



GREENWORKS

PHILADELPHIA





METHODOLOGY. With the 2011 annual report, we are sharing progress made since we last reported in May of 2010. *Greenworks* is made up of five goal areas, fifteen measurable targets, and 151 initiatives. The table below is a snapshot of progress to date, and reflects the number of initiatives that are complete, underway, or under consideration for the future. For more detail on each initiative, refer to the table beginning on page 12.

[LEFT] Mayor Michael Nutter opens a new farmers market in Norris Square.

YEAR TWO	
TARGET	PROGRESS

TARGET 1 Lower City Government Energy Consumption by 30 Percent



TARGET 2 Reduce Citywide Building Energy Consumption by 10 Percent



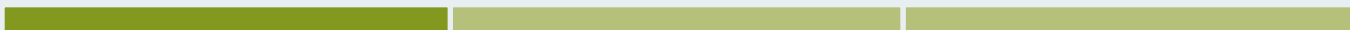
TARGET 3 Retrofit 15 Percent of Housing Stock with Insulation, Air Sealing, and Cool Roofs



TARGET 4 Purchase and Generate 20 Percent of Electricity Used in Philadelphia from Alternative Energy Sources



TARGET 5 Reduce Greenhouse Gas Emissions by 20 Percent



TARGET 6 Improve Air Quality toward Attainment of Federal Standards



TARGET 7 Divert 70 Percent of Solid Waste from Landfill



TARGET 8 Manage Stormwater to Meet Federal Standards



TARGET 9 Provide Park and Recreation Resources within 10 Minutes of 75 Percent of Residents



TARGET 10 Bring Local Food within 10 Minutes of 75 Percent of Residents



TARGET 11 Increase Tree Coverage toward 30 Percent in All Neighborhoods by 2025



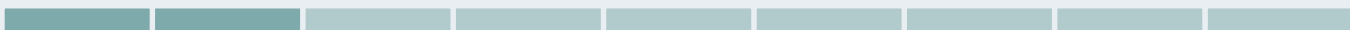
TARGET 12 Reduce Vehicle Miles Traveled by 10 Percent



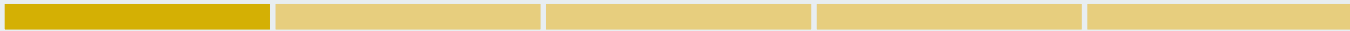
TARGET 13 Increase the State of Good Repair in Resilient Infrastructure



TARGET 14 Double the Number of Low- and High-Skill Green Jobs



TARGET 15 Philadelphia is the Greenest City in America



26 Complete Initiatives

109 Initiatives in Progress

16 Future Initiatives

Dear Friends,

We're very proud to share with you the *2011 Greenworks Progress Report*. We couldn't have achieved these impressive outcomes without committed partnerships among Philadelphia's residents, businesses, and organizations, and we thank you for all of your hard work. This report details shared progress toward shared goals.

Since we launched *Greenworks* in 2009, we've been working hard to become the greenest city in America. We've quickly and aggressively adopted policies and created programs, and as a result work on 135 of the 151 *Greenworks* initiatives is either in progress or complete.

This is an exciting time for our city. Philadelphia's commitment to sustainability has put us on the map, and other cities are looking at the example we're setting. Our successes are attracting not only interest but investments. People and businesses want to be a part of Philadelphia's future.

For the first time in more than 60 years our population is growing, and to keep attracting people to our city we'll continue providing more economic opportunities and capitalizing on the quality of life our dense urban infrastructure offers. Places like Philadelphia that provide clean air and water, open space, energy efficient buildings, and a skilled workforce will be the cities of the future.

The Navy Yard, a decommissioned naval base on the Delaware River Waterfront, is becoming a dynamic clean technology hub, attracting investment and jobs from around the world. The Mark Group, a successful weatherization company from the U.K., located its U.S. headquarters there. They started out with nine employees, in six months have grown to over 40, and plan to continue expanding. PaceControls, a manufacturer of energy-saving equipment, recently relocated to the Navy Yard to design and build its next-generation product line.

The Greater Philadelphia Innovation Cluster (GPIC), an interdisciplinary group working to improve energy efficiency of new and existing buildings, also chose to locate at the Navy Yard. GPIC received a \$129 million federal grant to serve as the U.S. Department of Energy's national energy efficiency hub, and the group is putting Philadelphia at the center of the country's clean energy economy.

Beyond the Navy Yard, we're planning our long-term, city-wide growth and development with sustainable values at the core. As we update the City's zoning code and comprehensive plan, we're making sure they support green practices including renewable energy production, transit-oriented development, and adaptive reuse of existing infrastructure. And we're leading the way nationally by managing our stormwater with green infrastructure that also cleans the air and provides recreational and economic opportunities.

Next year will mark the mid-way point in the *Greenworks* timeline. We're proud of what we have accomplished so far, but there's much more work to do. We look forward to continued progress and collaboration.

Many, many thanks to each and every one who has contributed.

Sincerely,



Michael A. Nutter
MAYOR



Katherine Gajewski
DIRECTOR OF SUSTAINABILITY



2012

2015

2015

2030

2035



E N E R G Y

GOAL: PHILADELPHIA REDUCES ITS VULNERABILITY TO RISING ENERGY PRICES

TARGET 1

LOWER CITY GOVERNMENT ENERGY CONSUMPTION BY 30 PERCENT

The City Leads by Example with Its Energy Efficiency Work

With funding from the U.S. Department of Energy's Energy Efficiency and Conservation Block Grant, the City is converting 55,000 yellow and green incandescent traffic signals to energy efficient LEDs. The City's red traffic signals were converted to LEDs when the technology became available in the 1990s. Streets Department technicians will also replace the 30,000 red signals that have now reached the end of their useful life. These high-efficiency bulbs will save the City approximately one million dollars a year in electricity costs. The City will be additionally rewarded for its energy efficiency efforts with a rebate payment from the PECO Smart Ideas program.

The City is also striving to reduce energy use at municipal facilities. The Streets Department is building the City's first project designed to LEED standards, which is scheduled to be completed in 2011, and the City has six additional LEED projects planned. In 2010 the City won a grant from the State for over \$400,000 to help renovate six recreation centers with modern lighting and controls. These updates will save the City over \$100,000 annually in electricity costs and serve as models for replication across the recreation system.

To support additional energy reducing projects, the Mayor's Office of Sustainability (MOS) established an Energy Efficiency Fund (EEF) to help departments implement high payback energy efficiency projects. Applications chosen for funding include lighting renovations and HVAC improvements, and all the projects will exemplify how the City can invest in its assets and save money. MOS will monitor energy and cost savings at project sites using its energy management database. Another round of EEF applications is planned for summer 2011. Finally, the City will complete an Investment Grade Audit of four large downtown buildings to prioritize energy conservation measures.

TARGET 2

REDUCE CITYWIDE BUILDING ENERGY CONSUMPTION BY 10 PERCENT

City Leverages Funds to Expand Private Retrofit Market

Buildings account for more than half of citywide energy use and are the leading source of greenhouse gas emissions in Philadelphia. Our buildings represent enormous opportunity to save energy and money through retrofits, but the complexity of these projects can present a hurdle to many.

To meet the needs of business and home owners, in 2010 the City of Philadelphia and its partners in the Metropolitan Caucus launched EnergyWorks, a comprehensive retrofit program designed to accelerate the growth of a robust private retrofit market in the five-county region. By providing technical expertise, below market-rate financing, and quality assurance all under one roof, EnergyWorks makes energy retrofits affordable and easy to navigate. To date the program has provided information and education on retrofits to over 15,000 homeowners, audited and/or retrofitted over 400 homes, and approved over \$6 million in commercial retrofit loans for projects ranging from new hotels to historic office buildings.

Another tool the City offered in 2010 with the support of Recovery funds is the Greenworks Rebate Fund, which assists small businesses across Philadelphia with energy retrofits by refunding up to 50% of the cost for qualifying projects. Restaurants upgraded refrigeration equipment, retail shops purchased high-efficiency LED lighting, and office buildings replaced inefficient HVAC equipment. Projects completed to date have an average energy savings of 52% and together reduce carbon emissions by over 60 tons annually.



Berry Halkin Photography



[LEFT TO RIGHT] Kensington CAPA School, opened in fall 2010, is the first LEED Platinum public high school in the country; The Streets Department is out and about installing 55,000 new LED traffic signals.



The 250 kilowatt solar array at the Philadelphia Water Department's Southeast Water Pollution Control Plant produces enough energy to power 28 homes for one year.

TARGET 3

RETROFIT 15 PERCENT OF HOUSING STOCK WITH INSULATION, AIR SEALING, AND COOL ROOFS

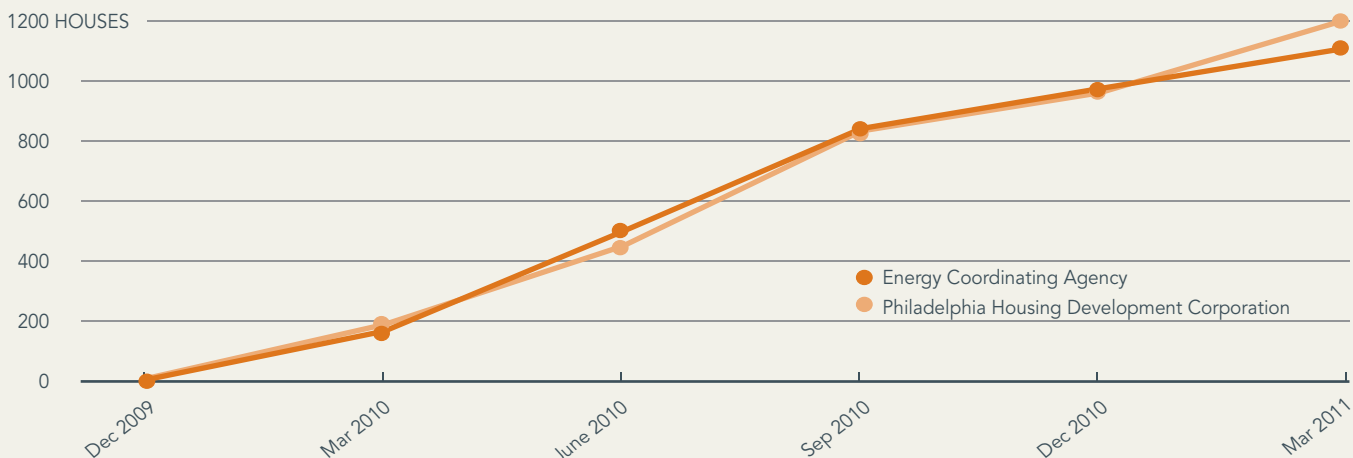
Recovery Funding and Local Utilities Support
Weatherization

Long standing energy efficiency programs have benefitted from an infusion of additional funds through the American Recovery and Reinvestment Act. Over the past two years, thousands of Philadelphia homeowners have received energy retrofit assistance. Since the beginning of 2010, the Energy Coordinating Agency (ECA) and the Philadelphia Housing Development Corporation have completed over 2,300 retrofits through the Weatherization Assistance Program (WAP).

