



VERSION 2.0

# PITTSBURGH CLIMATE ACTION PLAN



Pittsburgh Climate Initiative

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**Pittsburgh Climate Initiative**  
**Working Together for a Sustainable Future**

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## EXECUTIVE SUMMARY

Climate change remains a major threat facing both Pittsburgh and the international community with short, medium, and long term consequences for the economy, the environment, and society. Locally, the Pittsburgh region will ultimately experience a variety of climate-related effects including higher prices and shortages of basic goods, higher susceptibility to flooding, increased public expenditures from increased responses to extreme weather events, and higher rates of infectious diseases and heat-related illnesses.

In 2008, the City of Pittsburgh recognized these potential dangers and took active steps to mitigate potential outcomes by creating the *Pittsburgh Climate Action Plan, Version 1.0*, which outlined specific strategies for achieving greenhouse gas emissions reductions. While many of these strategies were being implemented, it became clear that an updated plan would be necessary to continue the progress of reducing local carbon and air emissions. Thus, this *Pittsburgh Climate Action Plan, Version 2.0* builds on the first *Plan* by tracking the progress of the initial recommendations, and proposing new measures to continue to help mitigate the local effects of global climate change.

This *Pittsburgh Climate Action Plan, Version 2.0* reviews the measures that government, businesses, higher education institutions, and residents in the Pittsburgh region have already undertaken, while also proposing new measures that these sectors can implement in order to help meet the local greenhouse gas reduction target of 20% below 2003 levels by 2023.

This updated *Pittsburgh Climate Action Plan* follows a framework similar to its predecessor by organizing recommendations in the following sectors: government, business, community, and higher education. Recommendations were developed by the leading committee for each sector, which included the:

- City of Pittsburgh Sustainability Commission
- Business Climate Coalition
- Black and Gold City Goes Green Community Partners
- Higher Education Climate Consortium

Additionally, in this updated *Pittsburgh Climate Action Plan*, the government sector has been expanded to include three City of Pittsburgh Authorities: the Housing Authority of the City of Pittsburgh (HACP), Pittsburgh Water and Sewer Authority (PWSA), and the Urban Redevelopment Authority of Pittsburgh (URA). These City Authorities have included both strategies already in place to curb greenhouse gas emissions, as well as future strategies.

As such, the recommendation framework varies slightly from sector to sector to reflect each sector's priorities. For recommendations for which potential greenhouse gas reduction values could be calculated, these values are provided under each recommendation's title.

In 2012 and beyond, the Pittsburgh Climate Initiative will continue to work through the City of Pittsburgh Sustainability Committee, Business Climate Coalition, Black and Gold City Goes Green campaign, Higher Education Climate Consortium, and Allegheny County to implement the recommendations contained here and for each sector, to monitor the results of these efforts to verify that they align with local greenhouse gas reduction targets, and to apply efforts throughout Allegheny County and the Greater Pittsburgh region.

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Photo: Kayla Durbin

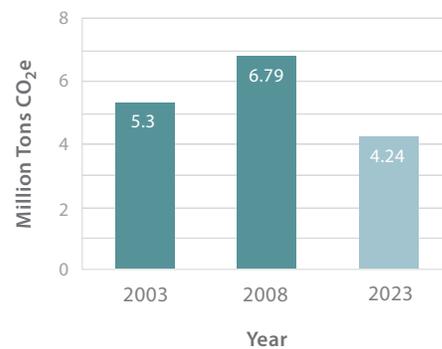
# CHAPTER 1: INTRODUCTION & BACKGROUND

In 2006, Pittsburgh’s Green Government Task Force (GGTF) was assembled to develop a sustainability plan for the city of Pittsburgh, resulting in the *Pittsburgh Climate Action Plan, Version 1.0*, which was adopted by Pittsburgh City Council in August 2008 as a guiding document for City of Pittsburgh government.<sup>1</sup> The *Pittsburgh Climate Action Plan, Version 1.0* was designed as a working document that would operate in tandem with complementary actions already being undertaken locally to reduce greenhouse gas and other air emissions. It was also designed to be updated and revised so that progress on the published recommendations could be tracked, which is part of the goal of this *Pittsburgh Climate Action Plan, Version 2.0*.

The GGTF established a four-pronged vision of the need to reduce greenhouse gas emissions locally that focused on the following sectors: municipal, community, business, and higher education. These sectors became the four sectors of have comprised the work of the Pittsburgh Climate Initiative to date – with the exception of “municipal,” which has been expanded to become a larger “government” sector. In 2008, the Pittsburgh Climate Initiative (PCI) translated the work of the GGTF into action by implementing recommendations of the *Pittsburgh Climate Action Plan*, quantifying greenhouse gas emissions and reductions, and building capacity to reduce greenhouse gases through measureable actions throughout Allegheny County, Pennsylvania.

This second, updated version of the *Pittsburgh Climate Action Plan* builds upon the capacity and knowledge created by the Pittsburgh Climate Initiative since 2008. This updated *Plan* aims to expand and focus Pittsburgh’s strategies to reach the citywide greenhouse gas reduction

goal of 20% below 2003 levels by 2023 (see progress to date shown in Figure 1 , while also serving as a tool for Allegheny County achieve its reduction goal of a 20% reduction in government greenhouse gas emissions below 2008 levels by 2015.<sup>2</sup>



**Figure 1:**  
Pittsburgh Green House Gas Emissions:  
Benchmarks & Reduction Goal<sup>3,4</sup>

In developing a regularly updated climate action plan for Greater Pittsburgh, the Pittsburgh Climate Initiative has worked to create a framework for each sector’s work by regularly refining the recommendations contained in the *Pittsburgh Climate Action Plan*. Local government, business leaders, community organizations, and institutions of higher education are all represented by the Pittsburgh Climate Initiative (PCI) Partners and other PCI-led collaborations that helped author this *Plan*.

1 Pittsburgh Climate Initiative. (2008). *Pittsburgh Climate Action Plan, Version 1.0*. Accessed 27 May 2012. [www.pittsburghclimate.org/wp-content/uploads/2011/12/PittsburghClimateActionPlan.pdf](http://www.pittsburghclimate.org/wp-content/uploads/2011/12/PittsburghClimateActionPlan.pdf)

2 Allegheny County Executive Order. (2009). [www.alleghenycounty.us/news/2009/20091027\\_ExecOrder.pdf](http://www.alleghenycounty.us/news/2009/20091027_ExecOrder.pdf). Accessed 16 October 2011.

3 Green Building Alliance. (2010). *2008 Pittsburgh Greenhouse Gas Emissions Inventory: A Five-Year Benchmark*. [www.pittsburghclimate.org/wp-content/uploads/2011/12/PCI-2008-GHG-Inventory.pdf](http://www.pittsburghclimate.org/wp-content/uploads/2011/12/PCI-2008-GHG-Inventory.pdf). Accessed 6 March 2012.

4 Pittsburgh Climate Protection Initiative. (2006). *Greenhouse Gas Emissions Inventory*. Heinz School of Public Policy, Carnegie Mellon University. [www.pittsburghclimate.org/wp-content/uploads/2011/12/PittsburghInventoryReport.pdf](http://www.pittsburghclimate.org/wp-content/uploads/2011/12/PittsburghInventoryReport.pdf). Accessed 6 March 2012.

Thus, the recommendations contained in this *Pittsburgh Climate Action Plan, Version 2.0* are informed by the following sources and experiences:

- Pittsburgh’s second citywide greenhouse gas emissions inventory (2010),<sup>5</sup>
- Allegheny County’s greenhouse gas inventory and climate action plan for governmental emissions (2009)<sup>6</sup>,
- Allegheny County’s sustainability plan (2011),<sup>7</sup>
- Various greenhouse gas inventories performed by local colleges and universities,<sup>8</sup> and
- Local progress made by PCI and other organizations in addressing recommendations in the *Pittsburgh Climate Action Plan, Version 1.0*.

