



GREENWORKS

A VISION FOR A SUSTAINABLE PHILADELPHIA

CITY OF PHILADELPHIA
OFFICE OF SUSTAINABILITY

MAYOR JIM KENNEY



Sustainability is a key part of ensuring that every resident is healthy, lives in a quality neighborhood, and has the opportunity to prosper.

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[ON THE COVER] Photo by M. Edlow for VISIT PHILADELPHIA®

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Dear Friends,

The goal of our administration is to guarantee that every Philadelphian—no matter where they live—is able to thrive and succeed. Sustainability is a key part of ensuring that every resident is healthy, lives in a quality neighborhood, and has the opportunity to prosper.

Building on the achievements made by Greenworks over the last eight years, this document sets a long-term vision for a sustainable Philadelphia across eight focus areas. This vision won't be achieved tomorrow, or even in another eight years, but the work we begin together today will set us on the right path.

That work starts with an acknowledgment that not every neighborhood in Philadelphia enjoys the benefits of sustainability, such as well-maintained parks and sidewalks, tree canopy, access to food, or litter-free streets. We must do better, and Greenworks will prioritize work in neighborhoods where that work will be most meaningful.

Our vision also acknowledges and addresses the local impacts of the biggest environmental challenge of our generation: climate change. In our city, climate change will make our summers hotter and our winters wetter, and sea level rise may put our waterfronts and low-lying neighborhoods at risk. By cutting energy waste and investing in renewable energy, we can do our part to reduce these harms. Planning for the changes we know are coming must be a priority for Philadelphia's government, businesses and institutions, and residents.

Achieving the Greenworks vision will be hard work, and cannot be accomplished by local government alone. Individuals, neighborhoods, and institutions like businesses, schools and churches, are all part of the solution. For each of the Greenworks visions, we've identified opportunities for you to pitch in, and we're excited to deepen our partnerships within the community in the years ahead.

Over the last year, we've asked for your help in building this new vision for a sustainable Philadelphia. We heard from you at community meetings, through online surveys and social media, and in face-to-face interactions citywide. We're proud of the new Greenworks and our commitment to making sustainability a value for Philadelphians in every zip code. We couldn't have gotten this far without your support.

We look forward to working with you,



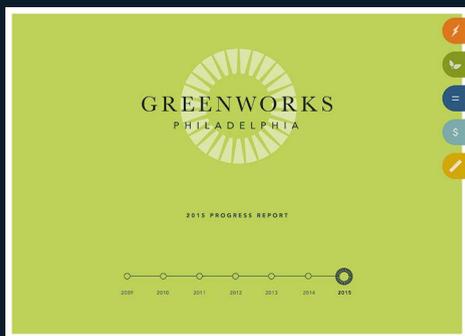
Jim Kenney
MAYOR



Christine Knapp
DIRECTOR OF SUSTAINABILITY



Where We're Coming From



The **OFFICE OF SUSTAINABILITY (OOS)** is responsible for setting a comprehensive vision for a sustainable Philadelphia. Since 2009 Greenworks Philadelphia has guided efforts by local government and partners throughout our community to develop plans, carry out programs, and work together to make Philadelphia a more sustainable city. *Greenworks: A Vision for A Sustainable Philadelphia* builds on this work while also beginning a new phase of sustainability in our city.

Where We're Going

OOS and City partners are committed to developing strategies to achieve each of the visions in this report.

2016

RELEASE OF GREENWORKS 2016 PLAN

REBUILDING COMMUNITY INFRASTRUCTURE

Investment in improving libraries, recreation centers, and other neighborhood assets throughout Philadelphia

2017

LITTER PLAN

Comprehensive strategy to reduce litter citywide

ENERGY MASTER PLAN

Analysis of municipal government energy management and citywide energy policies toward reducing carbon emissions 80 percent by 2050

SHARED FOOD METRICS

Establish a set of goals to assess progress of food system work in Philadelphia

GREENWORKS EQUITY INDEX

Data-driven interventions to help communities

2018

TRANSPORTATION MASTER PLAN

Citywide effort centered on transportation's impacts on racial equity, climate and resilience, and community health

2019+

LOOKING FORWARD

OOS and city partners will continue to identify opportunities and develop strategies to meet the Greenworks visions

A Guide to the New Greenworks

To develop *Greenworks: A Vision for a Sustainable Philadelphia*, the Office of Sustainability (OOS) spent the past year asking residents, community groups, issue experts, and implementation partners what worked about the original Greenworks and what would benefit from a new approach.

We heard from you that Greenworks goal setting and data tracking helped make the case for sustainability across city government and drive change in our communities. OOS will continue to set ambitious sustainability goals and share progress regularly online and in annual reports.

Philadelphians also asked us to make the plan more approachable, meet the needs of multiple audiences, and include visions and implementation plans that ensure sustainability for all. To do this OOS has simplified focus areas, identified how you can help, and created new tools to share information. Each of the new components of Greenworks is described below.

GREENWORKS: A VISION FOR A SUSTAINABLE PHILADELPHIA

A new sustainability framework for Philadelphia built around eight visions for a more equitable and efficient city

Each vision includes:

01.

BENEFITS

How each vision helps Philadelphia become a more sustainable city across four areas: equity, health, environment, and economy.

02.

MEASURING PROGRESS

How we know if Philadelphia is on track to achieve each vision.

03.

BEYOND PHILADELPHIA

How regional, state, and national factors influence our city.

04.

WHAT THE CITY IS DOING

How the City of Philadelphia will make progress toward each vision in the next year.

05.

WHAT YOU CAN DO

How individuals, community groups, and institutions can help achieve each vision.



◀ THESE ICONS REPRESENT THE EIGHT VISIONS OF GREENWORKS.

GREENWORKS DASHBOARD

An online platform to provide up-to-date sustainability data at www.phila.gov/green

GREENWORKS EQUITY INDEX

A data-driven approach to identify communities not currently benefitting from sustainability and improve outcomes in those areas

GREENWORKS ON THE GROUND

Guides to help residents, communities, and institutions work toward each of the Greenworks visions

Greenworks Visions At a Glance

Greenworks aims to make Philadelphia a sustainable city for all by reaching ambitious visions on the topics of food and water, air, energy, climate, natural resources, transportation, waste, and civic engagement. While we've organized the visions into eight categories, we recognize all of them complement each other.

Each Greenworks vision will help create a city where all Philadelphians enjoy benefits from sustainability, including improved public health, a clean environment, and opportunities to learn, work, and prosper.

BENEFITS OF A SUSTAINABLE PHILADELPHIA

= EQUITY

A sustainable Philadelphia will improve quality of life for all Philadelphians, and through the Greenworks Equity Index the city will develop programs to support communities that are not currently enjoying the benefits of sustainability.

+ HEALTH

A sustainable Philadelphia will benefit the health of all Philadelphians by making good food and water accessible, improving air quality, and increasing active commuting.

▲ ENVIRONMENTAL

A sustainable Philadelphia will preserve and improve Philadelphia's natural spaces while working to limit carbon pollution, which causes climate change.

\$ ECONOMIC

A sustainable Philadelphia will spur business and job growth, positioning the city to lead in the clean economy of the 21st century.

VISION 1	All Philadelphians have access to healthy, affordable, and sustainable food and drinking water
	

Food and water are basic human needs.

▼
In 2014 22% of Philadelphians were food insecure.

VISION 2	All Philadelphians breathe healthy air inside and outside
	

Clean air is fundamental to the health of our residents and city.

▼
In 2015 Philadelphia had 16 unhealthy Air Quality Index (AQI) days.

VISION 3	
	All Philadelphians efficiently use clean energy that they can afford

Using cleaner energy more efficiently will save money and reduce carbon pollution, which causes climate change.

▼
In 2014 Philadelphia buildings emitted 9.8 million metric tons of carbon pollution.

VISION 4	
	All Philadelphians are prepared for climate change and reduce carbon pollution

The usual weather conditions in Philadelphia are getting warmer, wetter, and more extreme, and climate science tells us these trends will continue.

▼
In 2014 53,138 sensitive Philadelphians lived in hotter than average neighborhoods.

VISION 5	
	All Philadelphians benefit from parks, trees, storm-water management, and healthy waterways

Green, natural spaces improve our mental and physical health, keep our air and water clean, and contribute to safer and stronger communities.

▼
As of June 2016, Philadelphians had installed green stormwater infrastructure that catches rain falling on 838 acres.

VISION 6	
	All Philadelphians have access to safe, affordable, and low-carbon transportation

Whether you get around on foot, by car, bike, or public transit, our robust transportation network is critical for Philadelphia's residents and businesses.

▼
In 2014 37% of Philadelphians chose a low-carbon commute.

VISION 7	
	All Philadelphians waste less and keep our neighborhoods clean

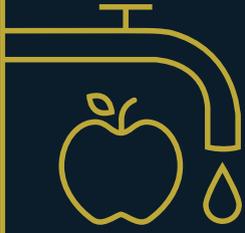
To eliminate all waste in Philadelphia we must significantly reduce the amount of trash we create and increase the amount we reuse and recycle.

▼
Philadelphians generated 2.5 million tons of waste in 2014.