To meet program demand, ECA, which has provided energy auditing and retrofit services in Philadelphia for the past two decades, doubled in size. Since early 2010, the Green Jobs Training Center at ECA has prepared hundreds of workers to meet the demand for weatherization work in the region.

Philadelphia's electric and gas utilities are also playing an important role in improving home energy efficiency across the city. In 2011, PGW announced EnergySense, a five-year \$60 million program that offers energy audits, rebates, and incentives to all of its customers. EnergySense's Enhanced Low Income Retrofit Program expands an existing program to reach 2,000 homes each year and provide an average of 20% energy savings. PECO, which launched Smart Ideas last year, also provides incentives, rebates, and energy saving tips to all Philadelphia residents. The residential program focuses on home electricity use reduction and provides rebates for the purchase of Energy Star appliances, discounts on Energy Star light bulbs, and bill credits for customers who enroll in their air conditioning PECO Smart Ideas A/C Saver program.

Weatherization Assistance Program Houses Retrofitted since 2009



TARGET 4

PURCHASE AND GENERATE 20 PERCENT OF ELECTRICITY USED IN PHILADELPHIA FROM ALTERNATIVE ENERGY SOURCES

Philadelphia Builds Solar PV Projects

With assistance from an Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy, the Philadelphia Water Department (PWD), and the Solar America Cities Program, the City installed its first solar project, a 250 kW array at PWD's Southeast Water Pollution Control Plant in spring 2011. Planning for a second large solar installation on City-owned land is already underway.

The City eased solar installation for business and home owners by restructuring the permitting fees, streamlining the permit process for smaller scale projects, and providing education about solar power. Since the beginning of 2009, over 1,325 kW of solar capacity has been installed throughout Philadelphia. To take a virtual solar tour of these installations, visit the Mayor's Office of Sustainability website.

Increasingly Philadelphia institutions are integrating renewable sources into their energy portfolios. Local professional sports teams such as the Phillies and Eagles and educational institutions including the University of Pennsylvania and Drexel University have instituted aggressive renewable energy certificate (REC) purchasing programs. A REC represents the environmental and social benefits of renewable electricity generation, and can be sold separately from renewably generated electricity. RECs allow organizations in Philadelphia to support clean energy production even when electricity from a renewable generation project cannot be distributed directly to their facilities.

ENVIRONMENT

GOAL: PHILADELPHIA REDUCES ITS ENVIRONMENTAL FOOTPRINT

TARGET 5

REDUCE GREENHOUSE GAS EMISSIONS BY 20 PERCENT

Integrated Municipal Government, Philadelphia County, and Regional Inventories Underway

While Philadelphia's greenhouse gas (GHG) emissions per capita are less than half the national average, *Greenworks* nevertheless sets a goal to reduce emissions by 20% over 1990 levels by 2015. Many of the *Greenworks* targets and initiatives contribute toward reductions in GHG emissions, either directly or indirectly. To effectively monitor resulting emissions reductions, the Mayor's Office of Sustainability is collaborating with the Philadelphia Department of Public Health's Air Management Services, the City Planning Commission, and the Delaware Valley Regional Planning Commission (DVRPC) to form a greenhouse gas emissions working group.

In fall 2011, the working group will publish updated inventories for Philadelphia municipal government, all of Philadelphia County, and the nine county region served by DVRPC. In the process of developing these new inventories, the working group will establish a common baseline year of 2010 as well as a shared methodology for each inventory, an important step in making the process replicable and the data comparable. The team is coordinating the effort with PECO, PGW, and SEPTA to ensure data accuracy and availability.

In spring 2011, Philadelphia showed its leadership on GHG mitigation by participating in the first ever Carbon Disclosure Project for cities. Philadelphia joined cities across the world in disclosing GHG emissions data and climate change adaptation strategies as a first step toward developing global best practices.

TARGET 6

IMPROVE AIR QUALITY TOWARD ATTAINMENT OF FEDERAL STANDARDS

Striving to Reduce Air Pollution from Vehicles

The Department of Health's Air Management Services (AMS) division measures and reports on Philadelphia's air quality and promotes cleaner air in the city. Following the 2009 launch of the *Idle Free Philly* campaign, AMS investigated almost four hundred idling complaints in 2010, issuing violations to offenders of the City's anti-idling ordinance. AMS also continued to coordinate with the Office of Fleet Management to retrofit the City's diesel vehicle fleet with cleaner burning engines, performing over 1,800 retrofits since 2009.

In another effort to reduce air pollution from vehicles, the Mayor's Office of Sustainability (MOS) won a \$140,000 grant from the Pennsylvania Department of Environmental Protection to install 20 electric vehicle charging stations. Eighteen of the chargers, which the City will install in surface lots and garages, will serve PhillyCarShare electric vehicles, available for any of PhillyCarShare's 12,000 plus members to drive. The remaining two chargers will be open to the public for use by electric vehicle owners.

To further prepare for the arrival of second generation electric vehicles, MOS also received a grant from the Urban Sustainability Directors Network to fund the Northeast Regional Electric Vehicle Partnership (NREV), a collaboration with New York City and Boston, Massachusetts. Along with partner cities, MOS examined the permitting process for home electric vehicle charger installations and educated parking garage owners about electric vehicle infrastructure. The NREV partners have also drafted content for a website that will launch in 2011 to educate residents of the Northeast region about electric vehicles.



The Philadelphia International Airport installed electrical charging stations in 2010, and airlines are replacing their old diesel and gasoline engine equipment with clean electric vehicles.

City of Philadelphia Community GHG Breakdown by Source

	eCO ₂	
Coal	20,480	0.1%
Diesel	777,636	5.1%
Electricity	5,924,422	39.2%
Food Waste	46,114	0.3%
Fuel Wood	199	0.0%
Gasoline	2,931,961	19.4%
Heavy Fuel Oil	341,435	2.3%
Light Fuel Oil	1,030,656	6.8%
Natural Gas	3,840,584	25.4%
Paper Products	85,071	0.6%
All Other Waste	127,979	0.8%

TOTAL 15,126,537

City of Philadelphia Community GHG Breakdown by Sector

	eCO ₂	
Buildings	7,688,612	50.8%
Transportation	3,709,597	24.5%
Industry & Waste	3,725,301	24.6%

TOTAL 15,123,510

Source: City of Philadelphia GHG Inventory, 2007.
*eCO₂ means tons of carbon dioxide equivalent



[LEFT] Big Belly trash and recycling receptacles got a makeover from Mural Arts. [RIGHT] Recycling bins line Belgrade Street in Fishtown.

TARGET 7

DIVERT 70 PERCENT OF SOLID WASTE FROM LANDFILL

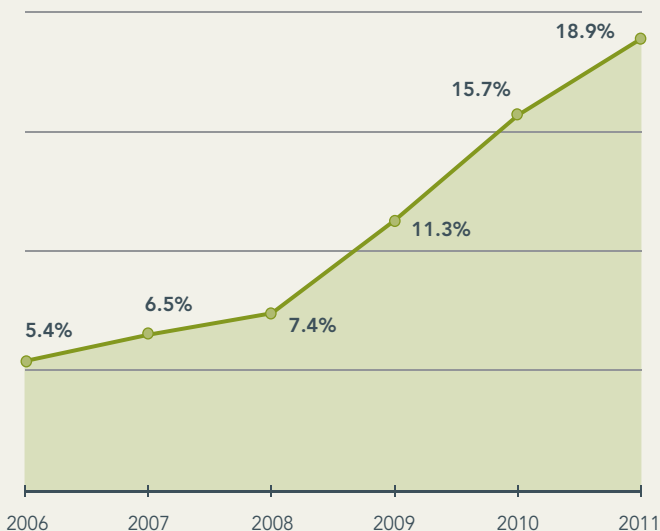
Recycling Continues to Expand in Philadelphia

2010 was an impressive year for Philadelphia’s recycling program, which has been recognized as a national model. After years of steady growth in the city’s recycling rate, the Streets Department again recorded record rates of diversion in neighborhoods across the city. In the first quarter of 2011, the curbside diversion rate was just over 20%, four times higher than the 2006 rate. Some sections of the city achieved diversion rates over 30%, and many neighborhoods have seen double-digit increases in recycling in the past year.

By switching to curbside collection of all plastics numbered 1 through 7 in August 2010, the Streets Department took the guesswork out of recycling in Philadelphia, which boasts the largest single stream collection program on the East Coast. Philadelphia Recycling Rewards also provides many residents with an extra incentive to make sure they recycle as much as possible. The increase in recycling didn’t happen on its own though, and thanks are due to block captains, neighborhood groups, and every Philadelphian who puts their bin out each week.

Now you don’t have to be at home to recycle in Philadelphia. Many of the Big Belly rubbish bins lining the streets in Philadelphia also include a recycling kiosk, which makes public recycling easier along many commercial corridors. Last year, the Streets Department collected over 189 tons of public recycling.

Philadelphia Curbside Recycling Diversion Rate



PROFILE
Recycle Bank



Recycle Bank employees celebrated Earth Day 2011 by hitting the streets bright and early to post sign-up forms on residents’ recycling bins and front doors.

Recycle Bank, which was founded in Philadelphia in 2004, partnered with the Streets Department last year to launch Philadelphia Recycling Rewards. The program has been a huge success with **128,000 households** enrolled as of April 2011. Residents who enroll in the program receive a tracking sticker for their recycling bin and earn Recycling Rewards points based on the amount of recycling collected in their neighborhood each week. Points can be redeemed at local and national merchants or donated to charitable causes.

E Q U I T Y

GOAL: PHILADELPHIA DELIVERS MORE EQUITABLE ACCESS TO HEALTHY NEIGHBORHOODS

TARGET 8

MANAGE STORMWATER TO MEET FEDERAL STANDARDS

Philadelphia Manages Stormwater with Green Infrastructure

The *Green City, Clean Waters* plan, which was released by the Philadelphia Water Department in 2009, seeks to invest \$2 billion in the City's infrastructure over the next 25 years to protect and enhance our watersheds. The plan proposes to manage stormwater with innovative green infrastructure, maximizing economic, social, and environmental benefits to Philadelphia and creating a green legacy for future generations.

The Philadelphia Water Department, in partnership with the School District of Philadelphia, installed green infrastructure at the Kensington Creative and Performing Arts School (CAPA). Kensington CAPA boasts a porous pavement parking area, underground detention and infiltration facilities, rain gardens, green roofs covering 50% of the roof area, and rainwater cisterns for reuse. In addition to managing its stormwater progressively, CAPA has other sustainable features including geothermal heating and cooling and maximized daylighting. The school received LEED Platinum certification from the U.S. Green Building Council.