PCI Partners meet on a monthly basis to discuss and strategize collaborative activities to reduce greenhouse gas emissions in the Pittsburgh region. PCI programmatic activities in 2011 included the Green Workplace Challenge for businesses, community “blitzes” in both the City and County, and a “Transportation Exploration” event to promote sustainable transportation options.

## Pittsburgh Greenhouse Gas Emissions Inventory: A 5-Year Benchmark

In 2010, Pittsburgh Climate Initiative produced a greenhouse gas emissions inventory for the City of Pittsburgh that updated and expanded the City’s original inventory, which was performed in 2006 by Carnegie Mellon University using 2003 data. The *2008 Pittsburgh Greenhouse Gas Emissions*

*Inventory: A 5-Year Benchmark* is a more comprehensive baseline from which to measure progress towards reducing emissions, as well as to track the success of the *Pittsburgh Climate Action Plan, Version 1.0* and its future iterations.<sup>9</sup>

Findings from the 2008 inventory indicated that total community-wide greenhouse gas emissions for the city of Pittsburgh totaled 6.79 million tons CO<sub>2</sub>e in 2008, a 28% increase from the adjusted 2003 levels of 5.3 million tons. While some of this increase can be attributed to greater energy use, much of it was a result of new greenhouse inventory protocol that called for the inclusion of new emissions sources--as well as the use of expanded transportation data, weather differences, and more accurate natural gas data.

Thus, as shown in Figure 1 given updated data sources and tracking, in order for Pittsburgh to meet its reduction target of 20% below 2003 levels by 2023, it needs to reduce emissions by 2.55 million tons CO<sub>2</sub>e below 2008 levels.

## Recommendation Updates

Each section of this *Pittsburgh Climate Action Plan, Version 2.0* has been revised and updated by the PCI Partner organizations responsible for convening each sector. Each sector’s committee updated its own recommendations by developing programmatic strategies and policies needed to reduce greenhouse gas and other air emissions. These new and updated recommendations primarily focus on reductions in energy demand, water demand, waste generation, transportation fuel combustion, and strategies to strengthen regional capacity.

## LOCAL GOVERNMENTS

Led by the City of Pittsburgh Sustainability Commission, City of Pittsburgh government works

5 Ibid, Footnote 3.

6 Allegheny County. (2010). “Allegheny County Greenhouse Gas Emissions Inventory Report & Climate Action Plan.” [www.alleghenycounty.us/allegheenygreen/emissions.aspx](http://www.alleghenycounty.us/allegheenygreen/emissions.aspx). Accessed 16 October 2011.

7 Allegheny County. (2010). “Allegheny County Sustainability Plan.” [www.alleghenycounty.us/allegheenygreen/plan.aspx](http://www.alleghenycounty.us/allegheenygreen/plan.aspx). Accessed 27 October 2011.

8 Pittsburgh Climate Initiative. (2011). “Higher Education Climate Consortium.” <http://pittsburghclimate.org/higher-education/>. Accessed 6 March 2012.

9 Ibid, Footnote 3.

across its departments to achieve reductions in energy use, water use, and waste generation, while addressing issues of transportation, air emissions, and sustainability. In updating this *Plan*, the City of Pittsburgh Sustainability Commission recommended new and expanded sustainability strategies for City of Pittsburgh operations. Consequently, City of Pittsburgh municipal recommendations have expanded to include collaboration with City Authorities, specifically the following Authorities:

- Housing Authority of the City of Pittsburgh (HACP),
- Pittsburgh Water and Sewer Authority (PWSA), and the
- Urban Redevelopment Authority of Pittsburgh (URA).

For this updated *Pittsburgh Climate Action Plan, Version 2.0*, each City of Pittsburgh Authority listed above has provided information on its past and current initiatives to address greenhouse gas emissions, as well as recommendations for future improvements to its own operations and policies. City of Pittsburgh Authorities not included in this update of the *Pittsburgh Climate Action Plan* are the Pittsburgh Parking Authority, the Sports and Exhibition Authority of Pittsburgh and Allegheny County, and the Stadium Authority. These Authorities were not included in this update due to their joint oversight and/or future uncertainties. However, efforts will be made in the future to include these Authorities in PCI activities and future *Pittsburgh Climate Action Plan* updates.

In 2010, Allegheny County became an official Pittsburgh Climate Initiative partner, enlarging the sector from simply “municipal” to “local government.” In 2009, Allegheny County conducted a separate greenhouse gas emissions inventory of County government

operations; the County also has a climate action plan specific to Allegheny County government.<sup>10</sup> Consequently, the recommendations included in the “Government” chapter of this *Pittsburgh Climate Action Plan* solely address City of Pittsburgh government operations. However, there is significant overlap between Allegheny County government and citywide climate action and sustainability plans. PCI continues to work collaboratively to integrate these plans and recommendations.

## BUSINESSES

The Business Climate Coalition (BCC) works with Pittsburgh businesses and business networks as the business sector outreach arm of the Pittsburgh Climate Initiative. Convened by Sustainable Pittsburgh, the BCC aims to advance cost effective solutions for businesses by addressing energy usage and climate change. In the *Pittsburgh Climate Action Plan, Version 1.0*, business sector recommendations were written to build a strong business network around climate reduction activities and develop that network’s capacity for programmatic commitments. Since 2008, the BCC has established its social capital in the Pittsburgh business community. In this updated *Pittsburgh Climate Action Plan, Version 2.0*, the business sector aims to establish more specific business sector goals with programmatic tactics and clear measurement strategies.

## COMMUNITY ORGANIZATIONS & RESIDENTS

The Black and Gold City Goes Green campaign is the Pittsburgh Climate Initiative’s community outreach arm and is managed by Citizens for Pennsylvania’s Future. Working with over 100 Community Partners, the Black & Gold City Goes

10 Allegheny County. (2010). “Allegheny County Greenhouse Gas Emissions Inventory Report & Climate Action Plan.” [www.alleghenycounty.us/uploadedFiles/alleghenygreen/emissionsreport.pdf](http://www.alleghenycounty.us/uploadedFiles/alleghenygreen/emissionsreport.pdf). Accessed 14 March 2012.

Green campaign provides tools to individuals and community organizations to help them reduce residential greenhouse gas emissions. The campaign has over 700 participants who report their carbon-saving actions online at [www.blackandgoldcitygoesgreen.com](http://www.blackandgoldcitygoesgreen.com).

For this document, Black and Gold City Goes Green Community Partners refined the community recommendations of the *Pittsburgh Climate Action Plan* to reframe resident-generated ideas into strategies that residents can lead through both the Black & Gold City Goes Green campaign as well as through coordination with community partners.

## HIGHER EDUCATION INSTITUTIONS

The Higher Education Climate Consortium works to actively engage all Pittsburgh area colleges and universities to collaborate, share information, and set goals regarding research agenda, education curricula, operations, outreach activities, and commitments that reduce greenhouse gas emissions so that the organizations comprising the Higher Education Climate Consortium align with the City of Pittsburgh's overall greenhouse gas reduction goal.

The Higher Education Climate Consortium includes representatives from the following 11 local colleges and universities, who are sometimes joined by other neighboring institutions:

- Point Park University
- Robert Morris University
- Slippery Rock University (observer)
- University of Pittsburgh

For this updated *Pittsburgh Climate Action Plan*, Higher Education Climate Consortium member institutions updated and expanded their project commitments to increase collaboration across the region's campuses to reduce greenhouse gas emissions.