VISION 8	
	All Philadelphians benefit from sustainability education, employment, and business opportunities

Creating a sustainable Philadelphia for all depends on our ability to educate and engage both current leaders and the next generation of sustainability stewards.

▼
Residents from 92% of Philadelphia's zip codes participated in updating Greenworks.



ACCESSIBLE FOOD AND DRINKING WATER

All Philadelphians have access to healthy, affordable, and sustainable food and drinking water



FOOD AND WATER ARE BASIC HUMAN NEEDS. They power our bodies and help us grow and thrive. Yet in Philadelphia one in four residents doesn't know where their next meal will come from. Greenworks envisions a city where all Philadelphians have access to clean drinking water and healthy, sustainable food produced by fair labor.

A sustainable food system creates many benefits for Philadelphia residents and businesses. Decreasing waste by connecting excess food to emergency meal providers helps feed hungry Philadelphians and reduces carbon pollution from landfills. Purchasing local food supports local businesses and employs local workers. And growing food in the city provides residents fresh, delicious produce while also creating vibrant community spaces.

For more than 200 years, Philadelphia has been a leader in providing clean water to residents. Increasing clean water access at home and improving availability of drinking water in the city's schools and public spaces will help meet all residents' basic need for water.



In 2014

21.7%

of Philadelphians were food insecure.

Food insecure households lack access to enough food for an active, healthy life for all household members.

BENEFITS

= EQUITY

Food and water are universal human rights.

+ HEALTH

Affordable, healthy food and drinking water reduce hunger, decrease diet-related diseases, and prolong life.

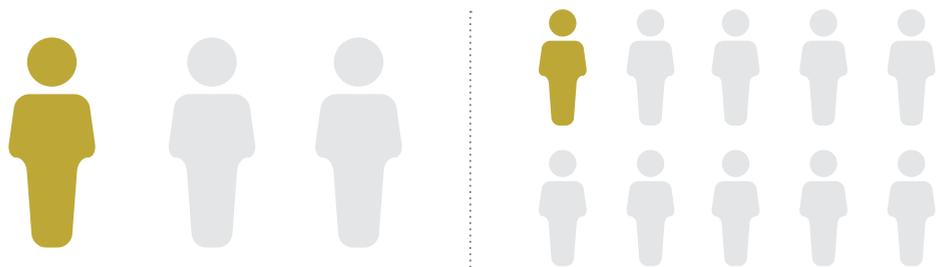
▲ ENVIRONMENTAL

Avoiding bottled water reduces waste, and sustainable food production and local food sourcing reduce carbon pollution.

\$ ECONOMIC

Purchasing food from local businesses keeps dollars in the region, and drinking tap water saves consumers money.

01. PHILADELPHIANS AND SNAP BENEFITS



1 out of 3 Philadelphians receives SNAP benefits

1 out of 10 Philadelphians qualifies for SNAP benefits but does not receive them

Food insecurity is a major concern for many Philadelphia residents. Only 73% of households eligible for the Supplemental Nutrition Assistance Program (SNAP) were enrolled.

02. PHILADELPHIA DRINKING WATER



U.S. Environmental Protection Agency Regulation
0.30 NTU



Partnership for Safe Water Goal
0.10 NTU



Philadelphia Water Score
0.06 NTU

The Philadelphia Water Department consistently produces high-quality drinking water, achieving Partnership for Safe Water quality standards that are far stricter than state and federal water quality regulatory requirements, and is committed to continuing to meet these standards moving forward. For example, the average turbidity, which measures water clarity, of Philadelphia's drinking water has been at or below 0.06 nephelometric turbidity units (NTU) since 1998.

03. SHARED FOOD SYSTEM METRICS



The Philadelphia Food Policy Advisory Council (FPAC) is coordinating funders, non-profits, agencies, and academics working in Philadelphia's food system to establish a shared definition of improvement and common measures of progress toward our goals.

BEYOND PHILADELPHIA

FEDERAL NUTRITION PROGRAMS

The Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program, the Summer Food Service Program, and the Women, Infants & Children (WIC) program provide millions of meals every year to Philadelphia's most vulnerable residents. The 2014 federal Farm Bill cut \$8.6 billion from SNAP over ten years and tightened eligibility requirements.

RICH AGRICULTURAL REGION

The area within a 100-mile radius of Philadelphia includes more than 30 million residents, about 43,000 farms, and just under 5.2 million acres of farmland.

SAFE DRINKING WATER ACT

The Philadelphia Water Department must meet EPA Safe Drinking Water Act requirements, national health-based standards for drinking water that protect against both naturally occurring and man-made contaminants.

What the City is Doing

These department actions will advance Greenworks over the next year.

OFFICE OF SUSTAINABILITY

- **Philadelphia Food Policy Advisory Council (FPAC):** Continue convening and staffing FPAC, a group that advises the administration on hunger, health, food procurement, urban agriculture, workforce and economic development, and food waste diversion.
- **Philly Food Finder:** Publish printed guides and continue updating www.PhillyFoodFinder.org.
- **Public drinking water access:** Support efforts by SEPTA, School District of Philadelphia, and others to increase access to drinking water.
- **Shared food metrics:** Coordinate FPAC, funders, non-profits, and academics to establish a set of shared metrics to assess progress of food system work in Philadelphia.

CROSS-DEPARTMENTAL INITIATIVES

- **Brownfield assessments for urban agriculture:** Implement U.S. EPA grant to conduct environmental assessments of vacant lots suitable for urban agriculture and green stormwater infrastructure.
- **Interdepartmental Urban Agriculture Task Force:** Coordinate departments who influence food growing in Philadelphia.

MAYOR'S OFFICE OF COMMUNITY EMPOWERMENT AND OPPORTUNITY

- **Food Access Collaborative:** Continue to coordinate government and non-profit work to improve Philadelphia's emergency food network.
- **Food Policy Fellowship:** Engage undergraduate and graduate students to learn about and contribute to the City of Philadelphia's work combating hunger.

OFFICE OF PLANNING AND DEVELOPMENT

- **Strategic planning:** Include open space and urban agriculture in planning for housing, and take advantage of the Land Bank as a tool to preserve local food production.



IT'S SAFE AND EASY.

Give surplus food to local shelters and community organizations.

Donate food

◀ Food Connect is a local organization founded in 2014 to connect excess food with hungry Philadelphians. Food Connect's app allows restaurants, caterers, and event planners to donate extra food with a touch of a button. During the Democratic National Convention, Food Connect recovered 11,239 pounds of food, providing 9,366 meals to Philadelphians in need.



ALI MARISA PHOTOGRAPHY



▲ The Philadelphia Food Policy Advisory Council, Parks & Recreation, and partners hosted five work days at community gardens throughout the city, including Five Loaves Two Fishes Community Garden in West Philadelphia. The workshops demonstrated soil safety best practices that reduce exposure to potential contaminants in urban soil, including covering pathways with cardboard and mulch, building raised beds, and wearing gloves.

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH

- **Get Healthy Philly:** Continue researching where healthy food is available in the city and regularly updating the *Walkable Access to Healthy Food in Philadelphia* report.
- **Interdepartmental food procurement meetings:** Continue convening and coordinating departments that purchase food.

PHILADELPHIA PARKS & RECREATION

- **FarmPhilly:** Continue creating and maintaining urban agriculture projects on Parks & Recreation land and using the gardens to educate Philadelphians about the food system.
- **Meal programs:** Expand waste diversion pilot for summer meals program to additional summer and afterschool meal sites.
- **Public drinking water access:** Increase water access at Parks & Recreation facilities.

PHILADELPHIA WATER DEPARTMENT

- **Lead programs:** Continue education and zero-interest loans to promote healthy drinking water in Philadelphia homes.
- **Public water fountain program:** Continue exploring new opportunities to install public drinking water fountains across the city.

PROCUREMENT DEPARTMENT

- **City of Philadelphia food procurement:** Integrate food into sustainable procurement strategies, including increasing purchase of healthy, fair, sustainably sourced food from locally owned businesses.

What **YOU** Can Do

INDIVIDUALS

- Carry a reusable water bottle and drink tap water.
- Support local, sustainable, and fair food.
- If you need food assistance, visit the Philly Food Finder website.

COMMUNITIES

- Support your local food co-op, host a farmers market, or start a community garden.
- Educate your community about drinking water quality.

INSTITUTIONS

- Provide access to high-quality tap water.
- Purchase local food.
- Educate your food workers about Philadelphia's paid sick leave law.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



HEALTHY OUTDOOR AND INDOOR AIR

All Philadelphians breathe healthy air inside and outside

PETER TOBIA

CLEAN AIR IS FUNDAMENTAL TO THE HEALTH OF OUR RESIDENTS AND OUR CITY. The Greenworks vision is that every Philadelphian lives in a home with a healthy environment and our outdoor air meets federal standards.

While outdoor air quality in Philadelphia has improved over the last several decades, air pollution can still make residents sick, particularly vulnerable populations such as seniors, children, and those with chronic diseases. Air pollution from transportation and energy generation causes climate change and damages our natural environment. Additionally, poor indoor air can cause asthma and trigger attacks. Greenworks will focus efforts in areas of the city most burdened by poor air quality.



In 2015 Philadelphia had **16** unhealthy AQI days.

The Air Quality Index (AQI) is a daily measure of how clean or polluted our air is and how healthy it is to breathe.