TARGET 9

PROVIDE PARK AND RECREATION RESOURCES WITHIN 10 MINUTES OF 75 PERCENT OF RESIDENTS

Green2015 Sets Priorities for First 500 Acres

Since 2008, the City and our partners have committed to creating approximately 100 new acres of public green space. The many exciting park projects underway include Penn Park, a 24-acre parcel owned by the University of Pennsylvania on the Schuylkill River banks that will manage stormwater and provide recreation amenities in West Philadelphia. The City also established the first two new neighborhood parks in over a decade, Hawthorne Park at 12th and Catherine Streets and Julian Abele Park at 22nd and Carpenter Streets. The City has selected another 105 acres of park sites, and is working to secure funding for those projects.

In December 2010, Philadelphia Parks & Recreation (PPR), in partnership with PennPraxis, released *Green2015: An Action Plan for the First 500 Acres*. To create the plan, PPR considered input from many sources including residents, stakeholders, government officials, and nonprofit and civic leaders. *Green2015* establishes park site selection criteria to consider including seven primary indicators and twenty secondary indicators. Important considerations include ease of access, population density served, ownership, current use, acreage, stormwater management, and connection to long-term City goals. Sites that meet the most criteria will best fulfill the goals of *Green2015* and provide the most benefit to Philadelphians.

As a first step toward implementing *Green2015*, PPR and the Philadelphia Water Department are working with the School District of Philadelphia as they draft their facilities master plan to include greening school yards, which will create public green space and help manage neighborhood stormwater. A national nonprofit, the Trust for Public Lands, is creating its first Philadelphia office to aid the three local organizations in raising external funds for the projects.



Turn to Page 20 to view an open space map.

[RIGHT] Local and regional food sold at one of Philadelphia's 39 farmers markets.

[LEFT] Mayor Nutter and Deputy Mayor for Transportation and Utilities Rina Cutler test out porous pavement with water balloons on Percy Street in South Philadelphia.



The University of Pennsylvania partnered with the Philadelphia Parks & Recreation on *Creating Canopy at Penn*, distributing 300 free trees to faculty, staff, and neighbors.

TARGET 10

BRING LOCAL FOOD WITHIN 10 MINUTES OF 75 PERCENT OF RESIDENTS

City Improves Retail Access and Local Production

The Philadelphia Department of Public Health received a \$15 million grant from the U.S. Department of Health and Human Services to establish *Get Healthy Philly*. One focus of the program is preventing obesity by increasing access to healthy, affordable foods. *Get Healthy Philly*, in partnership with The Food Trust, opened four farmers markets in underserved neighborhoods during the 2010 season and plans to open an additional six in 2011. Through Philly Food Bucks, SNAP beneficiaries get \$2 of free produce for every \$5 of food stamp benefits spent at over 20 participating farmers markets. This initiative increased food stamp redemption at markets by over 120%.

Get Healthy Philly has recruited over 500 corner stores into the Healthy Corner Store Initiative. Three hundred fifty of the participating stores have added at least two new healthy products, and 16 stores received new shelving and refrigeration for produce and other perishables. *Get Healthy Philly* is recruiting operators for 20 pilot healthy carts, mobile carts that sell fruits and vegetables in low-income Philadelphia communities with little-to-no access to this type of produce. The carts will receive free small business training, licensing fee waivers, marketing assistance, and Electronic Benefits Transfer machines.

In addition to supporting the creation of retail access to fresh food, the City is also supporting local production. In 2011, the Department of Public Property began leasing previously vacant land at 27th and Master Streets in Brewerytown to Marathon Farm. The farm sells organic produce to neighbors at an affordable farm stand, supplies ingredients to Marathon Restaurants, and educates residents about gardening. City agencies are exploring opportunities to further support urban agriculture on City-owned properties. The Philadelphia Food Policy Advisory Council, appointed by Mayor Nutter in 2011, will advise the City more broadly on how to be a productive partner in the regional food system.



TARGET 11

INCREASE TREE COVERAGE TOWARD 30 PERCENT IN ALL NEIGHBORHOODS BY 2025

Tree Canopy Study and Regional Campaign Spur Tree Planting

In December 2010, Philadelphia Parks & Recreation (PPR) released *A Report on the City of Philadelphia's Existing and Possible Tree Canopy*, completed by the University of Vermont Spatial Analysis Laboratory. The analysis, based on high-resolution aerial imagery and radar data, concludes that Philadelphia boasts 16,884 acres, 20 percent of all land in the city, covered by tree canopy. The study also examined where in Philadelphia planting trees is most feasible, finding that the majority of land suited to tree planting is in privately owned residential yards.

To incentivize planting in private yards, PPR is partnering with large employers. In 2010 PPR offered tree planting and maintenance training to Philadelphia-based employees of Independence Blue Cross, University of Pennsylvania, and Drexel University. After attending training sessions, employees were eligible for a free tree to plant in their yard.

Since 2008, nearly 40,000 trees have been planted in Philadelphia. The public sector planted approximately half, and nonprofit partners, institutions, and developers planted the remainder. In addition, the Pennsylvania Horticultural Society launched *Plant One Million*, an ambitious multi-state tree-planting campaign, encompassing 13 counties in southeastern Pennsylvania and parts of New Jersey and Delaware.



Turn to Page 21 to view a tree coverage map.



On April 16 and 17, more than 40 community groups participated in a citywide tree planting event. Over the two days, Philadelphians planted 1,000 trees. Youth working with the Tookany/Tacony-Frankford Watershed Partnership are pictured above.

E C O N O M Y

GOAL: PHILADELPHIA CREATES A COMPETITIVE ADVANTAGE FROM SUSTAINABILITY

PROFILE SEP-TAINABLE

In January 2010, the SEPTA board formally adopted SEPTA's first-ever sustainability plan. *SEP-TAINABLE: The Route to Regional Sustainability* outlines 12 goals to reinvigorate SEPTA's role as an economic, social, and environmental sustainability solution for the region. Through its goals and initiatives, the plan considers SEPTA as an employer, a consumer, a producer, and most importantly, a public service. SEPTA plans to meet the goals in *SEP-TAINABLE* by 2015.

	SEP-TAINABLE GOAL	2015 TARGET
ENVIRONMENTAL	1. Improve greenhouse gas (GHG) and criteria air pollutant emissions performance	5% annual improvement
	2. Improve water use and pollutant discharge performance	10% improvement by 2015
	3. Improve energy intensity performance	10% improvement by 2015
	4. Reduce and reuse waste	20% waste diversion by 2015
	5. Integrate with livable communities	One TOD project per year
SOCIAL	6. Improve access to local food via transit	Three new farmers markets on SEPTA property by 2015
	7. Develop a highly-skilled, healthy and versatile workforce	50% turnover filled from succession pool
	8. Support regional business equity	10% improvement by 2015
ECONOMIC	9. Increase transit mode share	10% increase by 2015
	10. Improve infrastructure state of good repair	15% proportionate improvement by 2015
	11. Improve operating expense performance	10% improvement by 2015
	12. Achieve PA TAC recommended funding levels	Full funding of PA TAC recommended funding levels

TARGET 12

REDUCE VEHICLE MILES TRAVELED BY 10 PERCENT

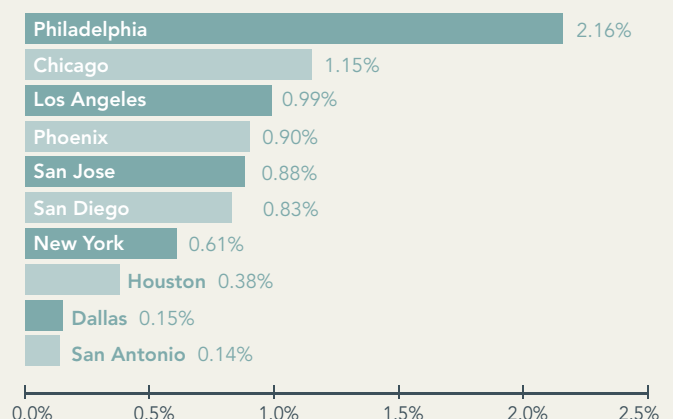
Philadelphia Tops Large Cities in Bicycle Commuting

Strategic investments in diverse transportation infrastructure make Philadelphia easy to navigate on foot, public transportation, or by bike. Philadelphia has the highest percentage of bicycle commuters of any large city in the country, twice the rate of second place Chicago. With a growing network of bicycle lanes across the city, bike commuting has grown by 150% in the last decade according to the Bicycle Coalition of Greater Philadelphia. In Center City over 5% of residents bike to work, putting the 2,000 new bike racks installed over the past three years to regular use.

Building on the success of the east-west corridor on Spruce and Pine Streets, the Streets Department will pilot north-south bike lanes on 10th and 13th streets in the summer of 2011. The Streets Department, partnering with the Philadelphia Department of Public Health and the Philadelphia Police Department, also launched the *Give Respect, Get Respect* public awareness campaign for motorists, cyclists, and pedestrians in April 2011. The campaign is focused on making the streets safer for residents who walk, bike, or drive in Philadelphia by educating everyone about the rules of the road.

In 2010 the City of Philadelphia, Bicycle Coalition of Greater Philadelphia, and Pennsylvania Environmental Council secured a historic \$17.2 million in Recovery funding to enhance the city's off-road bicycle and pedestrian trail network. As of May 2011 planning for over 21 miles of trails is complete; five projects are under construction, three will break ground this summer, and four are in the design phase.

2009 Bike Mode Share For the 10 Largest U.S. Cities



Source: Bicycle Coalition of Greater Philadelphia 2011 Mode Shift report.



[LEFT TO RIGHT] Early morning on the newly completed South Street Bridge; Philadelphia Parking Authority employees installing a new ring rack on a decommissioned meter pole; Solar States installing one of 450 panels on the roof of the Crane Arts building in Kensington.

TARGET 13

INCREASE THE STATE OF GOOD REPAIR IN RESILIENT INFRASTRUCTURE

Philadelphia Secures Funds for Infrastructure Repair and Upgrade

Two years after Mayor Nutter signed a resolution to think more holistically about the City’s streets and infrastructure, the Mayor’s Office of Transportation and Utilities is leading a number of projects reflecting those values. In November 2010, the City re-opened the South Street Bridge. Reconstruction of the bridge began in December 2008, and the project finished on-budget and one month earlier than expected. The new bridge boasts dedicated bicycle lanes, wider sidewalks, four pedestrian look-out areas, LED lighting, and ramp and stairway connections to the future extension of the Schuylkill River trail. More than 30,000 drivers, transit riders, bicyclists, and pedestrians use this critical connection between Center City and University City each day.

In 2011 the City began reconstructing the 40th Street Bridge connecting the Mantua neighborhood with Girard Avenue and the Fairmount Park Centennial District. The bridge, which has been closed to traffic since 2007, will be updated with wider sidewalks, enhanced street lighting, wider shoulder areas, and SEPTA trolley facilities. The project is a great example of Philadelphia attracting federal and state funds to help keep the City’s resilient infrastructure in a state of good repair.

The City is also exploring new technologies to help improve road maintenance. In spring 2011, the City installed its first porous pavement on Percy Street in South Philadelphia. The new paving approach not only reduces the amount of stormwater that enters the sewer system, it may also result in quicker melting of snow and ice from the street, which could eliminate ice heaves, increase the useful life of the pavement, and reduce the amount of road salt required to keep the street clear and safe in the winter months.