- Art Institute of Pittsburgh
- Carlow University
- Carnegie Mellon University
- Chatham University
- Community College of Allegheny County
- Duquesne University
- La Roche College
- The Pennsylvania State University Center





STANLEY CUP  
GO PENS

Photo: Tim Engleman

## CHAPTER 2: GOVERNMENT

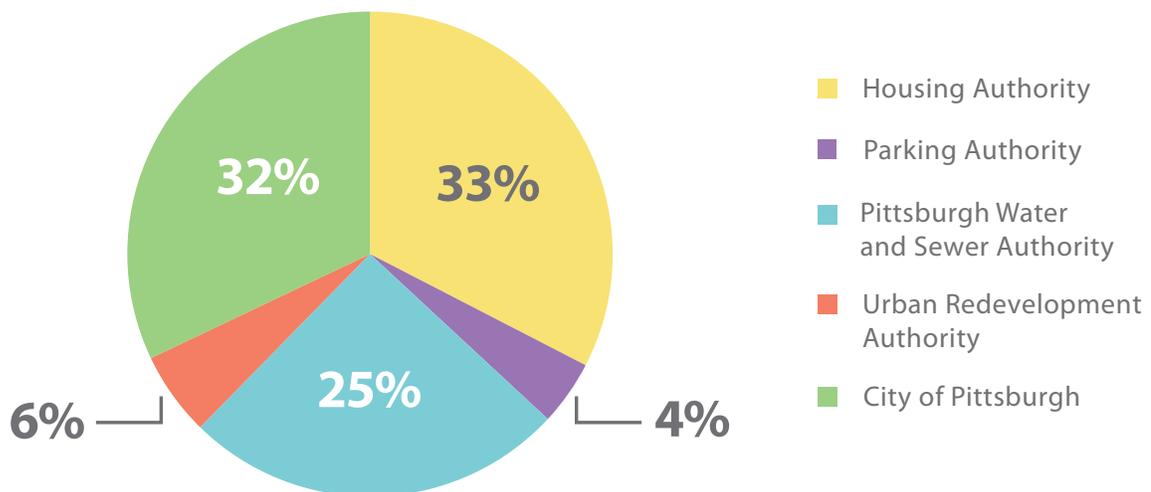
City of Pittsburgh government has been a Pittsburgh Climate Initiative (PCI) Partner since the Green Government Task Force was assembled in 2006 to develop the *Pittsburgh Climate Action Plan, Version 1.0*. As roles have been formalized across Pittsburgh’s sectors, the City of Pittsburgh continues to be a strong PCI Partner, along with leaders in our business, higher education, and community sectors.

In 2009, Allegheny County was incorporated into PCI as a Partner in the government sector. Allegheny County conducted its own, separate greenhouse gas emissions inventory of County government operations and has laid out a sustainability plan specific to County government.

Consequently, the recommendations included in this Government chapter of the *Pittsburgh Climate Action Plan* solely address City of Pittsburgh government operations.

City of Pittsburgh and Allegheny County governments have been aligning on sustainability issues beginning with the City’s hiring of a Sustainability Coordinator in 2008 and the County’s hiring of a Sustainability Manager in 2009. In addition to both being PCI Partners, the City and County have worked together on best practices for greenhouse gas reduction activities.

**Figure 2:** 2008 Pittsburgh Municipal Greenhouse Gas Emissions (CO<sub>2</sub>e)



## City Authorities

City of Pittsburgh Authorities are included in the *2008 Pittsburgh Greenhouse Gas Emissions Inventory*.<sup>11</sup> As illustrated Figure 2, City of Pittsburgh Authorities contribute a significant portion of the City's municipal emissions. Consequently, the development of this *Pittsburgh Climate Action Plan, Version 2.0* worked closely with three City of Pittsburgh Authorities to develop recommendations to reduce energy consumption, waste generation, and transportation fuel combustion. The resulting recommendations from each Authority are included in this chapter. City of Pittsburgh Authorities included in this plan are as follows:

- Urban Redevelopment Authority (URA)
- Pittsburgh Water and Sewer Authority (PWSA)
- Housing Authority of the City of Pittsburgh (HACP)

Since the publication of *Pittsburgh Climate Action Plan, Version 1.0* in 2008, significant progress has been made in implementing the municipal government recommendations. A summary of this progress is provided in Table 1.

For this *Pittsburgh Climate Action Plan, Version 2.0*, the City of Pittsburgh Sustainability Commission has worked to update its initial recommendations and to expand its commitments as lessons are learned. Initially formed from a recommendation in the *Pittsburgh Climate Action, Version 1.0*, the City of Pittsburgh's Sustainability Commission has created the recommendations contained herein. Where possible, expected CO<sub>2</sub>e reductions are calculated; due to the level of specificity required to determine a CO<sub>2</sub>e value, it is not provided for all recommendations.

Goals laid out in the *Pittsburgh Climate Action Plan, Version 2.0* are in addition to *Pittsburgh Climate Action Plan, Version 1.0* goals,

thus expanding this living document's specific objectives. Recommendations from *Pittsburgh Climate Action Plan, Version 1.0* are not discarded, but are continuing goals for the City of Pittsburgh. Full language for recommendations from the *Pittsburgh Climate Action Plan, Version 2.0* can be found online at [www.pittsburghclimate.org/resources](http://www.pittsburghclimate.org/resources).

## Short-Term Recommendations

Short-term recommendations for the City of Pittsburgh municipal sector are targeted to be accomplished within 2 years of publication of this plan.

## ENERGY

### **MUNICIPAL Energy 1.1: Measure and Reduce Energy Used for Computer and Information Systems**

#### **Projected GHG Reduction: 13 tons CO<sub>2</sub>e**

Computers and the networks they operate on are a crucial part of any organization's operations. The City of Pittsburgh currently operates ~1,500 personal and 300 laptop computers. In 2008, the City took steps to consolidate servers and utilize virtual servers. These changes resulted in annual energy savings of 30,211 kWh/year, equal to a greenhouse gas emissions reduction of 17 tons CO<sub>2</sub>e.

However, significant energy can be saved by adjusting how computers are used. Across the U.S., leaving office computers on overnight is estimated to cost more than \$1.7 billion annually in wasted electricity--and produce almost 15 million tons of CO<sub>2</sub>.<sup>12</sup> There is also a misconception among workers that a screen saver saves energy. In reality, the computer is fully active while the screen saver is on. Similarly, an ENERGY STAR-certified computer does not save energy *unless*

11 Ibid, Footnote 3.

12 Alliance to Save Energy & 1E. (2007). *PC Energy Report 2007*. [www.climatesaverscomputing.org/docs/Energy\\_Report\\_US.pdf](http://www.climatesaverscomputing.org/docs/Energy_Report_US.pdf) Accessed 27 October 2011.