BENEFITS

= EQUITY

Benefits low-income residents and people of color who are more likely to live in neighborhoods and homes with poor air quality.

+ HEALTH

Reduces the rates of asthma and other chronic disease.

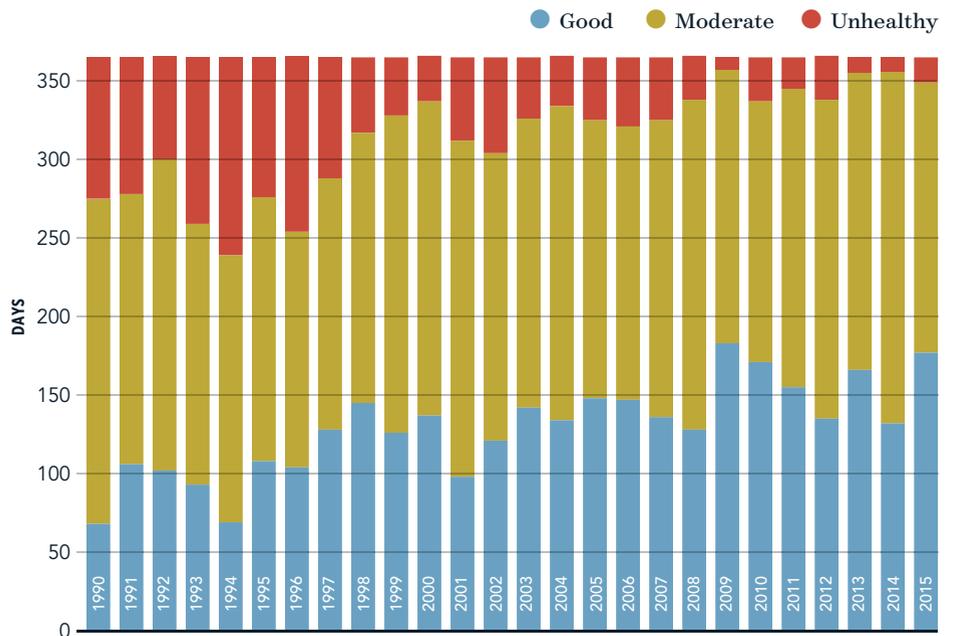
▲ ENVIRONMENTAL

Slows climate change and protects our natural environment.

\$ ECONOMIC

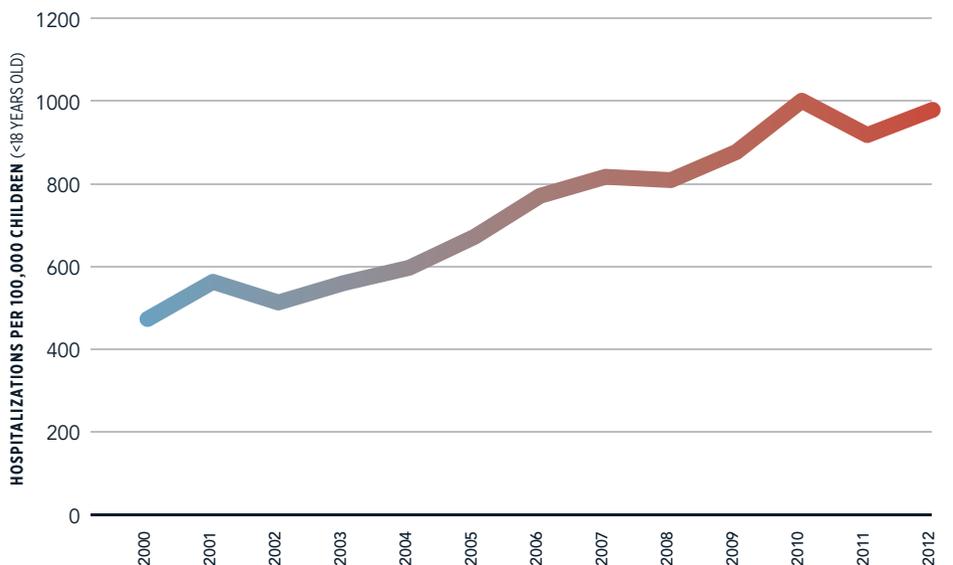
Improves worker productivity and lowers healthcare costs.

04. UPDATED OUTDOOR AIR QUALITY STANDARDS



The Environmental Protection Agency revised the National Ambient Air Standards for ozone in 2015 and PM2.5 (particulate matter) in 2013 to hold cities and counties to higher standards for air quality. The City of Philadelphia will continue to work to meet and outperform outdoor air quality standards in the years ahead.

05. CHILD ASTHMA HOSPITALIZATION RATES IN PHILADELPHIA



Despite significant improvement in our outdoor air quality, indoor air can still make Philadelphians sick, triggering severe asthma reactions and other illnesses, particularly for children and the elderly. Tracking asthma hospitalization rates for Philadelphia’s most vulnerable populations will help us understand progress toward cleaner indoor air. SOURCE: PENNSYLVANIA HEALTH CARE COST CONTAINMENT COUNCIL

BEYOND PHILADELPHIA

REGIONAL SOURCES OF AIR POLLUTION

Pollutants from outside Philadelphia harm the quality of the air we breathe.

HOME REPAIR PROGRAM FUNDING

State and federal programs exist to help residents remove asbestos, abate lead, and weatherize their homes, all of which can make indoor air healthier. These programs would reach more residents with better coordination and funding.

FEDERAL REGULATIONS AND FUNDING

Philadelphia signed an agreement with the U.S. Environmental Protection Agency (EPA) to implement air pollution controls and receives state and federal funding for this purpose.

▼ SEPTA piloted their new zero-emissions, battery-electric buses in July 2016 and plans to use them on two South Philadelphia routes starting in 2017.

What the City is Doing

These department actions will advance Greenworks over the next year.

Outdoor Air

CROSS-DEPARTMENTAL INITIATIVES

- **Construction and demolition:** Reduce air pollution emissions from vehicles used in construction and demolition funded by the City of Philadelphia.
- **Green ports:** Update and implement the Green Ports Initiative to reduce emissions from cranes, diesel vehicles, and other sources.
- **Reduce idling:** Train and educate city employees on anti-idling policies to reduce air pollution.

AIR MANAGEMENT SERVICES

- **Air monitoring survey:** Assess localized street-level air pollution in targeted areas and identify potential solutions where pollution is high.
- **Air quality working group:** Work with city departments, non-profits, academics, and community partners to address air quality concerns.
- **Emissions inventory:** Complete and publish an air pollution emissions inventory and create policies and programs based on the results.

OFFICE OF FLEET MANAGEMENT

- **Alternative fuel vehicle study:** Determine the best approach to increase the number of alternative fuel vehicles in the city fleet.
- **Cleaner fuel:** Increase percentage of biodiesel in fuel used by city vehicles.

OFFICE OF PLANNING AND DEVELOPMENT

- **Air quality and development:** Consider air quality impacts of development projects.
- **District plans:** Integrate air quality considerations into Philadelphia2035 district plans.

OFFICE OF TRANSPORTATION AND INFRASTRUCTURE SYSTEMS

- **Traffic interventions:** Work with Air Management Services to identify high-pollution areas and deploy traffic interventions to improve air quality.

PHILADELPHIA INTERNATIONAL AIRPORT

- **Airport construction:** Monitor air emissions related to airport construction activities.
- **Emission Reduction Program:** Work with airport stakeholders and tenants to develop programs that help reduce regional air emissions.





Indoor Air

DEPARTMENT OF PUBLIC PROPERTY

- **Green cleaning:** Explore costs and effectiveness of non-toxic cleaning products and use where feasible.

OFFICE OF PLANNING AND DEVELOPMENT

- **Home repair programs:** Educate local home repair programs about how their work influences air quality.
- **Sustainable development standards:** Encourage the use of Enterprise Green Communities as a standard for new housing development.

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH

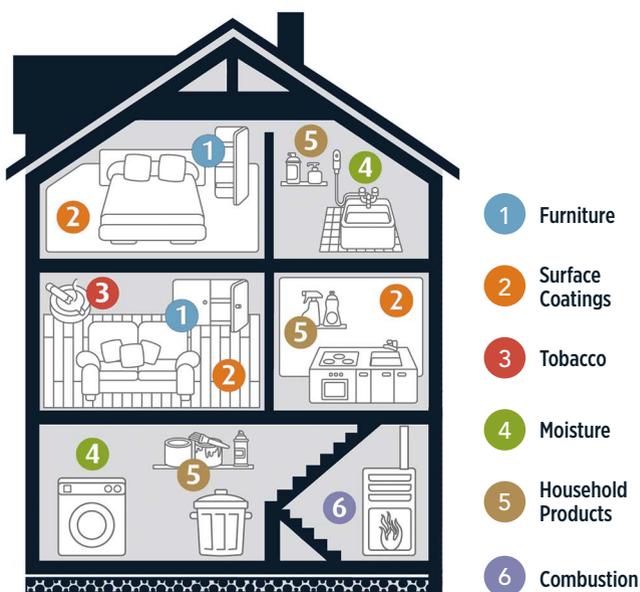
- **Pest management education:** Encourage all residents and businesses to use integrated pest management.
- **Targeted asthma interventions:** Improve indoor air quality in areas with high asthma rates by encouraging tobacco-free policies and reducing other asthma triggers such as pests, dust, and mold.