Bicycle commuters make their way down the Benjamin Franklin Parkway.



TARGET 14

DOUBLE THE NUMBER OF LOW- AND HIGH-SKILL GREEN JOBS

Sustainability Drives Economic Development in Philadelphia

Greenworks frames the growth of green industries as a priority for economic development in the city and region. Since its release, public, private, and institutional partners have advanced a range of initiatives designed to grow the green jobs base in Philadelphia.

After a highly competitive process, in September of 2010, the U.S. Department of Energy selected the Greater Philadelphia Innovation Cluster (GPIC) to serve as the new national energy research and development hub. Led by Penn State University, over 70 academic, commercial, financial, and community partners joined forces to secure \$129 million in federal grants and create GPIC at the Navy Yard in South Philadelphia. GPIC solidifies the region’s position as a leader in energy efficiency research and development, stimulates economic development in Philadelphia, and creates local jobs.

In the past year, U.S. Department of Labor grants funded a variety of green job training programs throughout Philadelphia. At the Energy Coordinating Agency Green Jobs Training Center, opened in March 2010, 978 workers received training as weatherization workers, building analysts, and insulation experts. This newly trained workforce repaired over 5,000 heating systems, provided energy conservation services for more than 3,000 homes, and led weatherization workshops for nearly 8,000 Philadelphians.

To maximize the impact of investments in green job training, the Mayor’s Office of Sustainability (MOS) and Philadelphia Workforce Investment Board will lead a regional green industry and employment survey over the summer of 2011. MOS is also collaborating with the Sustainable Business Network of Greater Philadelphia to conduct a study of demand for energy efficiency services. Together, these studies will help realign Target 14 to more accurately reflect current economic and workforce conditions.

Weatherization trainees review materials at the ECA Green Jobs Training Center.



ENGAGEMENT

GOAL: PHILADELPHIANS UNITE TO BUILD A SUSTAINABLE FUTURE

TARGET 15

PHILADELPHIANS UNITE TO BUILD A SUSTAINABLE FUTURE

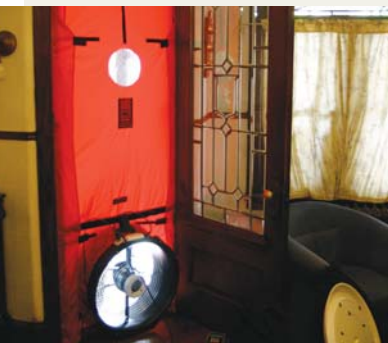
Greenworks sets ambitious but achievable goals. We can become the greenest city in America, but getting there requires the shared commitment and efforts of dedicated Philadelphians working on the ground in the city's neighborhoods and communities. Below you'll find a few of the many (many!) great examples of Philadelphia residents, businesses, and institutions helping make *Greenworks* a success. Thanks to all of you who responded to our request for photos of your sustainability work. To see more examples of greening around Philadelphia, keep an eye on our e-newsletter, Facebook page, and Flickr account.



Greenworks Rebate Program Helps Small Businesses Save Energy

Tracy and Mia Levesque started YIKES, a Philadelphia web design and development company, 15 years ago. When they were looking for a new location in 2010, they chose a pair of vacant buildings on East Girard Avenue and set out to renovate them to the LEED Platinum standard. With the help of local design-build firm Greensaw and support from the Greenworks Rebate Program, which matched their investments in high-efficiency systems, the sustainable reuse project will use 30% less energy and save over \$2,500 annually.

[LEFT] Construction is underway at the new YIKES office space.



True Tales: EnergyWorks

When EnergyWorks rolled out last fall, *Grid Magazine* contributor Samantha Wittchen wanted to show Philadelphia residents how easy it is to take advantage of the program. In a five-part blog series titled *True Tales: An EnergyWorks Examination*, Samantha details the EnergyWorks process from application through energy audit at her 100-year old home. With the results in hand—it's old! it's leaky!—Samantha describes the energy conservation measures and financing options available to her through EnergyWorks, helping others understand how to get started in their own homes.

[LEFT] EnergyWorks audit underway at Samantha Wittchen's house.



Twenty Neighborhoods Collaborate to Recycle 1,697 Christmas Trees

On January 9, 2011, 20 Philadelphia civic and nonprofit organizations joined together with local companies Shechtman Tree Care and Bartlett Tree Experts to recycle Christmas trees. Together the organizations saved 1,697 trees around the city from the landfill and supplied volunteer groups with tree chippings to use in local dog runs, community gardens, and parks. The event set a great precedent for citywide civic collaboration and raised awareness around Philadelphia about how residents can creatively reuse products instead of sending them to the landfill.

[LEFT] One of seven Treecycling events that took place in January across Philadelphia.



Walnut Hill Community Farm

In spring 2010 the Walnut Hill Community Farm, which includes a community garden, urban farm, and pocket park, broke ground. The project is managed by Philly Rooted, in partnership with The Enterprise Center Community Development Corporation, on a site owned by SEPTA adjacent to the 46th Street El Station in West Philadelphia. The Walnut Hill Grower's Cooperative runs the site's urban farm. Neighborhood youth self-manage the Co-op where they grow fresh, natural produce that they sell at local markets. The Co-op provides supplemental income to the growers and supplies produce in underserved communities. The farm also manages stormwater from the roof of the SEPTA station by collecting it in an eleven hundred gallon cistern attached to a solar powered water pump that distributes water throughout the site.

[LEFT] Philly Rooted staff and local youth run a grower's co-op at Walnut Hill Community Farm.



Sustainability at the Philadelphia Zoo

The Philadelphia Zoo, which celebrated its 150th anniversary in 2009, has set out to be a leader in sustainable operating practices among zoos and aquariums. The Zoo has reduced its water usage by over 50% since 2008 and in 2010 became the second facility in the City to install water-less urinals. The Zoo uses a geothermal system to heat and cool two of its largest facilities, fuels another heating system entirely with recycled cooking oil, and plans to break ground on its first LEED certified building during the summer of 2011.

[LEFT] The new Bird Lake constructed wetland at the Philadelphia Zoo will naturally filter the lake and eliminate the need to add potable water.



Thomas Jefferson University's Renewable Energy Commitment

Thomas Jefferson University and Hospital receives over one third of its electricity from the Locust Ridge Wind Power Project in Schuylkill County, Pennsylvania. In 2009 Jefferson and five other regional healthcare centers agreed to purchase power from the Locust Ridge Project, owned by Iberdrola Renewables, Inc., at a fixed price for 10 years. Jefferson has an on-going energy conservation and efficiency program and has implemented \$18 million of projects to date. Jefferson also is evaluating cutting edge projects including a large-scale energy storage facility on its campus, which will allow Jefferson to optimize its use of renewable energy.

[LEFT] The Locust Ridge Wind Power Project in Schuylkill County, Pennsylvania.



Community College of Philadelphia's Green Expansion

As part of the Community College of Philadelphia's (CCP) commitment to energy conservation and sustainability, the school is renovating its Northeast Regional Center (NERC) and Main Campus using the latest environmentally friendly building materials and construction techniques. The NERC project, completed in spring 2011, was built to meet the LEED Gold standard and includes geothermal heating and cooling, a stormwater retention system, daylighting, and a green roof. CCP is also planning an expansion on its Main Campus at 17th and Spring Garden Streets, including a new Pavilion building that they expect will also receive LEED Gold certification.

[LEFT] CCP's Northeast Regional Center is projected to achieve LEED Gold certification for sustainable design.



PROGRESS: INITIATIVES

E N E R G Y

Initiative	Progress to Date	Timeline
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TARGET 1: LOWER CITY GOVERNMENT ENERGY CONSUMPTION BY 30 PERCENT

Initiative	Progress to Date	Timeline	
COMPLETED	Develop Energy Load/Demand Management Practices	In summer 2010, 14 City facilities participated in PJM's Demand Response program for the first time. The result was an 8 MW reduction. The City will participate again in summer 2011 with an expanded number of facilities.	Launched 2010, Ongoing
	City Car Management Plan	Office of Fleet Management reduced City fleet by 402 cars in 2009 and average MPG continues to increase. Almost 500 City employees are enrolled in car share, representing significant savings in fleet costs.	Launched 2009, Ongoing
	LEED Legislation for City Buildings	Bill No. 080025 signed into law January 2010. As of spring 2011, five City-owned LEED projects are in design, and two are under construction.	Enacted 2010
	Adopt Integrated Utility Bill Management System	The City's new energy management database is in place to monitor and track energy usage in City facilities.	Launched 2010
	Energy-Efficient Capital Investments	Investment Grade Audit underway at Triplex buildings and City Hall. Using Recovery and Capital funds, established an Energy Efficiency Fund in spring 2011 and selected a first round of projects at City facilities based on energy performance and payback.	Launched 2010, Ongoing
	Encourage Conservation Among Employees	City employees at 14 facilities participated in demand response events in 2010. Piloting department-based employee conservation program.	Launched 2010, Ongoing
	Install New Lighting	Streets Department completing installation of 55,000 LED traffic signals and will kick off LED streetlight pilot in 2011. Mayor's Office of Sustainability and Philadelphia Parks & Recreation won a \$412,000 grant from the State to update lighting and controls at six recreation facilities. Construction will begin summer 2011, and projects will be evaluated for replication at other sites.	Launched 2010, Ongoing
IN PROGRESS	Identify Less-Expensive and Alternative Electrical Sources	The City developed a wholesale purchasing plan which is projected to yield \$3 to \$5 million in savings over a retail purchase approach. The City has also assumed responsibility for state alternative energy compliance obligations in addition to voluntary renewable energy credit purchases.	Target 2011, Ongoing
	Implement Capital Budget Energy Guidelines	Continued implementation of LEED requirements for Capital-funded projects. High-performance building added as explicit Guiding Principle in Capital Program call letter, and Department of Public Property added LEED compliance language to standard RFP.	Launched 2011, Ongoing
	Use Future Energy Costs to Help Inform Building Acquisition/Expansion Decisions	Planning underway includes collaborative effort between the Mayor's Office of Sustainability, Mayor's Office of Transportation and Utilities, Department of Public Property, and Capital Program Office to ensure higher energy efficiency standards.	Launched 2011, Ongoing
	Investigate Conversion of City Buildings from Steam Loop to Natural Gas	The City, working with PGW, is developing cost estimates and payback scenarios for all major steam accounts.	Ongoing
	Five-year Strategic Energy Plan (Water Department)	The Utility Wide Strategic Energy Plan released in 2010 is scheduled to undergo a major revision in summer 2011. These updates will allow the plan to remain in place for a five-year cycle while project plans are updated annually.	Launched 2010, Ongoing
FUTURE	Implement Target Energy Budgets	As a first step, the City adopted a new web-based energy management database which establishes baseline use by department and enables users to access facility energy information. Evaluating feasibility of transition to target energy budget program.	Target 2011/2012
	Include Energy Conservation in Future Building Maintenance Contracts	Future Initiative	Target 2012/2013
TARGET 2: REDUCE CITYWIDE BUILDING ENERGY CONSUMPTION BY 10 PERCENT			
COMPLETED	Create a Revolving Loan Fund for Commercial and Industrial Energy Efficiency Retrofits	EnergyWorks launched in 2010 with \$25 million in ARRA funding, leveraging significant outside funds to create a regional energy efficiency loan pool of over \$40 million.	Launched 2010, Ongoing
	Pursue Competitive Energy Efficiency and Conservation Block Grant through U.S. Department of Energy	The Metropolitan Caucus and its partners were awarded a \$25 million competitive grant through the U.S. Department of Energy's Better Buildings program. One of only 25 communities nationwide to receive funding. EnergyWorks launched in November 2010, making funds available to business and home owners in the five-county region.	Launched 2010
	Establish Power Purchase Pools for Small Businesses	Philly Buying Power, a program that pools the energy demands of interested small businesses to get them competitive prices on their electricity bills, launched in 2010. Over 1,100 small to medium businesses signed up through spring 2011.	Launched 2010

