEDERATION OF TEACHERS HEALTH & WELFARE FUND & UNION
- LORNA ROSENBERG, U.S. ENVIRONMENTAL PROTECTION AGENCY
- ALLISON SANDS, RECYCLEBANK
- TOM SCHNEIDER, NORTH PENN SCHOOL DISTRICT - PA
- JULIANNE SCHRADER ORTEGA, PA HORTICULTURAL SOCIETY
- ELLEN SCHULTZ, FAIRMOUNT WATER WORKS
- GAMAL SHARIF, PROGRESS ED
- BOB SHOCK, FORMERLY OF NORTH PENN SCHOOL DISTRICT - PA
- LISA SHULOCK, PENN STATE UNIVERSITY & CBEI
- DR. TYRA BRYANT STEPHENS, CHILDRENS HOSPITAL OF PHILADELPHIA
- KRISTEN WALDRON, THE PHILADELPHIA ZOO
- DWAYNE WHARTON, THE FOOD TRUST
- GREG WRIGHT, THE FOOD TRUST
- JENNY YIP, WFGD STUDIO

“We want children and teachers
to look forward to working and
learning in our buildings,
eating in our cafeterias and
traveling safely to and from school
in our buses. When we do this
sustainably, everyone benefits.”

- Frances Burns, Chief Operating Officer