PHILADELPHIA PARKS & RECREATION

- **Smoke-free parks:** Promote smoke-free parks policy through signage, social media, and partnerships with neighborhood and park groups.

06. SOURCES OF INDOOR AIR POLLUTION

Understanding and controlling common household pollutants can help improve your indoor air and reduce health risks.



What YOU Can Do

INDIVIDUALS

- Improve air quality inside your home by not smoking, removing mold, reducing pests, and avoiding the use of toxic products.
- Grow plants to clean indoor air and plant trees outside.

COMMUNITIES

- Provide information to your community about how to improve air quality inside and outside.
- Plant and maintain trees.

INSTITUTIONS

- Eliminate the use of toxic pesticides or cleaning products.
- Consider indoor air quality in design, construction, and operation of buildings.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



CLEAN AND EFFICIENT ENERGY

All Philadelphians efficiently use clean energy that they can afford



ENERGY IS AT THE CENTER OF OUR LIVES. We need energy for heating in the winter months and cooling in our increasingly sweltering summers. We use energy to transport our food and keep it fresh when it arrives, to power our subways, and keep our water clean. In an increasingly technology-driven world, energy is critical to our way of life.

But while all Philadelphians use energy, not all Philadelphians can easily afford its costs. For many residents, energy is the second-greatest household expense after mortgage or rent payments. Using energy more efficiently in our homes will save money and reduce carbon pollution, which causes climate change. Because our most vulnerable residents are disproportionately harmed by changes in our climate, the transition to a just energy system that is clean and affordable for all is critical to the Greenworks vision of a more equitable Philadelphia.



In 2014 Philadelphia buildings emitted **9.8** million metric tons of carbon pollution.

The electricity, natural gas, oil, and steam used by buildings account for more than half of the city's carbon emissions.

BENEFITS

= EQUITY

Lowering energy bills will benefit all Philadelphians, particularly those with the lowest incomes.

+ HEALTH

Reducing local use of fossil fuels will improve the air we breathe.

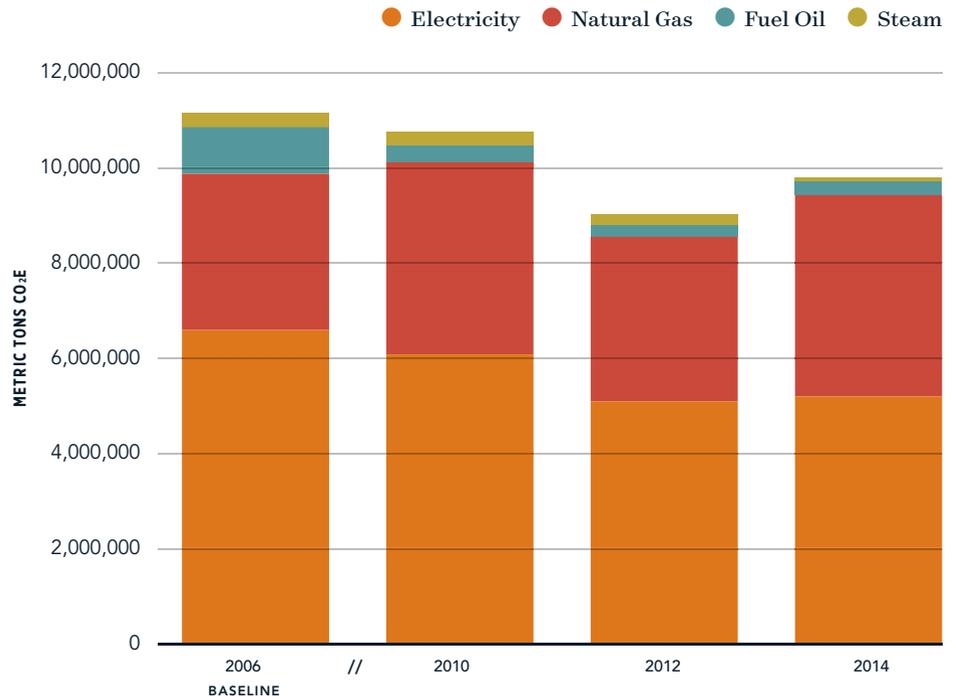
▲ ENVIRONMENTAL

Cleaner energy will help slow climate change.

\$ ECONOMIC

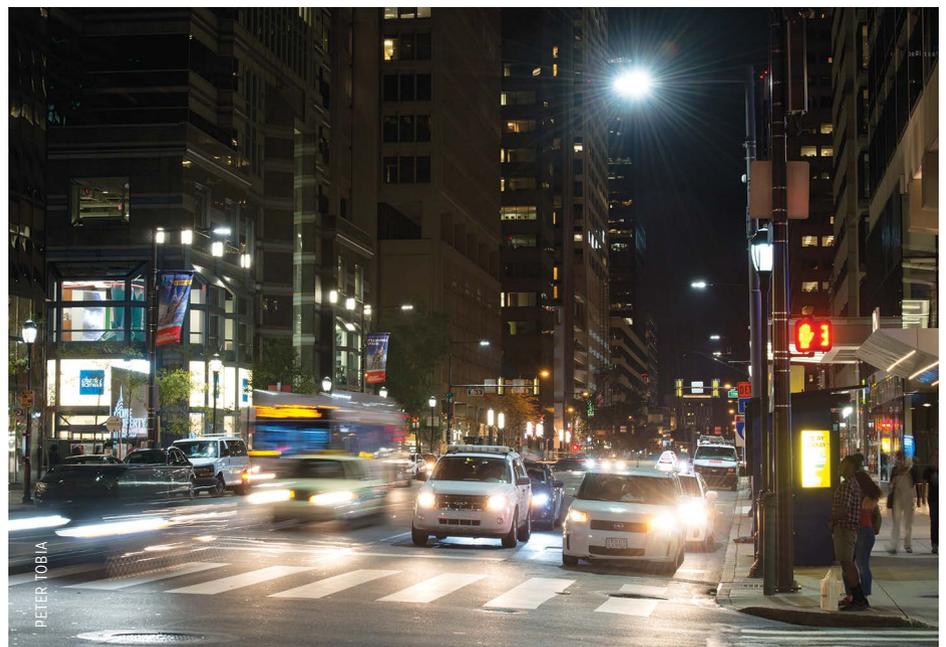
Energy efficiency saves residents and businesses money and can create jobs.

07. CARBON POLLUTION FROM PHILADELPHIA BUILDINGS



Buildings are the single-greatest source of carbon pollution in Philadelphia. Building owners can reduce emissions by switching from carbon-intensive fuel oil to cleaner sources of heat, reducing energy usage through efficiency measures, or producing renewable energy on-site.

08. LED STREET LIGHTING



LED streetlights provide higher-quality lighting at night, making the street safer for drivers, cyclists, and pedestrians. The City of Philadelphia is working with PECO to explore a citywide LED streetlight conversion, which would reduce energy costs and carbon pollution.

BEYOND PHILADELPHIA

BUILDING CODES

Minimum energy requirements for new development and major retrofits are set by the Pennsylvania Uniform Construction Code. If the state adopts the most recent International Code Council standards, energy bills would decrease as building efficiency improves.

RENEWABLE ENERGY POLICY

State-level policy drives the local renewable energy market, and Pennsylvania's renewable industry has lagged in recent years due to inconsistent market signals from Harrisburg and the ending of the PA Sunshine solar incentive program.

STATE ASSISTANCE PROGRAMS

While some utility and weatherization assistance programs are implemented locally, initiatives like LIHEAP and the Weatherization Assistance Program are funded at the state level.

▼ The Energy Coordinating Agency, a Philadelphia-based non-profit, worked with volunteers to add white roof coating to homes in North Philadelphia as part of its EnergyFIT Philly program. White roofs can reduce energy costs and keep homes cool as our climate changes.



What the City is Doing

These department actions will advance Greenworks over the next year.

OFFICE OF SUSTAINABILITY & ENERGY OFFICE

- **City solar opportunities:** Analyze the potential to expand solar energy at city-owned facilities.
- **Energy efficiency in city-owned buildings:** Work with city operating agencies to understand energy costs and pilot incentive programs to reduce usage.
- **Energy master plan:** Complete analysis of the social, economic, and environmental benefits of municipal government energy decisions and citywide energy policies.
- **Large energy efficiency projects in city facilities:** Implement energy efficiency measures in the Philadelphia Museum of Art, the City of Philadelphia's largest energy user, and the Fire Administration Building, one of the least efficient city-owned facilities.
- **LED street lighting citywide:** Determine options for citywide deployment of LED street lighting.
- **Multifamily outreach program:** Use energy benchmarking data to educate owners and tenants in underperforming large residential buildings about low-cost energy efficiency opportunities.
- **Philadelphia Energy Campaign:** Work with the Philadelphia Energy Authority to meet the Energy Campaign's goal of efficiency and clean energy investment in low-income housing, small businesses, and the School District of Philadelphia.

CROSS-DEPARTMENTAL INITIATIVES

- **Rebuilding Community Infrastructure (Rebuild):** Ensure Rebuild investments in recreation centers and libraries incorporate energy conservation measures.