	Initiative	Progress to Date	Timeline	
COMPLETED	Explore Financing Options to Further Help Residents Access Capital for Retrofits	EnergyWorks, through its lending partner Keystone HELP, makes low interest loans available to homeowners for residential energy efficiency retrofit projects.	Launched 2010, Ongoing	
	Develop Cool Roof Code	Bill No. 090023 signed into law May 2010 requiring all new construction and major renovation projects with low-sloped roofs to install Energy Star certified cool roofs.	Enacted 2010	
	Grant Floor-Area Ratio Bonuses	Draft of zoning code submitted to City Council in May 2011 offers density bonuses on a sliding scale for development projects that meet LEED Platinum or Gold standards.	Target 2011	
	Fast Track LEED-Certified and Energy-Efficient Buildings	As a first step and for the first time, Licenses & Inspections and Department of Public Property staff received green building training in 2010. City continues to offer educational opportunities for building inspectors, code officials, and design staff.	Ongoing	
	Explore Possibility of Disclosing Energy Use During Real Estate Transactions	The Mayor's Office of Sustainability is working towards benchmarking energy performance of City facilities and continues to monitor recent benchmarking and disclosure initiatives in other cities.	Target 2011	
IN PROGRESS	Create a Sustainable Energy Authority	City Council recently approved board members for The Philadelphia Energy Authority and articles of incorporation will be filed with the State summer 2011. The City anticipates using the assistance of the authority to enter into long-term alternative energy projects, such as solar photovoltaic generation to benefit City facilities.	Launched 2011, Ongoing	
	Reposition the Philadelphia Home Improvement Loan Program	EnergyWorks established in 2010 as core program offering energy efficiency financing for homeowners.	Ongoing	
	Install Smart Meters	PECO received a \$200 million Department of Energy grant for smart meters in 2009. The City of Philadelphia is a partner with PECO in the execution of the Smart Future Greater Philadelphia project, and will be involved in the pilot smart grid demonstration projects.	Target 2012	
	Create Neighborhood Competitions	Retrofit Philly competition held 2010 providing weatherization and cool roofs for the entire 1200 block of Wolf Street. City plans to replicate this successful effort.	Launched 2010, Ongoing	
	Develop a Citywide Energy-Efficiency Marketing Campaign	EnergyWorks to include robust marketing campaign in five county region, with radio, internet, mobile, and grassroots outreach components.	Launched 2010, Ongoing	
	Consider Adoption of Green Building Code	City supported adoption of energy efficient updates to 2012 International Construction Code. Draft of zoning code submitted to City Council in May 2011 integrates energy efficiency and alternative energy provisions.	Target 2012	
	Develop Energy-Efficiency Building Guidelines	The Mayor's Office of Sustainability and Licenses & Inspections are developing recommendations for energy efficiency and green building in new construction and renovation projects.	Target 2011, Ongoing	
	Include Feedback on Utility Bills	Future Initiative		
	TARGET 3: RETROFIT 15 PERCENT OF HOUSING STOCK WITH INSULATION, AIR SEALING, AND COOL ROOFS			
	IN PROGRESS	Expand Current Low-Income Housing Weatherization Efforts	The Energy Coordinating Agency and Philadelphia Housing Development Corporation have weatherized over 2,300 homes through the Weatherization Assistance Program since December 2009. PECO provides additional weatherization resources through its Smart Ideas program.	Ongoing
Expand Scope of PGW's Weatherization Program and Increase Size		PGW announced EnergySense in 2010, a five-year, \$60 million program projected to save \$110 million through air sealing, energy retrofits, and equipment upgrades made available to commercial and residential customers.	Launched 2010, Ongoing	
Build Energy Efficiency Guidelines/Requirements into Public and Low-Income Housing		The Redevelopment Authority issued new City of Philadelphia Small Building Specifications that include detailed guidelines on sustainability and energy efficiency.	Ongoing	
FUTURE	Use the Sustainable Energy Authority to Create a Scalable Weatherization Program	Future Initiative		
TARGET 4: PURCHASE AND GENERATE 20 PERCENT OF ELECTRICITY USED IN PHILADELPHIA FROM ALTERNATIVE ENERGY SOURCES				
COMPLETED	Write a Guide for Solar Development	Released Solar Photovoltaic Guidebook in summer 2010.	Launched 2010	
	Report Solar Financing Options	Solar financing tutorial included in guidebook.	Ongoing	
	Recycle Deicing Fluid	Philadelphia International Airport sends deicing fluid directly to anaerobic digesters at the Philadelphia Water Department's Southeast Water Pollution Control plant. Program reduces aviation operating expenses, generates revenue for PWD, and produces useful biogenic methane.	Ongoing	
IN PROGRESS	Promote Renewable Power Purchase Agreements for Public Buildings	City issued RFP in May 2011 for 3MW solar Power Purchase Agreement at Baxter Water Treatment Plant.	Ongoing	
	Reduce Regulatory Barriers to Solar Installation	Streamlined the electrical, building, and zoning permit process for small solar photovoltaic installations and worked with the Zoning Code Commission to ease the permit process for large-scale solar installations in the zoning code draft submitted to City Council May 2011.	Ongoing	
	Develop Solar Land Use Plan	Development of a Solar Hot Spots map underway.	Target 2012	
	Explore Vertical Axis Wind Turbines	Exploring feasibility in conjunction with Licenses & Inspections, Commerce Department, and external partners.	Ongoing	
	Create Biogas Cogeneration Facility at Northeast Wastewater Treatment Plant	The Philadelphia Water Department has selected a vendor to develop a 5.6 MW biogas co-generation facility at the Northeast Wastewater Treatment Plant.	Target 2011	

	Initiative	Progress to Date	Timeline
IN PROGRESS	Install Geothermal System at Sewer Maintenance Facility	The new West Philadelphia Maintenance Facility is over 90% designed and includes a geothermal heat exchange system. The City is seeking LEED certification for this project.	Target 2012
FUTURE	Explore Ways to Capture Water at Fairmount Park and Flat Rock Dams	Future Initiative	

E N V I R O N M E N T

	TARGET 5: REDUCE GREENHOUSE GAS EMISSIONS BY 20 PERCENT		
COMPLETED	Conduct Greenhouse Gas Inventory for Philadelphia International Airport	Inventory completed in 2009, monitoring continues.	Launched 2009
IN PROGRESS	Advocate for Federal Climate Legislation	While congressional legislative efforts stalled in 2010, Philadelphia continues to be engaged. Mayor Nutter serves in a leadership role with the U.S. Conference of Mayors and was appointed by Secretary Chu to the Department of Energy Advisory Committee.	Ongoing
IN PROGRESS	Maintain Greenhouse Gas Emissions Inventory for the City	The Mayor's Office of Sustainability is working with the Philadelphia City Planning Commission, Air Management Services, and the Delaware Valley Regional Planning Commission to update municipal, citywide, and regional greenhouse gas inventories to a common 2010 base year. New Philadelphia inventory will be published fall 2011.	Ongoing
	TARGET 6: IMPROVE AIR QUALITY TOWARD ATTAINMENT OF FEDERAL STANDARDS		
COMPLETED	Purchase Hybrid Diesel Buses	SEPTA purchased 472 hybrid diesel buses, exceeding the <i>Greenworks</i> goal of 440. All of these will be in service by 2012.	Launched 2009
IN PROGRESS	Retrofit Diesel Vehicles	Filters replaced on 1,879 of 2,400 diesel fleet vehicles.	Launched 2009, Ongoing
IN PROGRESS	Increase the Use of Biodiesel Fuel in the City Fleet	City continues to use B5 in diesel fleet. Five active biodiesel stations used 746,905 gallons of biodiesel in 2010.	Launched 2009, Ongoing
IN PROGRESS	Increase the City Fleet's Gas Mileage	70% of Police fleet replaced with better MPG vehicles between 2009 and 2010. Vehicle replacements slowed due to budget constraints.	Launched 2009, Ongoing
IN PROGRESS	Facilitate Use of Electric Vehicles	Mayor's Office of Sustainability received \$140,000 grant from PA Department of Environmental Protection to install 20 electric vehicle chargers as part of an early adoption program. PhillyCarShare fleet vehicles will use 18 of these chargers, and two will be available for public use.	Launched 2011, Ongoing
IN PROGRESS	Increase the Number of Hybrid or Compressed Natural Gas Taxis	Philadelphia Parking Authority working with major medallion owners to bring initial phase of new taxis, designed to run on compressed natural gas, to Philadelphia in 2011.	Launch 2011, Ongoing
IN PROGRESS	Congestion Reduction	Anti-idling enforcement by Air Management Services and the Philadelphia Parking Authority continues. Loading zones expanded in 2010.	Ongoing
IN PROGRESS	Increase Parking Options for Bicycles and Motor Scooters	Over 2,000 new bike racks installed since 2008. 130 motor scooter parking stations installed in 2010.	Ongoing
IN PROGRESS	Develop Green Ports Plan	In 2008 the Philadelphia Regional Port Authority, South Jersey Port Corporation, and Delaware River Port Authority signed an MOU to create the Green Ports Initiative and an RFQ for engineering services is currently open to advance this partnership.	Ongoing
IN PROGRESS	Airport Green Plan	Philadelphia International Airport launched its Green Plan in 2010. Initiatives include increased recycling, bicycle access, improved energy efficiency in the terminals, and better stormwater management. A renovation at Terminal F is currently being designed to the LEED Silver standard.	Launched 2010, Ongoing
FUTURE	Develop a Compressed Natural Gas Facility	Future Initiative	
FUTURE	Consider the Creation of Demand Pricing Schemes for Parking	Future Initiative	
	TARGET 7: DIVERT 70 PERCENT OF SOLID WASTE FROM LANDFILL		
COMPLETED	Develop an Incentive-based Recycling Plan.	As of spring 2011, Recycling Rewards has over 128,000 households enrolled.	Launched 2009, Ongoing
COMPLETED	Expand Plastics Recycling	City expanded to plastics numbered 1 through 7 in August 2010. Largest single stream collection program on the East Coast.	Launched 2010, Ongoing
IN PROGRESS	Increase Recycling at City Facilities	Over 924 tons of recycling collected from City facilities in 2010.	Ongoing
IN PROGRESS	Increase Oversight of Recycling in Commercial Buildings	Commercial recycling education and outreach to business groups is underway; comprehensive resources will be online by summer 2011. Regulation enforcement is included in SWEEP officers' normal duties.	Launched 2009, Ongoing
IN PROGRESS	Continue/Expand Public Space Recycling	City collected 189 tons of recycling from the 330 Big Belly public bins in 2010.	Ongoing
IN PROGRESS	Continue Event Recycling	Streets Department working to establish best practice guidelines for event recycling in 2012.	Ongoing
IN PROGRESS	Expand Recycling at Transit Stations	Implementation of single-stream, source separate pilot project on the Trolley Lines underway. SEPTA is developing a comprehensive program for system-wide implementation.	Launched 2010, Ongoing