**Table 1: Municipal Recommendations' Status from *Pittsburgh Climate Action Plan, Version 1.0***

**Short-Term**

Classification	Title	Status	Details
General 2.1	Create a Full-Time Sustainability Coordinator Position	Complete	Aftyn Giles, Sustainability Coordinator, City of Pittsburgh (412)255-2254, Aftyn.Giles@city.pittsburgh.pa.us
General 2.2	Form a City Sustainability Committee	Complete	Meets every other month Contact: Aftyn Giles & Jim Sloss
General 2.3	Foster Student Involvement in City Initiatives	Complete	12 college interns since 2008 from Duquesne, University of Pittsburgh, & Carnegie Mellon
General 2.4	Institute an Environmental Behavior Change Program for City Employees	In Progress	Lunchtime lectures for those interested in sustainability topics
General 2.5	Make Environmental Information Available to Response Center	Complete	
Energy 2.1	Require LEED Construction Standards for Municipal Buildings	Complete	LEED Silver standard for city projects of at least 5,000 ft \$2 million, or receiving TIF financing
Energy 2.2	Complete Energy Audit of City-County Building and Implement Retrofits	Complete	Awaiting Results
Energy 2.3	Install Vending Misers on All Vending Machines in City-County Building	Complete	
Energy 2.4	Replace Exit Signs in City-County Building with Signs Lit by Light Emitting Diodes	In Progress	
Recycling & Waste Management 2.1	Broaden City Employee Recycling Program	In Progress	Installed more containers, expanded accepted items, and produced recycling manual
Recycling & Waste Management 2.2	Adopt GreenPrint Software and Duplex Printing Practices	Complete	Information included in employee orientation
Transportation 2.1	Install Bike Racks at City Buildings and Create a Bike Program for City Employees	In Progress	Bike racks installed, no program yet
Transportation 2.2	Install More Bike Racks Throughout Pittsburgh's Business Districts	Complete	Partnering with Bike Pittsburgh for installations
Transportation 2.3	Increase Bike Rack Availability on Port Authority Buses	Complete	All buses outfitted with racks as of Sept. 2011

## Medium-Term

Classification	Title	Status	Details
Energy 3.1	Retrofit High Pressure Sodium Streetlamps with More Efficient Models	In Progress	3,150 LEDs being installed by Feb. 1 <sup>st</sup> with 37,000 total to be replaced
Energy 3.2	Upgrade Lighting at City Parks and Sports Fields	In Progress	
Energy 3.3	Consider Installing Variable Frequency Drives at Pittsburgh Water and Sewer Authority	Not Yet Addressed	
Recycling & Waste Management 3.1	Procure Environmentally Preferred Products	Complete	
Transportation 3.1	Analyze Existing City of Pittsburgh Fleet	Not Yet Addressed	Looking at different options including natural gas & biodiesel
Transportation 3.2	Incorporate Alternative Vehicles and/or Zipcar into City Vehicle Fleet	Complete	

## Long-Term

General 4.1	Support Planning and Zoning Incentives	Not Yet Addressed	
General 4.2	Consider Planning and Zoning Mandates	Not Yet Addressed	
Transportation 4.1	Create City Employee Commuter Incentive Program	In Progress	Employees can purchase bus passes through personnel pre tax to receive a tax incentive

the energy savings features are activated.

The City of Pittsburgh can combat these problems by adopting the use of energy management software, which would allow City Information Systems (CIS) to impose energy controls over all City computers. Currently, users can override their energy settings so that computers do not automatically enter sleep mode or hibernate. It is also up to individual users to turn off computers at the end of the work day. With the use of this management software, CIS will be able to mandate that computers will automatically enter sleep mode after a specified period of inactivity. Also, when CIS needs to make changes and updates to computers, they currently do it over the weekends to avoid disrupting operations. On these weekends, users are instructed to leave their computers on from Friday afternoon to Monday morning. The use of energy management software would allow CIS to “wake” the computers up to perform upgrades, and then power them down when finished.

Potential savings are estimated to be *at least* 17,000 kWh/year, assuming that half of the computers already have implemented energy saving settings; thus, energy settings will put the other half of computers into standby for one hour per day during lunch and breaks. In reality, the savings should be much greater because many computers are not shut off overnight and over weekends.

Finally, the City has begun using thin clients when it replaces personal computers. Thin clients are small devices that communicate with a central server to replace the traditional computer. Although they have no hard drives, no moving parts, minimum processing power, and limited RAM, the user experience is very similar to that of a conventional computer. Thin clients save energy because all applications are stored on and run from the server; thin clients typically use only 6

to 15 watts of electricity--compared to 85 to 110 watts for a conventional desktop computer.<sup>13</sup>

Examples:

**Seattle, WA** - The City of Seattle has deployed energy management software across 30 departments, resulting in energy savings of more than 35% of personal computer electricity consumption.<sup>14</sup>

**General Electric** - GE implemented energy controls on its 75,000 personal computers so that monitors turn off after 15 minutes of inactivity, hard drives turn off after 30 minutes of inactivity, and computers go into standby mode after two hours of inactivity and activate hibernation after three hours, all resulting in savings of more than \$2.5 million annually.<sup>15</sup>

Strategies:

- Pilot the use of energy management software on a portion of the City’s computers to see how it works and troubleshoot any problems.
- Seek funding to accelerate the pace of replacing personal computers with thin clients.
- Utilize City membership in the Urban Sustainability Directors Network and ICLEI Local Governments for Sustainability to assess other government computer energy savings best practices from other cities.

**MUNICIPAL Energy 1.2:  
Coordinate a Lights Out Campaign**

Even on a Saturday night, the lights in many Downtown Pittsburgh office towers brightly light the night sky. Lighting buildings when they are not occupied wastes money and electricity, while also contributing to Pittsburgh’s carbon footprint. A study in London, England, found that

13 Wyse Technology Inc. (2009). “Environmental Benefits of Thin Computing.” [www.mpa.co.nz/media/4422/wyseenvironmentalbenefitswhitepaper.pdf](http://www.mpa.co.nz/media/4422/wyseenvironmentalbenefitswhitepaper.pdf). Accessed 14 March 2012.

14 Business Wire & City of Seattle. (2009). “City of Seattle Drives Down Energy Costs with Verdiem.” [www.businesswire.com/news/home/20090608005381/en/City-Seattle-Drives-Energy-Costs-Verdiem](http://www.businesswire.com/news/home/20090608005381/en/City-Seattle-Drives-Energy-Costs-Verdiem). Accessed 27 October 2011.

15 DiRamio, D. (2008). “Put Office Energy Hogs on a Diet: PC Power Management is one of the Easiest and Most Cost-Effective Ways to Green IT.” Communications News. [www.findarticles.com/p/articles/mi\\_m0CMN/is\\_10\\_45/ai\\_n30985173/](http://www.findarticles.com/p/articles/mi_m0CMN/is_10_45/ai_n30985173/). Accessed 24 October 2011.

if business owners shut off lights after hours, that city's greenhouse gas emissions could be reduced by as much as 15%.<sup>16</sup> If Pittsburgh could achieve a similar 15% reduction, it would reduce CO<sub>2</sub>e emissions by over 1 million tons. To address this problem, the City of Pittsburgh should lead a campaign to reduce wasted electricity from lighting.

Strategies:

- The Mayor should convene a meeting of building owners and operators to discuss reasons for leaving lights on, including security surveillance.
- Partner with professional and environmental nonprofit organizations and unions such as the Building Owners and Managers Association to educate building operators about the money and energy wasted by lights left on in buildings during evenings and weekends.
- Partner with a local university to quantify the amount of electricity wasted and resulting greenhouse gas emissions. Students and volunteers from organizations like Sierra Club could count lighted windows in Downtown office towers to help.

**MUNICIPAL Energy 1.3:**

**Establish a Loan Fund for Residential and Small Business Energy Efficiency Upgrades**

While energy efficiency improvements almost always result in cost savings through reduced utility bills, identifying upfront capital to make improvements can be a challenge for many homeowners and small businesses.

The Urban Redevelopment Authority of Pittsburgh (URA) has established a zero interest loan program for qualifying energy efficiency improvements and a grant for energy audits;

however, this program is limited to individuals and families below a certain income level.

Examples:

**Boston, MA** - In partnership with the Commonwealth of Massachusetts, the City of Boston created a nonprofit organization (Renew Boston) that will design, market, finance, manage, and document energy efficiency improvements throughout Boston, including a \$1.3 million revolving loan fund.<sup>17</sup>

**New York, NY** - New York City government established a revolving loan fund of \$16 million from an Energy Efficiency and Conservation Block Grant for homeowners who are lower-income or who have already completed an energy audit. The resulting energy savings data will be monitored to encourage long-term private sector lending.<sup>18</sup>

**Portland, OR** - The City of Portland and nonprofit Shorebank Enterprise Cascadia established a pilot "Energy Trust" with 10 participating homeowners. Each homeowner is assigned an energy contractor and an energy advocate. The Trust pays for the initial improvements and homeowners pay back the money through their utility bills, which are lower due to the efficiency improvements. The utility company then transfers the money back to the Trust for continued participation.