LICENSES & INSPECTIONS

- **Building code adoption and enforcement:** Evaluate opportunity to update building energy codes.

OFFICE OF PLANNING AND DEVELOPMENT

- **Energy-efficient housing strategy:** Recognize energy efficiency as a tool to increase housing affordability.

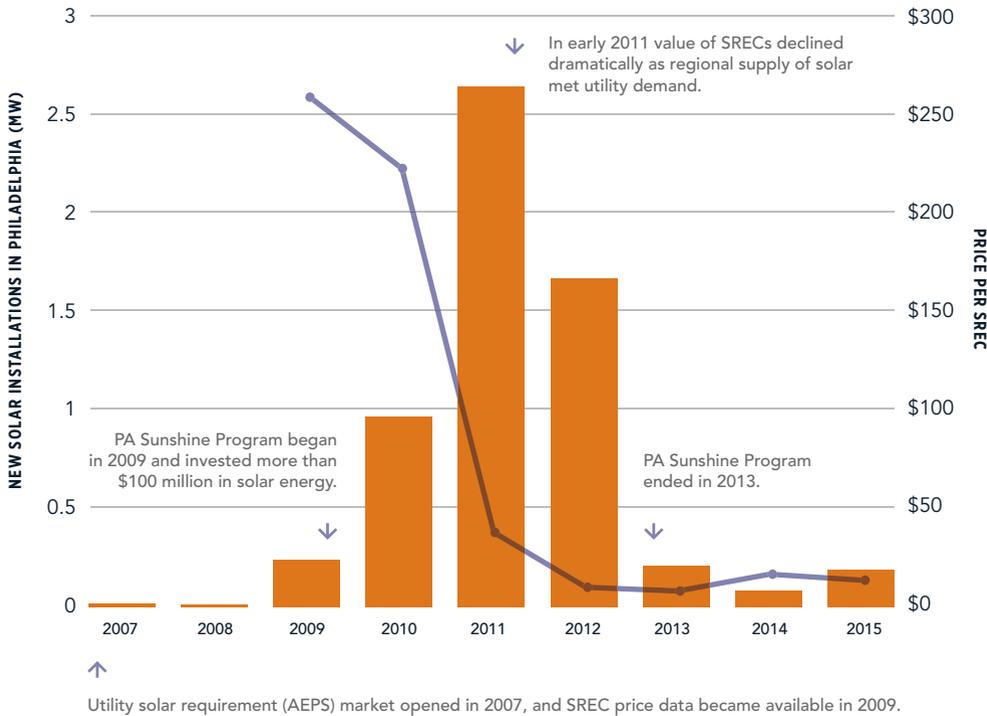
PHILADELPHIA WATER DEPARTMENT

- **Energy program:** Continue to reduce energy use and carbon pollution by improving energy efficiency, using renewable energy, and using former waste streams as resources.



09. LOCAL SOLAR ENERGY GENERATION AND STATEWIDE VALUE OF SOLAR RENEWABLE ENERGY CREDIT (SREC)

■ Philadelphia Solar Installations ● Annual Average Market Price for SREC



Philadelphia's solar market is dependent on state-level renewable energy policy. The state's alternative energy portfolio standard (AEPS) and initial investment in solar through the PA Sunshine Program helped create a market for solar renewable energy credits (SRECs), but the end of the Sunshine Program and the lack of sufficient expansion of the portfolio standard (and the ability of utilities to meet requirements by purchasing solar energy outside of Pennsylvania) have made financing solar projects in Philadelphia challenging.

What **YOU** Can Do

INDIVIDUALS

- Make your home as energy efficient as possible and find out how to buy clean energy at PAPowerSwitch.com.
- Consider energy and climate policy in the voting booth.

COMMUNITIES

- Educate neighbors about energy incentives and resources available to the community.
- Coordinate with your neighbors to bulk purchase products such as solar panels and white roof coating.

INSTITUTIONS

- Educate employees and tenants about efficiency opportunities.
- Track organizational greenhouse gas emissions and set reduction targets.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



CLIMATE PREPARED AND CARBON NEUTRAL COMMUNITIES

All Philadelphians are prepared for climate change and reduce carbon pollution



Photo by J. Smith for VISIT PHILADELPHIA

PREPARING FOR THE WEATHER CAN MAKE OR BREAK YOUR DAY, AND BEING UNPREPARED CAN BE DOWNRIGHT DANGEROUS. We know from experience that the usual weather conditions in Philadelphia are getting hotter, wetter, and more extreme, and climate science tell us these trends will continue to get worse. A central vision of Greenworks is that all Philadelphians are prepared for our changing climate.

Carbon pollution is already changing weather patterns in Philadelphia, but we can make sure that these shifts are as limited as possible by reducing our contributions to climate change. Many of the other Greenworks visions, like using less carbon to make our energy, reducing waste generation, and improving our green spaces, will also reduce heat-trapping greenhouse gases that cause climate change.

BEYOND PHILADELPHIA

PROPOSED CLEAN POWER PLAN

Pennsylvania policymakers can demonstrate leadership by developing an aggressive plan to reduce carbon pollution from electricity generation and by taking advantage of potential incentives through the Clean Power Plan.

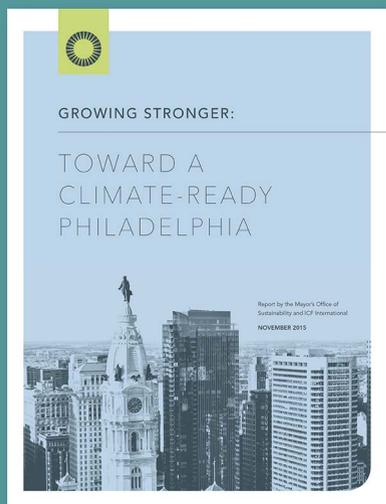
FEMA FUNDING

The Federal Emergency Management Agency runs the National Flood Insurance Program and provides funding and support following disasters, influencing what communities do to prepare and how they rebuild afterward.

UPSTREAM DEVELOPMENT

Development in communities upstream of Philadelphia creates more surfaces where rain can't soak into the ground and increases our local risk of flooding during wet weather.

▼ More information about how Philadelphia is preparing for climate change is available in *Growing Stronger: Toward a Climate-Ready Philadelphia*.



What the City is Doing

These department actions will advance Greenworks over the next year.

OFFICE OF SUSTAINABILITY & ENERGY OFFICE

- **Community climate planning:** Seek partnership and funding opportunities to begin community-led climate adaptation planning.
- **Municipal greenhouse gas reduction target:** Set a municipal greenhouse gas emissions reduction goal to contribute to the Mayor's commitment to reduce greenhouse gas emissions 80 percent by 2050.
- **Office of Sustainability capital funding:** Invest capital funding in projects that increase the city's ability to operate in hotter, wetter weather.

CROSS-DEPARTMENTAL INITIATIVES

- **Capital planning and budgeting:** Consider information about climate change when planning investments in assets that will last for more than five years.
- **Growing Stronger implementation:** Begin completing early implementation opportunities identified in *Growing Stronger*, Philadelphia's first climate adaptation report.
- **Interagency Flood Risk Management Task Force:** Continue developing and implementing an improved strategy for flood management and mitigation planning.
- **Rebuilding Community Infrastructure (Rebuild):** Ensure that Rebuild investments in recreation centers and libraries help Philadelphia prepare for hotter, wetter weather.
- **White roof education:** Educate builders and homeowners about Philadelphia's law requiring white roofs and how they lower indoor and outdoor temperatures.

OFFICE OF FLEET MANAGEMENT

- **Compressed-natural-gas sanitation vehicles:** Purchase 25 compressed-natural-gas waste haulers, funded in part by more than \$2 million in 2016 Congestion Mitigation and Air Quality Improvement Program funds, update a maintenance facility, and work with PGW to build a fueling station.

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH

- **Climate change and health assessment:** Continue convening the Climate Change and Health Advisory Group and begin a citywide climate change and health assessment.



◀ As Philadelphia becomes warmer, finding cool places to relax in the heat will become even more vital for our most vulnerable residents. Senior care facilities, recreation centers, and libraries can serve as cooling centers to help prevent heat-related health issues.

PHILADELPHIA PARKS & RECREATION

- **Adaptive natural resources management:** Continue to research appropriate tree species and pilot forest management approaches for hotter, wetter weather.
- **Cooling plan:** Make sure facilities can provide cooling for residents during heat waves.

PHILADELPHIA WATER DEPARTMENT

- **Climate Change Adaptation Program:** Continue adaptation program focusing on risk assessment, adaptation strategy development, and modeling of climate change impacts on operations.
- **Green City, Clean Waters:** Continue investment in green infrastructure to manage stormwater, which also increases Philadelphia's resiliency to climate change and reduces carbon pollution.

What **YOU** Can Do

INDIVIDUALS

- Make your home as energy efficient as possible and find out how to buy clean energy at PAPowerSwitch.com.
- Have an emergency plan and know what to do during extreme weather.

COMMUNITIES

- Host Philly CUSP, a climate outreach program based at the Franklin Institute, at your next community event.
- Know your neighbors and check on them during extreme weather events and emergencies.