	Initiative	Progress to Date	Timeline
IN PROGRESS	Construction and Demolition (C&D) Waste Management Program	City exploring expansion of existing requirements for contractors to file recycling plans on large construction jobs. 584,000 tons of C&D recycling collected in 2010.	Ongoing
	Enhance Electronic Recycling	The City has expanded residential e-scrap recycling to be part of its Convenience Center drop-off program at all three centers. Computers, monitors, TVs, and more are accepted. 204 tons of e-waste collected in 2010.	Ongoing
	Promote Composting	Fairmount Park continues to compost leaves. City encouraging backyard and small-scale neighborhood composting.	Ongoing
	Anti Littering Campaign	Streets Department launched UnLitter Us campaign in 2010. Philly Spring Clean Up, now in its fourth year, had a record number of clean up sites in 2011.	Launched 2010, Ongoing
	Place more public records, plans, and documents online	As of spring 2010, ten City agencies use document management and scanning applications in operations.	Ongoing
	Institute Sustainable Procurement Policy	Mayor's Office of Sustainability is working with Procurement Department to develop a comprehensive policy for sustainable procurement.	Launch 2011, Ongoing
	Include Sustainability Criteria in Solid Waste Contracts	The next solid waste contract bid, due out in 2012, will include sustainability by promoting rail transport for waste.	Target 2012
FUTURE	Saving Money and Reducing Trash (SMART)	Future Initiative	
	Other Waste-Minimization Efforts	City continues to monitor other municipal programs and outcomes.	
	Study Energy-from-Waste Alternatives	Future Initiative	

E Q U I T Y

TARGET 8: MANAGE STORMWATER TO MEET FEDERAL STANDARDS				
COMPLETED	Develop Sustainable Stormwater Management Plan	Philadelphia Water Department submitted <i>Green City, Clean Waters</i> plan to Environmental Protection Agency. Leading sustainable stormwater management plan in the country emphasizing incorporation of green infrastructure.	Launched 2010, Ongoing	
	Maintain Recent Stormwater Regulatory Changes	Philadelphia Water Department approved over 1,350 acres (roughly 1.3 billion gallons per year reduction) of development under the new stormwater regulations, including over 105 million gallons to date in 2011.	Ongoing	
	Implement New Stormwater Fees & Credits	Parcel-based billing incorporates a property's impervious area into its stormwater fee. Phase I of the stormwater parcel fee was implemented in July 2010, and Phase II implementation is scheduled for July 2011.	Launched 2010, Ongoing	
	Increase the Number of Green Roofs	Fourteen additional green roofs have been constructed, bringing the current total to 52 (10.55 acres/459,368 square feet). Over 10 new acres are either under construction or planned at 33 sites around the city. Philadelphia is among the top five U.S. cities in total green roof acreage.	Ongoing	
	Create Green Streets	Philadelphia Water Department approved \$30 million in funding for Green Streets and stream restoration. Construction of Phase 1 is complete. Construction of Phases 2 & 3 will begin in 2011, and Phases 4 & 5 are currently in design. Neighborhood demonstration projects include Ben Franklin Parkway and Lancaster Avenue which will be complete in 2011, and 28th street greenway and Passyunk Avenue, which are in design.	Launched 2010, Ongoing	
	IN PROGRESS	Transform Vacant Land	City agencies including the Mayor's Office of Sustainability, Managing Director's Office, Department of Public Property, Redevelopment Authority, Office of Housing and Community Development, and Philadelphia Housing Authority met regularly in 2010 and 2011 to update vacant land strategies.	Ongoing
		Create new tidal/non-tidal wetlands along Delaware and Schuylkill Rivers	The Wises Mill and Cathedral Run wetland projects are under construction with anticipated completion in 2011. The Philadelphia Water Department will act as a local sponsor of the PA Department of Environmental Protection's statewide waterway impacts compensatory mitigation program.	Launched 2010, Ongoing
		Restore Waterways	Philadelphia Water Department issued an RFP for the design of 1.5 miles of stream corridor restoration for the Tacony and Cobbs Creeks. The Bell's Mill project construction will begin in 2011, and the St. Martin's Bridge project was completed in April 2011.	Ongoing
		Green Surface Parking Lots	As of spring 2011, Philadelphia Water Department approved 88 porous pavement projects, totaling 31.1 acres (1,355,340 square feet).	Ongoing
	IN PROGRESS	Expand the Rain Barrel Programs	Since last year, approximately 119 rain barrels have been distributed by Philadelphia Water Department, bringing the current total to 1,719 rain barrels distributed through the free rain barrel program.	Launched 2009, Ongoing
Control Pollution and Trash on the Rivers		Philadelphia Water Department continues to aggressively skim trash and remove heavy debris from waterways.	Ongoing	
Improve Stormwater Management at City Airport Facilities		Stormwater bioswales constructed in cell phone lot, plantings complete 2010. Rain barrel pilot on SEPTA platform continues.	Launched 2010, Ongoing	
TARGET 9: PROVIDE PARK AND RECREATION RESOURCES WITHIN 10 MINUTES OF 75 PERCENT OF RESIDENTS				
	Explore the Use of Innovative Financing for Open Space Development	The Department of Parks & Recreation and PennPraxis released <i>Green2015: An Action Plan for the First 500 Acres</i> in December 2010. The report suggests low cost, high impact methods of greening underutilized City-owned land.	Ongoing	

	Initiative	Progress to Date	Timeline
IN PROGRESS	Prioritize New Green Space Creation Within Low-Served Neighborhoods	Green2015 analyzed access to open space and identified five underserved priority areas: South Philadelphia, West Philadelphia, North Philadelphia, Lower Northeast Philadelphia, and East and West Oak Lane.	Ongoing
	Develop Parkland and Open Space Connections Along the City's Creeks and Rivers	The Schuylkill River Development Corporation constructed over a half mile of greenway at the Grays Ferry Crescent. The Fairmount Park Bikeway Improvement Project broke ground in spring 2011. Race Street Pier, the first Delaware River Waterfront Corporation project, opened in May 2011.	Launched 2010, Ongoing
	Increase Stability of Fairmount Park Ecosystem	With leadership from Commission on Parks and Recreation, Bill 110002-A, which prohibits the transfer or conversion of outdoor public park and recreation land in the Philadelphia to other uses or to third parties unless certain procedures and requirements are met, passed City Council unanimously, and Mayor Nutter signed the bill into law on April 27, 2011.	Ongoing
TARGET 10: BRING LOCAL FOOD WITHIN 10 MINUTES OF 75 PERCENT OF RESIDENTS			
IN PROGRESS	Establish Food Policy Advisory Council	Mayor Nutter appointed Food Policy Advisory Council in 2011. Members will help the City to support a healthy regional food system.	Launched 2011
	Expand the Number of Neighborhood Farmers Markets	The Department of Public Health's <i>Get Healthy Philly</i> program established four new farmers markets in underserved areas in 2010 and will create an additional six during the 2011 season.	Launched 2010, Ongoing
	Publicize Local Food-Source Efforts	The Greater Philadelphia Tourism and Marketing Corporation launched the Philly Homegrown campaign in June 2010 and the Delaware Valley Regional Planning Commission released the <i>Greater Philadelphia Food System Study</i> in 2010. Advocates and organizations across the city continue to advance innovative local food efforts.	Ongoing
	Provide Technical Assistance to Community Gardeners and Urban Farmers	The City Harvest Growers Alliance, run by the Pennsylvania Horticultural Society and funded by the USDA, supports entrepreneurial urban gardeners and farmers who provide food to underserved neighborhoods. During the 2010 season the program supported 40 plots.	Launched 2010, Ongoing
	Leverage Vacant Land	The Department of Public Property and the Redevelopment Authority of Philadelphia both posted online lists of available properties.	Ongoing
	Foster School-Based Efforts	During the 2010-2011 school year Fair Food's Farm to School program served 25 schools. In 2011-2012 the program will expand to 50 schools. As part of <i>Get Healthy Philly</i> , 200 public schools created School Wellness Councils focused on physical activity and nutrition.	Launched 2010, Ongoing
	Foster Commercial Farming	Department of Public Property is leasing previously vacant land in Brewerytown to Marathon Farm, which supplies produce to the neighborhood and Marathon Restaurants. The Walnut Hill Community Farm, a combination community garden, urban farm, and pocket park, is at 46th and Market on land leased from SEPTA.	Ongoing
	Encourage Distribution of Healthy Food in Neighborhood Stores	Through a partnership between the Department of Public Health and the Food Trust, over 500 corner stores have been recruited into the Healthy Corner Store Initiative; 350 stores have added at least two new healthy products; 16 Corner stores received mini-conversions that include shelving and refrigeration to store produce and other perishables.	Launched 2010, Ongoing
	Support Expansion of Food Co-ops	Weaver's Way opened Chestnut Hill Co-op May 2010. Expansion of Mariposa Food Co-op and the establishment of the South Philly Food Co-op and Kensington Community Food Co-op underway.	Ongoing
	Support Green Kitchen Development	The City is supporting the creation of the Enterprise Center CDC's Center for Culinary Enterprises, a shared-use culinary business center.	Launch 2011
	Integrate Anti-Hunger Efforts into Food and Urban Agriculture Goals	Department of Public Health created Philly Food Bucks to promote spending food stamp benefits at farmers markets. As of April 2011, over \$16,000 of coupons have been redeemed. Fair Food also offers a coupon called Double Dollars.	Ongoing
	Create an Urban Agriculture Workforce Strategy to Grow Green Jobs	Future Initiative	
	TARGET 11: INCREASE TREE COVERAGE TOWARD 30 PERCENT IN ALL NEIGHBORHOODS BY 2025		
COMPLETED	Change Street Tree Rules Involving Property-Owner Permission	Philadelphia Parks & Recreation working with the Law Department and Risk Management to establish a notification process for owners of property abutting planned street tree plantings. Owners will be able opt out of the planting within a specified period of time.	Launched 2011
	Create Urban Tree Forest Management Program	Philadelphia Parks & Recreation Division of Urban Forestry and Ecosystem Management is drafting an Urban Forest and Ecosystem Management Plan to be released fall 2011.	Launched 2010
	Launch Local Carbon Offset Market	Through a partnership between the City, the U.S. Forest Service, and Fairmount Park Conservancy, the Erase Your Trace website launched spring 2009. Allows for the purchase of carbon offsets that benefit local tree planting efforts. Exploring ways to publicize and increase activity.	Launched 2009, Ongoing
	Prioritize Tree Planting in Low-Canopy, High-Crime Districts	Philadelphia Parks & Recreation released a tree canopy study finding that Chinatown North and South Philadelphia have the lowest tree canopy coverage. The Navy Yard, Eastwick, and Bridesburg have the highest percentage of land available for tree planting.	Ongoing
	Target Empty Tree Pits	Philadelphia Parks & Recreation gathered and mapped GIS data on tree removals and plantings over the last eight years to help locate empty tree pits and to identify and replace dead, dying, and dangerous trees.	Ongoing
IN PROGRESS	Strengthen and Increase Public-Private Maintenance Partnerships	City is working with Pennsylvania Horticultural Society Tree Tenders and community groups.	Ongoing