Strategies:

- Build off of the existing URA Pittsburgh Home Rehabilitation Program loan program for low income households.
- Explore clean energy bonds through the Federal government to create an initial pot of money from which to grow.

16 Greater London Authority. (2010). "Delivering London's Energy Future." [www.london.gov.uk/sites/default/files/CCMES\\_public\\_consultation\\_draft\\_Oct%202010.pdf](http://www.london.gov.uk/sites/default/files/CCMES_public_consultation_draft_Oct%202010.pdf). Accessed 27 October 2011.

17 Lynch, B. (2009). "Federal Stimulus Gives Boston \$6.5M for Clean Energy." Mass High Tech Business News. [www.masshightech.com/stories/2009/03/30/daily15-Federal-stimulus-gives-Boston-65M-for-clean-energy.html](http://www.masshightech.com/stories/2009/03/30/daily15-Federal-stimulus-gives-Boston-65M-for-clean-energy.html). Accessed 27 October 2011.

- Learn from other cities' existing programs.
- Identify a nonprofit partner (as has been successful in other cities).
- Establish a pilot limited to a certain number of homes and/or businesses. If successful, expand to include additional participants.
- Communicate results with private lending institutions to encourage larger scale energy efficiency financing options.

#### **MUNICIPAL Energy 1.4: Establish Green Roof Incentives for Commercial Buildings<sup>19</sup>**

Green roofs provide many environmental benefits, including absorbing stormwater, mitigating the urban heat island effect, reducing energy use by insulating the building, filtering air pollution, and providing wildlife habitat. The City of Pittsburgh should consider creating incentives to commercial buildings installing green roofs, such as expedited permitting, zoning incentives, tax credits, and grants. The City of Pittsburgh and its partners are reviewing all potential options for implementation strategies.

#### **Examples:<sup>20</sup>**

**Philadelphia, PA** - Philadelphia awards a 25% credit against the Business Privilege Tax if a building installs a green roof. The green roof must cover at least half of the rooftop in order to qualify.

**Washington DC** – The District Department of the Environment has a green roof subsidy program available on new and existing properties that will install up to 4,000 square feet of vegetated surface. This rebate provides \$5/square foot up to \$20,000 per property. Existing properties looking to install more than

4,000 square feet of vegetated surface are able to receive rebates of \$7/ square foot. Rebates will *not* apply to new construction.

**Portland, OR** - The “FAR Bonus Program” offers a Floor Area Ratio Bonus in its building code. With this program, developers may build an extra 3 ft<sup>2</sup> per foot of green roof they construct without obtaining additional permits. There is also a reimbursement of up to \$5 /square foot on green roofs because they are stormwater-reducing infrastructure.

**San Francisco, CA** - Among other green roof programs, San Francisco offers an expedited permit process for all green building projects, which includes green roof development.

## **TRANSPORTATION**

#### **MUNICIPAL Transportation 1.1: Establish a Pilot On-Street Bike Parking Spot in Pittsburgh**

As a “Bicycle Friendly City,” Pittsburgh has taken significant strides to promote bicycle transportation in the City, including adding approximately 13 miles of bike lanes/shared lane markings, passing a bicycle rack ordinance that facilitates and expedites the placement of bicycle racks in the public right-of-way, and installing 200 new bike racks in business districts. Several residents and business owners have expressed interest in on-street bike parking spots. These spots would take up the space of one or two car parking spots and use curbs to keep the periphery safe from vehicles.

Bike parking spots exist on the streets of several U.S. cities, including New York City, Portland, Seattle, and Baltimore. There are different models for installation and maintenance to best meet the needs of a particular city. Providing a dedicated parking spot for multiple

18 Weiss, L. (2009). “Green Building Financing.” CityFeet.com. [www.cityfeet.com/News/NewsArticle.aspx?Id=32930&PartnerPath](http://www.cityfeet.com/News/NewsArticle.aspx?Id=32930&PartnerPath). Accessed 27 October 2011.

19 Ibid, Footnote 1. Community Energy Recommendation 2.3

20 Plant Connection, Inc. (2011). Green Roof Legislation, Policies and Tax Incentives.” [www.myplantconnection.com/green-roofs-legislation.php](http://www.myplantconnection.com/green-roofs-legislation.php). Accessed 14 March 2012.

bikes is not only good for bicyclists, but also keeps the sidewalk from getting overcrowded and blocking pedestrian access.

Strategies:

- City of Pittsburgh *Bike and Pedestrian Coordinator* identifies 2 to 3 neighborhoods to serve as Pittsburgh pilots that have high cycling activity.
- Install bike racks in strategically identified parking spots with close proximity to area amenities.
- Monitor and evaluate effectiveness of program, then decide on future scalability.

**MUNICIPAL Recycling & Waste Management 1.1: Reduce Paper Waste in Procurement Process**

In an effort to not only reduce the environmental impact of City operations, but also of the organizations with which it does business, the City of Pittsburgh should require electronic submittal of all bids. Until recently, all responses to Requests for Proposals (RFPs) required multiple paper copies to be submitted. Often, these proposals were bound in plastic binders or folders and included brochures and promotional materials that were generally looked at once, then thrown away or kept in a file cabinet.

Electronic submittals would also allow for easier distribution of materials to the selection committee. For individuals who prefer to read paper copies, these can easily be printed double-sided. However, those who prefer to read them electronically can avoid the need for paper. Additional benefits include the ability to save bids electronically for future reference, the ability to store bids on shared drives so that relevant employees have access to them, the reduction of paper waste, and the reduced greenhouse gas emissions from shipping and/or delivering bids to City offices.

When it is deemed necessary to use paper submittals, all submissions should be required to be printed double-sided on paper with a high percentage of post-consumer recycled content. RFPs should also include the following language: “Proposals and all other documents must be unbound. Do not submit plastic binders, plastic covers, or other materials that are not readily recyclable.”

Strategies:

- Mayor convenes a meeting with relevant staff from Finance, Law, City Information Systems, and departments, which regularly request bids, to determine any potential problems.
- Mayor issues an Executive Order to reduce paper waste in the procurement process.
- Departments follow up by altering their purchasing behaviors.

**GENERAL SUSTAINABILITY**

**MUNICIPAL General Sustainability 1.1: Work with Chief Service Officer to Better Engage Public in Climate-Related Volunteer Opportunities**

In September 2010, the City of Pittsburgh hired its first *Chief Service Officer*, who is tasked with developing and implementing a citywide plan to increase volunteerism and target volunteers to address the City’s greatest needs. The *Sustainability Coordinator* and Sustainability Commission should work to keep this individual informed about existing and upcoming climate-related volunteer opportunities--and to develop ways to engage resident volunteers in sustainability initiatives.

Strategies:

- Compile a list of existing climate-

- related organizations and volunteer opportunities.
- Brainstorm possible ways of utilizing volunteers to support City sustainability initiatives and address key challenges related to sustainability in the City.
- Track and promote volunteer service related to sustainability and climate protection.

**MUNICIPAL General Sustainability 1.2:  
Establish Programs to Educate and Engage  
Employees**

The Sustainability Commission should establish a program to better educate City of Pittsburgh employees about the importance of global climate change and engage them in climate protection activities, including both required and optional trainings in energy conservation, transportation / commute reduction, and office operations that can save energy and reduce waste.