INSTITUTIONS

- Screen your assets for vulnerability to climate hazards.
- Consider climate projections in your capital planning process.
- Measure your greenhouse gas emissions and share your findings.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



QUALITY NATURAL RESOURCES

Philadelphians benefit from parks, trees, stormwater management, and healthy waterways



PETER TOPP

GREEN, NATURAL SPACES IMPROVE OUR MENTAL AND PHYSICAL HEALTH, KEEP OUR AIR AND WATER CLEAN, AND CONTRIBUTE TO SAFER AND STRONGER COMMUNITIES. Philadelphia is rich in natural assets like our parks, streams, and rivers, and Greenworks envisions a future where all our residents can take advantage of these resources.

To achieve this vision, we must improve the quality of our existing green spaces and focus investment in neighborhoods least connected to nature. Philadelphia has made progress through the Green City, Clean Waters stormwater management program. Upcoming investments through the Rebuilding Community Infrastructure program to update our recreation facilities and libraries will benefit residents in every zip code. Making sure every Philadelphian has access to the benefits of quality green spaces will require each of us to maintain our common spaces and strengthen the neighborhood ties needed to preserve these spaces for generations to come.



As of June 2016,
838
greened acres
were installed in
Philadelphia.

A greened acre is land where stormwater is managed by tools including rain gardens, tree trenches, and green roofs.

BENEFITS

= EQUITY

Investing in our existing natural resources will make sure that each of our parks is clean, safe, and accessible.

+ HEALTH

Green spaces and trees improve air quality and cool our neighborhoods.

▲ ENVIRONMENTAL

Connecting Philadelphians to nature spurs stewardship of our city's natural assets.

\$ ECONOMIC

Proximity to nature increases property values and local spending.

12. GREEN CITY, CLEAN WATERS: MEETING 25-YEAR TARGETS

HOW SUCCESS IS MEASURED

Gallons Reduced: Volume of combined sewer overflow reduction per year

Greened Acres (GA): A greened acre manages at least the first inch of rainfall over an acre of hard surface



2011	2016	2021	2036
Consent Order and Agreement is signed	Target Achieved: 750 GA; 600 million gallons/year reduced	Target: 2,148 GA; 2 billion gallons/year reduced	Target: 9,564 GA; 7.9 billion gallons/year reduced

Green City, Clean Waters is Philadelphia's long-term plan to improve the health of our city's waterways by investing in green infrastructure to manage stormwater.

13. REBUILDING COMMUNITY INFRASTRUCTURE

Rebuilding Community Infrastructure (Rebuild) is an investment to create 21st century parks, libraries, recreation centers, and playgrounds in all Philadelphia neighborhoods. Rebuild has three major goals:

- 1. PHYSICAL IMPROVEMENTS**
to parks, recreation centers, and libraries to create spaces for more and better programming
- 2. WORKFORCE DIVERSITY & INCLUSION**
by creating a career pathway for Philadelphians from high-unemployment, low-income neighborhoods and supporting emerging businesses
- 3. COMMUNITY ENGAGEMENT**
by giving a voice to a broader range of perspectives in the planning process and by building the capacity of neighborhood groups



▲ The recent renovation of Stinger Square in Grays Ferry is one example of the types of renovations that will be completed through Rebuild. The Stinger Square upgrades included seating and picnic tables, playground equipment, new trees, and green stormwater infrastructure.

BEYOND PHILADELPHIA

CLEAN WATER ACT

The federal Clean Water Act requires Philadelphia to prevent stormwater and untreated sewage from running into our rivers and restore waterways. The city's Green City, Clean Waters green infrastructure plan is designed to meet these standards while improving quality of life for all Philadelphians.

UPSTREAM POLLUTION

Before our rivers reach Philadelphia, agricultural runoff, industrial discharge, and other sources pollute the water.

▼ Rain gardens are an example of green stormwater infrastructure. They can absorb water flowing from parking lots, roofs, and other hard surfaces, allowing it to drain slowly into the soil.



What the City is Doing

These department actions will advance Greenworks over the next year.



OFFICE OF SUSTAINABILITY

- **Reducing urban heat:** Develop strategies to prioritize tree planting, open space creation, and green stormwater infrastructure in neighborhoods where greening can help reduce heat exposure.  

CROSS-DEPARTMENTAL INITIATIVES

- **Clean Water Act task force:** Establish task force to identify opportunities and barriers to implementing green stormwater infrastructure. 
- **Coordinated tree plantings:** Work with Parks & Recreation, the Philadelphia Water Department, Streets Department, and other partners to include tree planting and maintenance as part of routine work. 
- **Rebuilding Community Infrastructure (Rebuild):** Ensure Rebuild investments improve the sustainability of recreation centers and libraries and optimize stormwater management opportunities.   

DEPARTMENT OF PUBLIC HEALTH

- **Get Healthy Philly:** Promote use of public spaces as part of the Get Healthy Philly program to improve public health for all Philadelphians. 

OFFICE OF PLANNING AND DEVELOPMENT

- **District plans:** Incorporate opportunities to protect or create open space and other green infrastructure into Philadelphia2035 district plans.



PHILADELPHIA PARKS & RECREATION

- **Facility and landscape standards:** Set minimum quality standards for all Parks & Recreation centers and work to make sure every facility meets those standards. 
- **Green infrastructure opportunities:** Use Parks & Recreation land to manage stormwater and incorporate green infrastructure into renovation projects. 
- **Tree inventory:** Expand tree inventory to include information on tree health and species. 

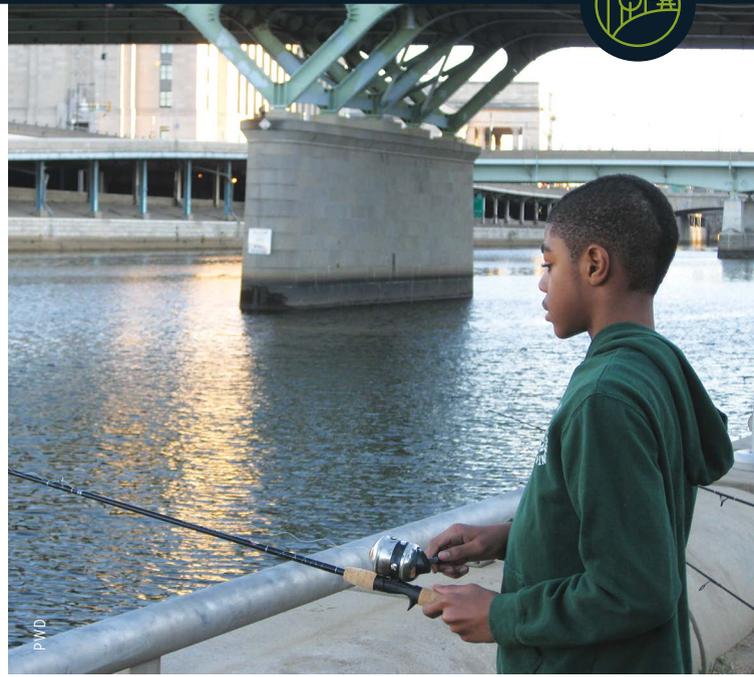


PHILADELPHIA WATER DEPARTMENT

- **Green City, Clean Waters:** Increase the number of green stormwater infrastructure projects on publicly owned lands and in the public right-of-way to meet federal regulatory obligations.
- **Green schoolyards:** Continue to work with the Philadelphia School District on greening schoolyards.
- **Spur private market:** Enhance stormwater incentives to drive private market adoption of green infrastructure.
- **Stream restoration:** Continue restoration of Philadelphia's historic streams to improve surface water quality.

STREETS DEPARTMENT

- **Green Streets:** Continue coordinating with the Philadelphia Water Department and Parks & Recreation on stormwater management and tree planting opportunities during street construction.



▲ Improvements in the health of Philadelphia's rivers make events like the Philly Fun Fishing Fest possible.

What **YOU** Can Do

INDIVIDUALS

- Join the "friends of" group for your local park.
- Plant a free yard tree through TreePhilly.
- Sign up for a Rain Check workshop to learn about incentives available to manage stormwater at your house.

COMMUNITIES

- Apply for a Soak It Up Adoption grant.
- Organize a Tree Tenders group.
- Connect your neighbors to local parks and waterways.

INSTITUTIONS

- Invest in green infrastructure to reduce your stormwater bills, increase property values, and improve the health of our waterways.
- Organize your employees, students, or volunteers to participate in Love Your Park or Philly Spring Cleanup.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



ACCESSIBLE, AFFORDABLE, AND SAFE TRANSPORTATION

All Philadelphians have access to safe, affordable, and low-carbon transportation



Photo by J. Fusco for VISIT PHILADELPHIA™

WHETHER YOU GET AROUND ON FOOT, BY CAR, BIKE, OR PUBLIC TRANSIT, OUR ROBUST TRANSPORTATION NETWORK IS CRITICAL FOR PHILADELPHIA'S RESIDENTS AND BUSINESSES. Recent investments in pedestrian infrastructure, state funding for SEPTA improvements, and the successful launch of the Indego bikeshare system are making getting around Philadelphia easier.

But in some neighborhoods, residents still find moving around the city difficult or expensive. Philadelphia has world-class regional rail, subway, and trolley systems built over the last century and a half, but now is the time to reconsider how these past investments can best serve Philadelphia today. The Greenworks vision for transportation has three core values: transportation should be safe, affordable, and available to Philadelphians in every zip code.