	Initiative	Progress to Date	Timeline
IN PROGRESS	Fully Stock Street Trees Adjacent to All City Facilities	Using GIS data mentioned above to target empty pits near City facilities. Secured funding through PennVest and City Capital funds.	Ongoing
	Revise the Zoning Code Regarding Trees for Surface Parking Lots	In the draft of zoning code submitted to City Council in May 2011, §14-707(4), Parking Lot Landscape, requires any surface parking area located within 20 ft of any public street to include trees.	Target 2011
	Decrease the Cost of Tree Planting	In addition to planting street trees, promoting lower cost planting options such as planting in yards, private land, and parks.	Ongoing
	Establish City-wide Public Tree Planting Campaign	<i>Green Philly, Grow Philly</i> tree planting campaign kicked-off in April 2010. In 2011 campaign partnered with three large employers to encourage back yard planting. Pennsylvania Horticultural Society launched the <i>Plant One Million</i> campaign for the greater Philadelphia region in March 2011.	Launched 2010, Ongoing
	Green the Schools	School District of Philadelphia facilities master plan includes work with Philadelphia Parks & Recreation and Philadelphia Water Department to green school yards in underserved neighborhoods.	Ongoing
	Initiate City-Based Growing	Philadelphia Parks & Recreation grows native trees, shrubs, and herbaceous plants for restoration projects in Fairmount Park.	Ongoing

E C O N O M Y

TARGET 12: REDUCE VEHICLE MILES TRAVELED BY 10 PERCENT			
COMPLETED	Build an East-West Bicycle Corridor	Successful pilot East-West corridor along Spruce and Pine Streets completed 2009 has now been made permanent with connection to newly completed South Street Bridge.	Completed 2009
	Implement Airport Bicycle Access Plan	Center City to Airport bicycle access plan completed 2009.	Completed 2009
IN PROGRESS	Expand the Number of Bike Racks	2,000 new bike racks installed, 1,800 on decommissioned parking meter poles	Ongoing
	Develop New Fare Card Technologies	In January 2011, SEPTA Board approved financing plan for New Payment Technologies project.	Target 2012/2013
	Further Improve Service and Safety	SEPTA developed Route 47 Service Enhancement Pilot Project in collaboration with the Mayor's Office of Transportation & Utilities.	Launched 2011, Ongoing
	Invest in Current Transit Infrastructure	As of May 2011, SEPTA has spent \$150 million in Recovery funds and completed over 50 percent of its Recovery-related capital projects.	Ongoing
	Ensure Sustained Transit Funding	SEPTA working with stakeholders to pursue legislative agenda; extensive effort underway to replace lost Act 44 funding.	Ongoing
	Plan for an Expanded System	SEPTA engaging stakeholders in planning stages of regional transit expansion projects.	Ongoing
	Make Transit Oriented Development Investments	SEPTA received a \$4 million grant to move forward with complete renovation of Wayne Junction Station to support City of Philadelphia's Germantown/Nicetown Transit Oriented Development Plan.	Ongoing
	Upgrade Commercial Corridors	The City's Commerce Department's ReStore Streetscape Enhancements will revitalize 40 commercial corridors with a total expected City investment of \$40 million. The Storefront Improvement Program awarded 60 grants in 2011 to businesses located on 26 different commercial corridors.	Ongoing
	Develop a Pedestrian and Bicycle Master Plan	Phase I of Pedestrian and Bicycle Plan released in fall 2011. Phase II in development.	Target 2012
	Develop More Off-Road Bike Trails	Projects funded through \$17.2 million U.S. Department of Transportation grant are moving forward including the 58th Street Greenway in Southwest Philadelphia and Kensington and Tacony Rails to Trails along the Northern Delaware.	Ongoing
FUTURE	Design and Implement Complete Streets	The South Street Bridge, which includes bike lanes in both directions and improved pedestrian access, is one of several Complete Streets examples in Philadelphia. Mayor's Office of Transportation and Utilities will release Complete Streets Handbook in 2012.	Launched 2009, Ongoing
	Reduce Parking Ratios for Buildings with Designated Bike and Car Share Spots	Draft of zoning code submitted to City Council in May 2011 establishes new parking maximums to prevent oversupply of parking and requires dedicated vanpool, carpool, and hybrid vehicle parking in large commercial parking lots.	Target 2011
	Explore the Creation of a Bike-Sharing Program	Future Initiative	
	Create Bike Parking Stations	Future Initiative	
IN PROGRESS	Change Tax Classification for Car Share Programs	Future Initiative	
	TARGET 13: INCREASE THE STATE OF GOOD REPAIR IN RESILIENT INFRASTRUCTURE		
	Improve Road Maintenance and Upgrade Bridges	The South Street Bridge was completed on time and on budget in fall 2010. The bridge provides a crucial connection between Center City and University City for bicycles, pedestrians, and automobiles. Streets Department worked with Philadelphia Water Department in 2011 to complete the first completely porous street in South Philadelphia.	Ongoing

	Initiative	Progress to Date	Timeline
IN PROGRESS	Acknowledge Climate Change in Infrastructure Planning	Climate change is now acknowledged in <i>Philadelphia2035</i> comprehensive plan, the infrastructure planning of Philadelphia Water Department and Philadelphia International Airport, and in the work of the Office of Emergency Management.	Ongoing
	Investment in Public Property Management Systems	Future Initiative	Ongoing
TARGET 14: DOUBLE THE NUMBER OF LOW- AND HIGH-SKILL GREEN JOBS			
COMPLETED	Create a Green Economy Stakeholder Task Force	The Mayor's Office of Sustainability continues to work closely with Philadelphia's Green Economy Task Force, a coalition launched in 2008 and led by a diverse leadership team including businesses, unions, non-profits, funders, and community organizations.	Launched 2008, Ongoing
	Create a Regional Green Jobs Training Center	The Energy Coordinating Agency opened the John S. and James L. Knight Green Jobs Training Center in 2010 and continues to work with the Community College of Philadelphia to develop a high quality professional weatherization curriculum.	Completed 2010
IN PROGRESS	Conduct a Market Analysis	Mayor's Office of Sustainability and the Philadelphia Workforce Investment Board will issue an RFP in summer 2011 to conduct a regional green industry and employment survey. In 2010, Business United for Conservation Industry Partnership, led by the Sustainable Business Network of Greater Philadelphia, conducted a needs assessment for stormwater management services companies located in Southeastern PA.	Target 2011
	Raise Awareness About Green Jobs	Mayor Nutter and City officials continue to highlight the economic and workforce development outcomes of initiatives and investments being made in the Philadelphia region.	Ongoing
	Re-brand Philadelphia for Business Development Efforts	Smart City, Smart Choice, a joint initiative of the Commerce Department and the Philadelphia Industrial Development Corporation, launched 2010. Working with Ben Franklin Technology Partners, PIDC continues to drive sustainable business development at the Navy Yard.	Launched 2010, Ongoing
	Support and Connect Energy Research and Academia	The Greater Philadelphia Innovation Cluster for Energy-Efficient Buildings, a consortium of academic institutions, federal laboratories, global industry partners, regional economic development agencies and other stakeholders, received \$129 million in competitive funding from the Department of Energy to establish an Energy Innovation Hub in September 2010. The goals of GPIC, located at The Navy Yard in Philadelphia, are to improve energy efficiency and operability and reduce carbon emissions of new and existing buildings, and to stimulate private investment and quality job creation in the Greater Philadelphia region, the larger Mid Atlantic region, and beyond.	Ongoing
	Make Strategic Programmatic Investments to Increase Market Demand	EnergyWorks increases demand in the energy efficiency sector by streamlining the process for customers, providing low interest loans through Keystone HELP, and investing in effective marketing to raise awareness among homeowners. Mayor's Office of Sustainability and Sustainable Business Network's research partnership will evaluate current efforts and make recommendations for increasing demand for energy efficiency services.	Ongoing
	Diversify the Green Workforce	The Sustainable Business Network of Greater Philadelphia launched the Green Training Index in 2011 to provide businesses and workers with a one-stop shop for training and educational opportunities in Southeastern Pennsylvania.	Ongoing
	Create a Green Job Corps	Utilized Recovery funds to develop training programs in high growth green industries and place workers in green jobs. Philadelphia received more Pathways Out of Poverty grants than any other city in the country.	Ongoing

E N G A G E M E N T

TARGET 15: PHILADELPHIANS UNITE TO BUILD A SUSTAINABLE FUTURES			
COMPLETED	Publish Annual Report	2011 <i>Greenworks Progress Report</i> released.	Launched 2010, Ongoing
	Reach Out to Stakeholders	Mayor's Office of Sustainability and City agencies actively engaging stakeholders across portfolio of <i>Greenworks</i> initiatives. External partners and stakeholders a critical component of <i>Greenworks</i> implementation.	Ongoing
IN PROGRESS	Develop Social Marketing and Public Education Campaigns	<i>Greenworks on the Ground</i> campaign developed in 2010 to educate residents on how to adopt sustainable lifestyles. Continue to use Twitter, Facebook, Flickr, Vimeo, YouTube and www.phila.gov/green as outreach tools. Other campaigns underway across the city include EnergyWorks; UnLitter Us; Philadelphia Recycling Rewards; PECO Smart Ideas; PGW EnergySense; Give Respect, Get Respect; Go Green Go SEPTA; and many more.	Ongoing
	Use Data to Measure Results	Energy management database and Greenworks Database developed to track and report progress regularly.	Launched 2010, Ongoing
	Regularly Update Website	Mayor's Office of Sustainability launched new website in spring 2010 and continues to make updates.	Ongoing



PROGRESS: METRICS

The table below illustrates the annual impacts of several measurable *Greenworks* initiatives. We will continue to measure results and provide metrics-based reports for current and future projects as more data becomes available.