Strategies:

- Establish a network of departmental “champions” to communicate sustainability to their respective department.
- Offer educational opportunities for employees (e.g., a series of evening classes on environmental topics – i.e., host a composting class for employees and provide a discount on the bins).
- Work with Department of Personnel to identify means of incentivizing participation.
- Hold educational demonstrations and events, such as a display in the Lobby of the City-County Building about the amount of waste produced when people don’t recycle or a City Fit program where employees can pedal stationary bikes that can generate

electricity.

- The Sustainability Commission should work with the Department of Personnel to integrate sustainability practices into performance evaluations.
- Work with Department of Personnel to include a more meaningful presentation on sustainability during new hire orientations. Offer the ability to use existing “educational benefits for sustainability”-related training programs that enhance understanding and job performance.

The City has already been hosting lunchtime lectures for City employees interested in learning about other aspects of sustainability. In addition, the Sustainability Commission is currently working on expanding a centralized source of sustainable activities throughout the city in the City-County Building.

**MUNICIPAL General Sustainability 1.3:  
Incentivize Walking and Riding to Work through  
Wellness Program**

In 2014, the federal cap on wellness program incentive payments will increase from 20% to 50% of employees’ health premiums.<sup>21</sup> In an effort to take advantage of this reform and to reduce carbon emissions, it would benefit the City of Pittsburgh to explore how their health insurance provider can encourage active commuting. A wellness program of this variety would increase productivity and reduce medical costs—and, as such, should be considered a viable feature for employee health care. The City of Pittsburgh and their partners are reviewing all potential options for implementation strategies.

Example:

**Halifax Regional Municipality, Canada** - At the request of the Heart and Stroke Foundation of

21 Mendelson, L. (2010). “Healthcare Reform Provides Support for Wellness Programs.” Healthcare Employment Counsel. [www.employeebenefitscounsel.com/2010/05/14/health-care-reform-provides-support-for-wellness-programs/](http://www.employeebenefitscounsel.com/2010/05/14/health-care-reform-provides-support-for-wellness-programs/). Accessed 14 March 2012.

Nova Scotia, the Halifax Regional Municipality took the responsibility of studying the economic cost of physical inactivity and how it may be minimized.<sup>22</sup> They determined that the cost of their medical expenses and productivity losses totaled about \$180 per person. In addition to potential cost savings and health improvements, reduced automobile commuting reduces the ecological footprint of commuting (including greenhouse gas emissions) by 92% when a person cycles or walks to work instead of driving.

## Medium-Term Recommendations

Medium-term recommendations for the City of Pittsburgh municipal sector are targeted to be accomplished within 2 to 5 years of publication of this plan.

### ENERGY

#### **MUNICIPAL Energy 2.1:**

##### **Reduce Energy Use in City-Owned Buildings by 20% Over 5 Years**

##### **Projected GHG Reduction: 3,626 tons CO<sub>2</sub>e**

The City of Pittsburgh establishes a goal of reducing energy use in City-owned buildings by at least 20% over the next five years. Both City of Pittsburgh greenhouse gas inventories showed that energy use in buildings accounts for a large portion of emissions in this region. The City owns over 300 buildings, including offices, garages, firehouses, police stations, and recreation centers.

In 2011, the City was completing a comprehensive energy audit of the historic City-County Building and completing associated retrofits. Reducing energy use in additional buildings will help the City save money that can be used to fund continued improvements, improve employee comfort, and reduce greenhouse gas emissions.

#### Strategies:

- Complete energy retrofits of City-County Building in 2011.
- Seek out grants to help fund future retrofits.
- Explore the use of performance contracting with the Office of Budget and Management.
- Track and report resulting energy savings.

#### **MUNICIPAL Energy 2.2:**

##### **Include Energy Planning in City Comprehensive Plan**

The Department of City Planning is currently crafting a comprehensive plan for the city, with the mission to enhance Pittsburgh's quality of life by determining the effective and efficient use of its natural systems, infrastructure, cultural assets, recreational amenities, and economic resources. Access to reliable, safe, affordable energy is a crucial aspect of achieving this mission. The City should include an energy component in this plan that explores the supply and cost of traditional energy sources, the reliability of the existing electricity grid, the potential for smart grid technologies, and the current uses and potential future uses of renewable energy sources. While the primary goal of an energy plan will be to provide reliable and safe energy to the City of Pittsburgh, the minimization of environmental and health risks associated with energy use should be also be considered. The City of Pittsburgh and their partners are reviewing all potential options for implementation strategies.

#### **MUNICIPAL Energy 2.3:**

##### **Develop Incentives for Clean Energy Businesses to Locate in Pittsburgh**

The Pittsburgh region has historically been a leader in industry, with roots in coal, steel, and aluminum production. In recent years,

22 Colman, R., & Walker, S. (2004). "The Cost of Physical Inactivity in Halifax Regional Municipality." GPI Atlantic. [www.gpiatlantic.org/pdf/health/inactivity-hrm.pdf](http://www.gpiatlantic.org/pdf/health/inactivity-hrm.pdf). Accessed 27 October 2011.

Pittsburgh's economy has also been distributed in the technology, higher education, and medicine sectors. President Obama highlighted this local economic change when he described why he chose Pittsburgh to host the G20 Summit in September 2009: "Pittsburgh stands as a bold example of how to create new jobs and industries while transitioning to a 21st century economy. As a city that has transformed itself from the city of steel to a center for high-tech innovation – including green technology, education and training, and research and development – Pittsburgh will provide both a beautiful backdrop and a powerful example for our work."

Pittsburgh has an opportunity to become a world capital for clean energy and green technologies by fostering the businesses and research institutions it already has and attracting new businesses. City government can play a role by incentivizing clean energy businesses to locate in Pittsburgh through such mechanisms as tax abatements, reduced fees, and/or expedited permitting.

#### Examples:

**Milwaukee, WI** - Milwaukee has offered a reduced water rate to water-intensive businesses that relocate or expand within the city. Milwaukee has access to large quantities of good quality water, yet the Milwaukee Water Works operates at only a third of its capacity.<sup>23</sup> Businesses must also meet certain job creation criteria in order to qualify for the reduced water rates.

**San Francisco, CA** - San Francisco offers exclusion from local payroll taxes until 2020 for clean energy businesses. Clean Energy under this ordinance is defined as "including energy produced by wind, solar energy, landfill gas, geothermal resources, ocean thermal

energy conservation, tidal energy conversion, tidal energy, wave energy, biomass, biofuels, or hydrogen fuels derived from renewable energy." Businesses must have between 10 and 100 employees and 75% of all business activities carried out during that tax year must be directly related to clean energy technology, either in production or research and development.<sup>24</sup>

**Philadelphia, PA** - The City of Philadelphia worked with nonprofit B Lab to develop a B Corp Rating System, which rates businesses in terms of their ability to solve social and environmental problems. B Corp Rated businesses receive a tax credit of \$4,000 to be used against the gross receipts portion of the business privilege tax.<sup>25</sup>

#### Strategies:

- Assess what incentives are already available to businesses.
- Define "clean energy business."
- Study existing incentives in other cities to outline locally appropriate incentives.
- Implement and market incentives to businesses.

## TRANSPORTATION

### **MUNICIPAL Transportation 2.1: Create an Air Quality Action Plan for Allegheny County and the City of Pittsburgh**

Air quality in the Pittsburgh region has improved drastically since its days as a "smoky city." However, just because we cannot see the air pollution anymore does not mean that our air quality does not pose risks to human health and wildlife.<sup>26</sup> Air pollutants such as ozone, particulate matter, carbon monoxide, and nitrogen dioxide

23 Daykin, T. (2009). "Water Incentives Development Plan Getting City Review." Milwaukee Journal Sentinel. [www.jsonline.com/blogs/business/80231892.html](http://www.jsonline.com/blogs/business/80231892.html). Accessed 27 October 2011.