In 2014
37%
 of Philadelphians
 chose a low-
 carbon commute.

Walking, biking, or taking public transit to work reduces carbon pollution, improves air quality, and provides health benefits.

BENEFITS

= EQUITY

Accessible transportation, like Indego Philadelphia's equitable bike share system, provides access to schools, jobs, and amenities for all.

+ HEALTH

Walking and biking benefit public health, and reducing reliance on cars improves local air quality.

▲ ENVIRONMENTAL

Transportation is the second-biggest source of Philadelphia's carbon emissions, and a major source of particle pollutants.

\$ ECONOMIC

More efficient transportation can help reduce the costs of getting around for residents and visitors while maintaining our regional competitiveness.

14. IMPROVING TRANSPORTATION ACCESS



1



2



3

1. SOUTH STREET BRIDGE Since reopening in 2012, the South Street Bridge has helped automobile commuters, cyclists, and pedestrians move between Center City and West Philadelphia. The bridge has the highest biking and pedestrian traffic in Pennsylvania, thanks in part to new accessibility to the waterfront via the Schuylkill Banks Boardwalk.

2. SPRUCE AND PINE STREET BIKE LANES Bike lanes provide accessibility and safety benefits to cyclists, but they can improve outcomes for other street users as well. Since installation of bike lanes in 2009, serious car crashes along the Spruce and Pine Street corridors fell 44 percent, and crashes involving pedestrians declined 58 percent, even as population and economic activity in Center City Philadelphia increased.

3. 23RD AND VENANGO BUS LOOP SEPTA is investing in accessibility improvements in major transit hubs throughout Philadelphia to meet the needs of residents under the Americans with Disabilities Act. The bus loop at 23rd and Venango in North Philadelphia was upgraded to improve accessibility, safety, and bus capacity for the four lines that use the loop.

BEYOND PHILADELPHIA

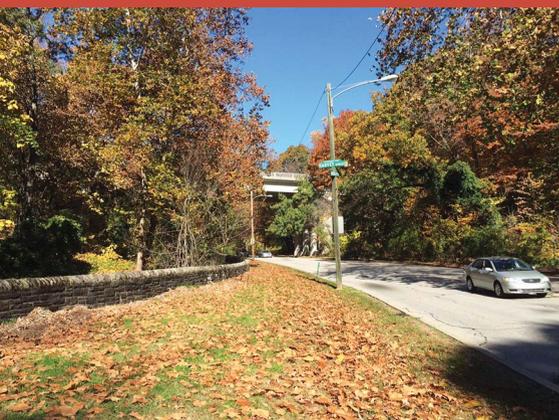
REGIONAL TRANSIT SYSTEM

Philadelphia's public transit systems, SEPTA and PATCO, are run by regional authorities. Of the 15 members of SEPTA's board, only two are appointed by the City of Philadelphia.

STATE AND FEDERAL FUNDING

Almost all funding for transportation in Philadelphia comes from state and federal sources, such as Act 89 state funding for SEPTA transit improvements, PennDOT funds for maintenance of many major roads, and U.S. Department of Transportation TIGER grants for trails, complete streets, and transit projects.

▼ The City of Philadelphia and PennDOT are collaborating on improving accessibility and safety along Lincoln Drive by both upgrading the roadway and adding sidewalks, resolving a major gap in Philadelphia's pedestrian network.



What the City is Doing

These department actions will advance Greenworks over the next year.

OFFICE OF SUSTAINABILITY

- **Low-carbon transportation promotion:** Encourage Philadelphia residents and visitors to use the numerous low-carbon transportation options available in our city.
- **SEPTA sustainability plan update:** Support SEPTA as they update their comprehensive sustainability plan.

CROSS-DEPARTMENTAL INITIATIVES

- **Bike and pedestrian infrastructure:** Continue implementing the Philadelphia Pedestrian and Bicycle Plan to ensure all Philadelphians can safely walk and bike throughout the city.
- **Sidewalk quality:** Identify data needs and develop a strategy for assessing and improving pedestrian infrastructure in Philadelphia's neighborhoods.
- **Trail Master Plan implementation:** Continue to release annual reports updating trail priority analysis, showcasing high-impact trail projects, and listing current funding sources for Philadelphia trails.
- **Transportation master plan:** Develop a citywide transportation master plan centered on racial equity, climate change, and community health.

OFFICE OF PLANNING AND DEVELOPMENT

- **Transit-oriented development:** Promote development around transit hubs while preserving affordability and choice for existing residents.

OFFICE OF TRANSPORTATION & INFRASTRUCTURE SYSTEMS

- **Complete streets:** Create a Complete Streets office to continue building a network of streets which safely and comfortably accommodate all users.
- **Indego network expansion:** Continue to incorporate equity and neighborhood access as core values as Indego bike share expands.
- **Route for Change:** Develop a series of improvements along Roosevelt Boulevard to create a more inviting corridor that is safe, accessible, and reliable for all users.

PHILADELPHIA PARKS & RECREATION

- **Rebuilding Community Infrastructure (Rebuild):** Ensure safe pedestrian access for all Philadelphians, regardless of age or ability, at facilities updated through Rebuild, an initiative to improve parks, recreation centers, playgrounds, and libraries across the city.



What **YOU** Can Do

INDIVIDUALS

- Choose transportation options that don't contribute to carbon pollution, such as walking, biking, or public transit.
- Report maintenance needs on sidewalks and roads to 311.

COMMUNITIES

- Conduct a community sidewalk needs assessment.
- Support transit, bike, and pedestrian accessibility when reviewing proposed developments.

INSTITUTIONS

- Offer pre-tax transit benefits to employees.
- Provide discounted group or corporate Indego passes, or install bike parking on your property.



Indego is Philadelphia's newest way to move around the city for transportation, fitness, or fun. After launching the program in 2015 with 75 stations, the Office of Transportation & Infrastructure Systems added 30 more stations in 2016, 24 of which were funded by the William Penn Foundation to improve access to waterfront parks and public spaces.

The City of Philadelphia has become a national leader in the bike share industry through its efforts to promote social equity through Indego and the Better Bike Share Partnership, a city-led initiative supported by the JPB Foundation. In April of 2016, the city started offering \$5 monthly Indego passes to people who have a Pennsylvania ACCESS card and receive public benefits. In fewer than six months, Indego sold almost 800 passes to eligible individuals.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



ZERO WASTE

All Philadelphians waste less and
keep our neighborhoods clean



EACH WEEK THE AVERAGE PHILADELPHIAN PRODUCES NEARLY 15 POUNDS OF TRASH, WHICH TAKES UP SPACE IN LANDFILLS, CONTRIBUTES TO LITTER, AND CAUSES POLLUTION. The Greenworks vision is to eliminate all waste in Philadelphia. To achieve this, we must significantly reduce the amount of trash we create and increase the amount we reuse and recycle.

This next phase of waste management in Philadelphia will focus on keeping the recycling stream clean, adding new materials to the recycling program, and increasing recycling participation. We must also address persistently littered neighborhoods by expanding education, enforcement efforts, and public investments in infrastructure and programming.

To achieve our shared vision, local government, residents, businesses, and institutions must all work together to keep our city clean.



Philadelphians generated **2.5 million tons** of waste in 2014.

BENEFITS

= EQUITY

Helping neighborhoods become litter free will improve quality of life for all Philadelphians.

+ HEALTH

Reducing litter lowers residents' exposure to pollution and disease-carrying insects and rodents.

▲ ENVIRONMENTAL

Generating less waste improves air and water quality, reduces greenhouse gas emissions, and beautifies neighborhoods.

\$ ECONOMIC

Wasting less saves taxpayers, individuals, and businesses money, and the recycling industry creates jobs and economic opportunity.

15. WASTE GENERATION BY SECTOR



Residents, businesses, and construction in Philadelphia were all producing less waste in 2014 than they did in 2007, despite an increase in population and new construction. Continuing to reduce the amount we waste will make our city cleaner and reduce the causes of climate change.

16. COST SAVINGS FROM RECYCLING



The value of residential recycling in Philadelphia fluctuates as the market for raw materials changes. At the height of the market in 2011, the City of Philadelphia earned more than \$50 per ton because the materials collected curbside were valuable in resale markets. This market has declined considerably in the past few years, and we now pay \$31 per ton for recycling. However, this fee is still lower than the cost to send waste to landfills.

BEYOND PHILADELPHIA

MARKET CHANGES

Changes in manufacturing, shifting consumer behavior, and a drop in commodity prices have caused a downturn in global recycling markets, making recycling more expensive.

COMMERCIAL COMPOSTING FACILITIES

Without a high-capacity composting facility in the mid-Atlantic region, large-scale composting isn't currently feasible.

▼ Many Philadelphians volunteer their time to keep our neighborhoods and waterways clean.



What the City is Doing

These department actions will advance Greenworks over the next year.

CROSS-DEPARTMENTAL INITIATIVES

- **Litter coordination:** Collaborate across all departments that work on waste reduction and neighborhood cleaning and greening.
- **Litter index:** The Managing Director's Office and partner agencies will perform a street-by-street assessment to give city leaders and residents a clear picture of neighborhood cleanliness and align resources with communities in greatest need.
- **Litter plan:** Develop and implement a comprehensive plan to reduce litter citywide.