TARGET	INITIATIVE	GHG Reduced (MT CO ₂ e)	Renewable MWh Generated	MWh Reduced	MMBTU Reduced (Electricity Only)	MMBTU Reduced (Not Including Electricity)	Waste Diverted from Landfills (tons)
Target 1: Reduce City Government Energy Use	Install New Lighting Replaced 85,000 LED traffic signals	4,924		9,274	31,641		
	Develop Energy Load/Demand Management Practices	40		53	179		
	City Car Management Plan Reduced City Fleet by 542 Cars since 2003	10,780				136,393	
Target 2: Reduce Citywide Building Energy Consumption	Greenworks Loan Fund Energy Efficiency Projects	77		126	431	188	
Target 3: Retrofit 15% of Housing Stock	EnergyWorks Residential Retrofits (156 houses)	338		403	1,374	2,339	
	ECA Residential Retrofits (1,105 houses)	2,393		2,853	9,734	16,569	
	PHDC Residential Retrofits (1,196 houses)	2,590		3,088	10,536	17,933	
	PGW EnergySense (2,000 houses)	4,332		5,164	17,618	29,988	
	TOTAL	9,653		11,507	39,262	66,829	
Target 4: Purchase and Generate 20% of Electricity from Alternative Energy Sources	250 KW Solar Array Installed at SE Pollution Control Plant	164	309				
	Renewable Energy Credits (City of Philadelphia) – 19,500 MWH	10,353	19,500				
	Renewable Energy Credits (Rest of City) – 305,082 MWH	161,980	305,082				
Target 6: Improve Air Quality Toward Attainment of Federal Standards	Purchase Biodiesel for Use in City Fleet (741,905 gallons FY10)	947					
	Purchase Hybrid Buses (SEPTA Purchased 472)	12,798				173,046	
Target 7: Divert 70% of Solid Waste from Landfill	City Collected Curbside Recycling (99,000 tons)	227,269					59,530
	City Facility Recycling (924 tons)	2,121					556
	Privately Collected Recycling (175,000 tons)	401,738					105,230
	Electronic Waste Recycling (204 tons)	470					204
	C&D Recycling (584,000 tons)	781,415					552,853

Mayfield Site Contractors, Inc., install a 3,500 square foot green roof at the International Alliance of Theatrical Stage Employees Local 8 Training and Education Facility in South Philadelphia.

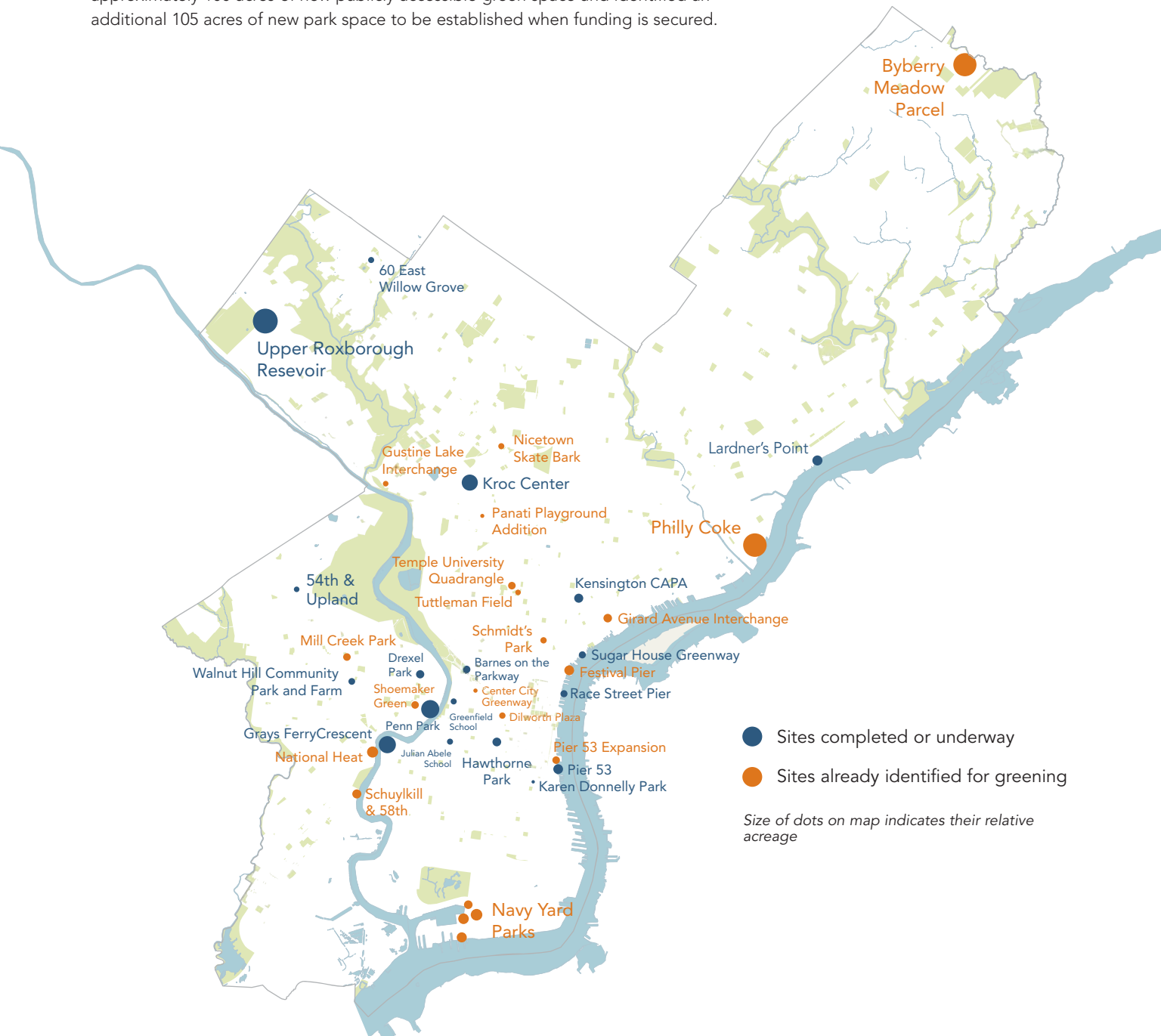


PHILADELPHIA GREEN ROOF INVENTORY

SUMMARY	Sites	Green Roof Area (sq ft)	Acres
Green Roofs Planned	18	268,048	6.15
Green Roof Under Construction	16	193,770	4.45
Green Roofs Constructed	52	459,368	10.55
TOTAL (Planned & Constructed)	86	921,186	21.15

OPEN SPACE

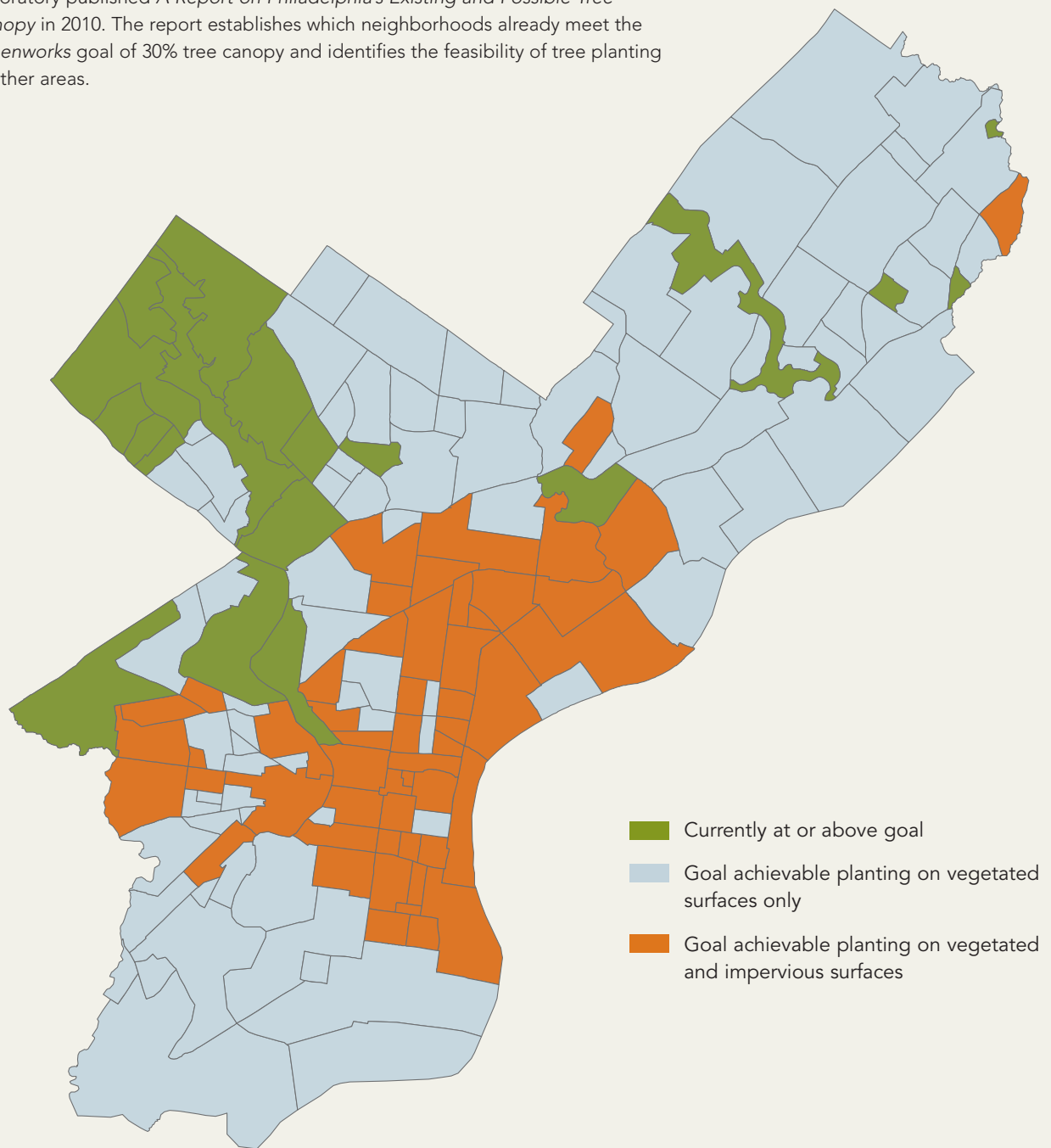
Since 2008, Philadelphia Parks & Recreation and its partners have created approximately 100 acres of new publicly accessible green space and identified an additional 105 acres of new park space to be established when funding is secured.



Map Courtesy of Philadelphia Parks & Recreation and PennPraxis.

TREE COVERAGE

Philadelphia Parks & Recreation and the University of Vermont Spatial Analysis Laboratory published *A Report on Philadelphia's Existing and Possible Tree Canopy* in 2010. The report establishes which neighborhoods already meet the Greenworks goal of 30% tree canopy and identifies the feasibility of tree planting in other areas.



Map Courtesy of Philadelphia Parks & Recreation and the University of Vermont.

GREENWORKS

PHILADELPHIA

THE CITY OF PHILADELPHIA

**MAYOR'S OFFICE OF
SUSTAINABILITY**

www.phila.gov/green



energy



environment



equity



economy



engagement