24 City and County of San Francisco. (July, 2009). "Clean Technology Payroll Tax Exclusion." [www.oewd.org/media/docs/Cleantech%20Payroll%20Tax%20Exclusion/SFE%20Application%20Overview.pdf](http://www.oewd.org/media/docs/Cleantech%20Payroll%20Tax%20Exclusion/SFE%20Application%20Overview.pdf). Accessed 27 October 2011.

25 Sustainable Business.com. (December, 2009). "Philadelphia First City to Offer Green Biz Tax Incentives." [www.sustainablebusiness.com/index.cfm/go/news.display/id/19350](http://www.sustainablebusiness.com/index.cfm/go/news.display/id/19350). Accessed 27 October 2011

26 "Mapping Mortality." (2010). Pittsburgh Post Gazette series. <http://multimedia.post-gazette.com/MappingMortality/Part1/default.asp>. Accessed 14 March 2012.

contribute to respiratory disease and illness, along with other detrimental health effects.

Federal and state air quality laws are primarily implemented locally by the Allegheny County Health Department (ACHD). Therefore, the City has often focused its air quality activities on the emissions of its own fleet, including purchasing more fuel efficient vehicles and installing diesel particulate filters on its waste haulers and recycling trucks. However, as the majority of emissions in Pittsburgh are from transportation and construction activities, they are beyond the direct control of the City.

Creating and adopting an air quality action plan will allow the City to identify and prioritize opportunities for air quality improvements. It will also raise awareness of the importance of urban air quality issues in the region and can increase the eligibility of the City for potential funding streams. Finally, addressing air quality in a systematic way can benefit the Pittsburgh economy by reducing health care costs and days lost to respiratory illness, enhancing tourism opportunities, and making Pittsburgh a more desirable place to relocate for both residents and businesses.

Strategies:

- Develop partnerships with regional partners including the Department of Environmental Protection, the ACHD, Urban Redevelopment Authority, Pittsburgh Water and Sewer Authority, Port Authority, Port of Pittsburgh, Group Against Smog and Pollution, and the Southwestern Pennsylvania Air Quality Partnership.
- Pursue state and federal funding to retrofit transportation, construction, and other equipment, including generators.
- Prioritize areas of focus.

- Seek adoption by City Council and the Mayor.

**MUNICIPAL Transportation 2.2:  
Free or Reduced Parking for Fuel Efficient  
Vehicles**

During the 2007 climate action planning community meetings, several members of the public recommended creating incentives for hybrid, fuel efficient, and/or alternative fuel vehicles. Incentives for more environmentally friendly vehicles could include preferred parking spots in garages, reduced parking rates at City garages or meters, or reduced residential parking permit fees. The benefits from these types of programs (which have already been instituted in some cities and at some college campuses and office parks) are not just that they reward greener vehicles, but that they raise awareness for those who see the signs. Beyond determining incentives, the next step must be defining what types of vehicles qualify for the incentives.

Examples:

**Hollywood, FL** - Fuel efficient vehicles, as defined by the state of Florida, are allowed to park for free at city meters and can drive in the HOV lane. A list of approved vehicles can be found here: [www.flhsmv.gov/dmv/ilev-hybrid-vehicle-list.pdf](http://www.flhsmv.gov/dmv/ilev-hybrid-vehicle-list.pdf).

**Albuquerque, NM** - Vehicles defined as fuel efficient by U.S. Environmental Protection Agency (EPA) standards<sup>27</sup> that have registered with the city's parking office are allowed to park for free at city meters for a set time limit.

**Baltimore, MD** - In October 2005, the City of Baltimore, Maryland started to offer discounts on monthly parking in city parking lots, and is considering free meter parking for hybrid electric vehicles.<sup>28</sup>

27 U.S. Environmental Protection Agency. (2011). "Green Vehicle Guide." [www.epa.gov/greenvehicles/Index.do;jsessionid=8230d2ad0b0424d603c7](http://www.epa.gov/greenvehicles/Index.do;jsessionid=8230d2ad0b0424d603c7). Accessed 25 October 2011.

28 Global Fuel Economy Initiative. "Preferential Parking Programs." [www.unep.org/transport/gfei/autotool/approaches/traffic\\_control\\_measures/parking.asp#us](http://www.unep.org/transport/gfei/autotool/approaches/traffic_control_measures/parking.asp#us). Accessed 27 October 2011.

Strategies:

- Determine which incentives the City would like to institute.
- Establish a working group to research existing models and define vehicles qualifying for incentives.
- Work with building managers and Parking Authority to establish free or reduced fares

**RECYCLING & WASTE MANAGEMENT****MUNICIPAL Recycling & Waste Management 2.1: Conduct Solid Waste Survey and Implement a Waste Reduction Plan**

The process of conducting a solid waste survey would allow the City to better understand the composition of solid waste in Pittsburgh and how the collection and disposal process can be improved. It is also a necessary first step to establishing a citywide waste diversion target. Another benefit of completing a waste survey and creating a waste reduction plan is that it will allow the City to better plan for future waste disposal needs and explore opportunities for alternative means of disposal.

Strategies:

- Seek funding for a solid waste study from state and federal grants and private foundations.
- Survey residents about waste collection preferences.
- Assess business and nonprofit compliance with existing recycling laws.
- Research alternatives to the landfill of waste, including waste-to-energy plants and composting options.
- Establish a waste diversion target.

**MUNICIPAL Recycling & Waste Management 2.2: Develop an End-of-Life Plan for All City Equipment**

A comprehensive end-of-life plan needs to be developed for all City equipment. This plan should prioritize reuse and recycling for all City equipment to minimize City contribution of hazardous waste to local landfills. Contracts for the purchase of new equipment may be able to include and/or negotiate safe disposal, reuse, or recycling for all equipment.

The City of Pittsburgh uses multiple types of equipment in its operations that need to be accounted for in a plan, including:

- Fluorescent light bulbs, computers, and printers in office environments;
- Various types of batteries, chemicals, and electronics for public safety and emergency services; and
- Vehicles, mowers, power tools, and oils for Public Works activities.

Many of these items can be recycled through local companies (e.g., e-waste and batteries). However, chemicals and Public Works items need to be accommodated as well. The City of Pittsburgh and their partners are reviewing all potential options for implementation strategies.

**MUNICIPAL Recycling & Waste Management 2.3: Establish a Tree Reuse Program**

When trees are removed from the City's streets and parks due to age or poor health, the selected contractor is tasked with removing the entire tree from the site. Most often these trees are turned into firewood or mulch that the contractor can sell. However, on occasion, the City has brokered the donation of downed trees to a local organization that uses them to produce valuable, durable products such as floorboards, benches, picnic tables, and picture frames. The

City removes between 700 and 900 trees annually. It is not feasible to reuse every removed tree, but, when appropriate, reusing trees will reduce the need for raw materials, keep biomass out of landfills, and sequester the carbon captured by the tree.

While the goals of this potential project are primarily environmental, the sale of wood products could be a future funding source for City forestry initiatives.

Examples:

**Ann Arbor, MI** - Urbanwood is a partnership project between the City of Ann Arbor and the nonprofit organization, Southeast Michigan Resource Conservation and Development Council. It encourages municipalities to recycle trees that are being cut down by sending them to small, local sawmills to be made into hardwood floors, tabletops, etc.<sup>29</sup>

**Hammond, IN** - A local saw mill takes the felled trees and returns 30% of the lumber to the City in the form of benches and picnic tables. Indianapolis has talked about replicating this program.<sup>30</sup>

Strategies:

- Work with Law Department to identify legal barriers to a reuse program.
- Make any necessary adjustments to future Requests for Proposals and Contracts to allow for it.
- Assess the City’s need for wood products for Public Works projects.