DEPARTMENT OF COMMERCE

- **Commercial composting facility:** Explore the feasibility of attracting a composting facility to Philadelphia.

OFFICE OF PLANNING AND DEVELOPMENT

- **Waste and development:** Continue to use civic design review to encourage new commercial construction to consider waste management and storage.

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH

- **Good Food, Healthy Hospitals:** Work with institutional food procurement partners to identify opportunities for food composting and waste reduction.
- **Tobacco Control Program:** Identify strategies to decrease tobacco litter in Philadelphia neighborhoods.

PHILADELPHIA INTERNATIONAL AIRPORT

- **Airport composting:** Explore options for composting waste from airport operations.

PHILADELPHIA PARKS & RECREATION

- **Department resource consumption:** Implement internal audit recommendations to reduce consumption of paper and other products.
- **Public recycling:** Expand recycling collection at Parks & Recreation facilities.

PHILADELPHIA WATER DEPARTMENT

- **Floatable trash:** Continue removing litter from the Schuylkill and Delaware rivers and stormwater inlets.



▲ The Philadelphia Water Department uses boats to collect trash and debris from the Schuylkill and Delaware rivers. Much of this material (called “floatables”) could be kept out of our rivers by reducing litter and keeping storm drains clear.

PROCUREMENT DEPARTMENT

- **Sustainable procurement:** Include reduction of waste generated as one of the goals of City of Philadelphia purchasing.

STREETS DEPARTMENT

- **Convenience centers:** Explore opportunities to increase use of sanitation convenience centers.
- **Organic waste diversion:** Complete a feasibility study of food and yard waste diversion and implement its recommendations.
- **Solid waste plan:** Develop new waste goals and targets as part of implementing the new solid waste plan.
- **Waste characterization study:** Secure funding to study what is in Philadelphia’s waste stream.
- **Waste education:** Expand public outreach campaigns teaching Philadelphia businesses and residents how to recycle properly and reduce litter.

What **YOU** Can Do

INDIVIDUALS

- Visit the Streets Department’s website and learn more about recycling.
- Bring a reusable bag for shopping.
- Put trash out in a hard-sided container.

COMMUNITIES

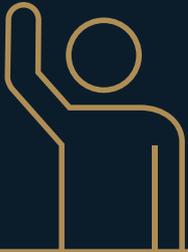
- Organize a community cleanup.
- Compost at your community garden or other neighborhood site.

INSTITUTIONS

- Study what’s in your waste stream by conducting a waste audit.
- Reduce use of disposable plastic bottles by providing access to tap water for drinking.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.



ENGAGED STUDENTS, STEWARDS, AND WORKERS

All Philadelphians benefit from sustainability education, employment, and business opportunities



BRAE HOWARD PHOTOGRAPHY

MAKING SUSTAINABILITY A PART OF OUR EVERYDAY LIVES IS CRITICAL. Ensuring every Philadelphia neighborhood is clean, healthy, and prepared for climate change will depend on our ability to educate and engage both current leaders and the next generation of sustainability stewards.

As we shift toward a clean economy, more and more Philadelphians will incorporate sustainability into their work, from building managers conserving energy to sanitation workers collecting recycling. Continuing to be a leader in urban sustainability will make Philadelphia more competitive, attracting residents and sustainable businesses. Greenworks envisions that all Philadelphians will be equally prepared to benefit from these new opportunities.



Residents from **92%** of Philadelphia's zip codes participated in updating Greenworks.

The Office of Sustainability is committed to deepening engagement with residents in every zip code.

BENEFITS

= EQUITY

Educating Philadelphians of all ages about sustainability will help prepare them for jobs and improve our neighborhoods.

+ HEALTH

Shifting Philadelphia toward a cleaner economy will reduce pollution, and neighborhoods that work together can achieve better health outcomes.

▲ ENVIRONMENTAL

A cleaner economy and greener neighborhoods will result in less waste and pollution citywide.

\$ ECONOMIC

Educating all Philadelphians about sustainability will position our workforce for the growing clean economy.

17. PowerCorpsPHL ALUMNI SUCCESS



Since PowerCorpsPHL started in September 2013, it has engaged 272 young adults to serve as AmeriCorps members with Philadelphia Parks & Recreation and the Philadelphia Water Department. As of May 2016, 92% of alumni have successfully transitioned to employment, post-secondary education, or continued serving with AmeriCorps.

18. CLEAN ECONOMY JOBS IN THE PUBLIC SECTOR



Many public sector employees make Philadelphia more sustainable, and upcoming retirements will create new openings for this work. The Office of Sustainability is working with city agencies and the School District of Philadelphia to link residents to these opportunities.

BEYOND PHILADELPHIA

FEDERAL INVESTMENT IN THE CLEAN ECONOMY

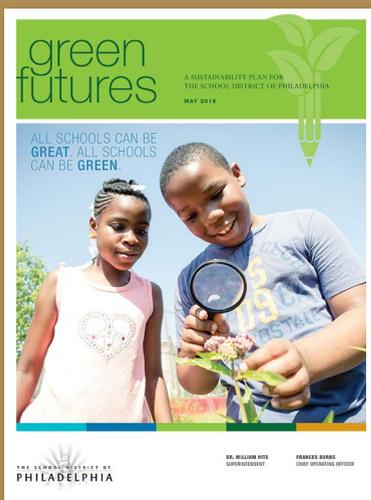
Under the Obama administration, the federal government invested significantly in growing the clean economy, particularly renewable energy generation and efficiency. Continuing federal investments would create business and job opportunities for Philadelphians.

STATE FUNDING

The passage of Act 89 in Harrisburg greatly increased statewide transportation funding, but additional investment in Pennsylvania’s infrastructure is needed to spur the transition to a clean economy. At the same time, education funding remains inadequate to meet the needs of Philadelphia’s children.

CLEAN ECONOMY MEASUREMENT

Understanding the quality, number, and type of local clean economy jobs is challenging. Data that is comparable over time isn’t available, and the Bureau of Labor Statistics no longer collects information on the topic.



What the City is Doing

These department actions will advance Greenworks over the next year.

OFFICE OF SUSTAINABILITY & ENERGY OFFICE

- **Community engagement:** Educate Philadelphians about the new Greenworks plan and opportunities for residents to work together toward a more sustainable future.
- **Philadelphia Energy Campaign:** Support efforts by the Philadelphia Energy Authority to track the economic impact of investments proposed through the Energy Campaign.
- **PowerCorps partnership:** Explore partnership with PowerCorpsPHL to train members on energy efficiency installation.
- **School District partnership:** Continue working with the School District of Philadelphia as they implement *GreenFutures*, the District’s first sustainability plan.
- **Sustainable business support:** Provide opportunities and recognition for sustainable business leaders, including the sustainable business tax credit, green roof tax credit, and LEED density bonuses.

CROSS-DEPARTMENT INITIATIVES

- **Workforce Development Pipeline initiative:** Develop strategy to create new pathways to employment in public and private sectors, including jobs that contribute to the clean economy.

COMMERCE DEPARTMENT

- **Business attraction support:** Identify and support opportunities to grow Philadelphia’s clean economy industries, including green stormwater infrastructure, waste management, and clean energy.
- **Sustainable business practices promotion:** Explore partnerships with local non-profits and advocates to challenge businesses to adopt sustainable practices.

PHILADELPHIA PARKS & RECREATION

- **Recreation center engagement:** Use recreation centers to educate Philadelphians about neighborhood stewardship.
- **Sustainable land-care training:** Certify Parks & Recreation employees who complete professional development training on grounds and facility maintenance.

◀ The School District of Philadelphia released *GreenFutures*, their first-ever sustainability plan, in May 2016. The plan sets measurable targets to ensure every student in the District attends a green, healthy school with sustainable education opportunities.



OFFICE OF PLANNING AND DEVELOPMENT

- **Citizens Planning Institute:** Continue to include sustainability and public stewardship in the CPI curriculum.

PROCUREMENT DEPARTMENT

- **Local procurement:** Increase outreach to local businesses to better understand and reduce barriers preventing them from responding to city contract opportunities.



▲ The first-ever Philly Free Streets event brought thousands of residents into the street on foot and by bike. The 10-mile-long event connected neighborhoods along South Street and the Schuylkill River. The Office of Transportation and Infrastructure Systems will continue to hold Philly Free Streets events to highlight the intersection of low-carbon transportation with public health.

What **YOU** Can Do

INDIVIDUALS

- Volunteer with your local public school to implement *GreenFutures*.
- Attend sustainability events to stay informed.
- Support local, sustainable businesses.

COMMUNITIES

- Host a workshop to educate neighbors about sustainability resources.
- Organize sustainability education events and volunteer opportunities.

INSTITUTIONS

- Host a sustainability intern or apprentice.
- Assess opportunities to lower your environmental impact with sustainable purchasing, green stormwater infrastructure, and clean energy.



For more data and to see what you can do to advance Greenworks, visit www.phila.gov/green.

THE CITY OF PHILADELPHIA
— OFFICE OF —
SUSTAINABILITY

GREENWORKS
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Philadelphia's Office of Sustainability