**GENERAL SUSTAINABILITY**

**MUNICIPAL General Sustainability 2.1:  
Develop and Implement a Sustainable Food Policy/Program**

In recent years, issues surrounding food

production and consumption have been a large public concern in Pittsburgh. Particular topics of interest have included availability of healthy food in every neighborhood, urban agriculture, locally produced foods, and organic and sustainably harvested foods. Food production impacts climate change in many ways, including the fuel used in its production and transportation, the energy used to manufacture pesticides and fertilizers, the materials used in packaging, and the disposal of food waste.

Example:

**San Francisco, CA** - In June 2009, Mayor Gavin Newsom issued an Executive Directive promoting the first-ever comprehensive food policy for San Francisco.<sup>31</sup> The San Francisco policy considers the environmental footprint of food from production to distribution to disposal. The San Francisco Food Policy Council considers nutrition, urban agriculture, local food, hunger and food security, food business, and fisheries, with the understanding that a thriving local food system has far reaching benefits for health, environment and economy.

Strategies:

- Create a stakeholder group tasked with developing a set of potential policies and programs to present to the Mayor and City Council for adoption.
- Establish specifications for food vendor contracts and event contracts that a percentage of food served is grown and/or produced within 100 miles of Pittsburgh.
- Engage the Allegheny County Health Department and Department of Human Services in discussions about integrating sustainability considerations into lunches served at senior centers.

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29 Rigg, S. (2009). “Urbanwood Finds Creative Uses for Ann Arbor’s Felled Trees.” Ann Arbor Business Review. [www.mlive.com/businessreview/annarbor/index.ssf/2009/01/urbanwood\\_finds\\_creative\\_uses.html](http://www.mlive.com/businessreview/annarbor/index.ssf/2009/01/urbanwood_finds_creative_uses.html), Accessed 27 October 2011.

30 Fox, J. (2009). “Recycling Trees: Everybody Wins.” Mother Earth News. [www.motherearthnews.com/Nature-Community/1999-02-01/Recycling-Trees-Everybody-Wins.aspx](http://www.motherearthnews.com/Nature-Community/1999-02-01/Recycling-Trees-Everybody-Wins.aspx). Accessed 27 October 2011.

31 City and County of San Francisco. (2009). “San Francisco Healthy and Sustainable Food Policy.” [www.sfgov3.org/index.aspx?page=754](http://www.sfgov3.org/index.aspx?page=754). Accessed 27 October 2011.

### **MUNICIPAL General Sustainability 2.2: Use Less Harmful Treatments for Winter Road Conditions**

The foremost goal of winter road maintenance by the Department of Public Works is to ensure public safety. The City uses calcium chloride (CaCl) to reduce the melting temperature of roads in icy and snowy conditions. Calcium chloride works better in colder temperatures than sodium chloride (NaCl, a.k.a. “salt”)

While maintaining safe streets for reliable transportation is the most important aspect of winter road maintenance, the use of road treatments can have damaging impacts on soil chemistry, water quality, and tree health. It is recommended that the City explore less harmful treatments as a means to meet safety targets while protecting the natural environment.

One option that is gaining popularity is the use of sugar beet juice either to pre-treat roads or combined with rock salt in place of more costly and harmful chemicals. The juice is the byproduct of sugar beet processing and is the color and consistency of maple syrup. The Pennsylvania Department of Transportation has already begun mixing beet juice into the salt brine it sprays on roads. The Cities of Akron and Columbus and the State Departments of Transportation for Ohio and Missouri have also begun using sugar beets to treat winter roads.

#### Example:

**Derry Township, PA** - Derry Township in nearby Westmoreland County began using sugar beets to treat winter roads for the first time in November 2010.<sup>32</sup> Trucks spray a coating of beet juice down and spread salt on top of it, which allows for salt to stick to the road more easily and be less noncorrosive. The Township expects to save 25% on using this mix compared with the traditional salt and chloride mix; beet juice also has fewer negative

effects on vehicles, plants, groundwater, and stormwater pipes.

#### Strategies:

- Learn from other Pennsylvania and Ohio municipalities, including nearby Derry Township, who have already tried plant-based salt treatments.
- Establish a pilot test of these materials. Assess effectiveness, cost, and public perception.
- Determine feasibility for future implementation

### **MUNICIPAL General Sustainability 2.3: Establish City Code Requirements for Permeable Surfaces**

Work with City Planning and Zoning to establish permeable surface requirements on sites with new construction, major renovation, and City-managed sites. Use permeable pavement, trees, green lots, green roofs, green walls, rain cisterns/ barrels, and other strategies to capture rain water and allow it to percolate into groundwater rather than contributing to our regional combined sewer overflow (CSO) problem. Develop permeable pavement standards for City projects including for sidewalks, parks, parking lots, and other surface areas. The City of Pittsburgh and their partners are reviewing all potential options for implementation strategies.

#### Example:

**Philadelphia, PA** - In 2006, the Philadelphia Water Department changed its regulations so that all new construction projects must infiltrate, detain, or treat the first inch of rainwater that falls on the property. Additionally, the department recently launched a Stormwater Management Incentives Program. Under this program, a new fee

32 Malawskey, N. (November 17, 2010). “Derry Township Public Works Crews Will Use Sugar Beets for Winter Road Maintenance.” The Patriot-News. [www.pennlive.com/midstate/index.ssf/2010/11/derry\\_township\\_public\\_works\\_cr.html](http://www.pennlive.com/midstate/index.ssf/2010/11/derry_township_public_works_cr.html). Accessed 27 October 2011.

formula takes into account total area of impervious surfaces as well as total area of the property. This accounts for the amount of stormwater contributed to the system by each property, and distributes the maintenance costs for the system according to how much wastewater a property contributes.

## Long-Term Recommendations

Long-term recommendations for the City of Pittsburgh municipal sector will be explored in 2012 through 2017 and be implemented in 2018 and afterwards.

## ENERGY

### **MUNICIPAL Energy 3.1: Adopt a Goal of 10 Megawatts of Renewable Energy Capacity Installed in Pittsburgh by 2020 Projected GHG Reduction: 8 tons CO<sub>2</sub>e**

The City of Pittsburgh government purchases 15% of its electricity from renewable energy and utilizes solar energy on its facilities. However, the government could also play a significant role in increasing renewable energy generation from homes, businesses, and schools within city limits, which would reduce greenhouse gas emissions and reliance on the electricity grid. Replacing 10 MWh of grid-supplied energy with clean renewable energy would reduce greenhouse gas emissions by 8 tons CO<sub>2</sub>e.

#### Strategies:

- Mayor and City leadership publicly announce goal.
- Office of Sustainability creates Renewable Energy Task Force to oversee progress towards goal.
- City Office of Sustainability works with other City departments and nonprofits to develop educational tools and

reduce barriers to renewable energy installation and generation.

- Office of Sustainability develops tools to recognize and promote installations.

### **MUNICIPAL Energy 3.2: Utilize Solar Energy on all Municipal Buildings that Have Solar Access by 2020**

The City of Pittsburgh was named a Solar America City in 2007. Through the technical assistance and support of this U.S. Department of Energy program, the City has installed two solar energy systems on its facilities—a solar hot water system on Firehouse Truck 34 and a 6 kW photovoltaic system on the General Services Warehouse. Also through this program, the City was able to use graduate students from Carnegie Mellon University to assess the solar potential of 107 City-owned buildings.

#### Strategies:

- Engage a class or intern(s) to assess existing Carnegie Mellon University study<sup>33</sup> and determine how many buildings have adequate solar energy capacity.
- Develop an implementation plan to install solar energy on these buildings.
- Install solar energy systems by 2020.

## RECYCLING & WASTE MANAGEMENT

### **MUNICIPAL Recycling & Waste Management 3.1: Establish a City-Operated Compost Facility<sup>34</sup>**

The City of Pittsburgh collects yard waste and leaves at the curb twice a year and collects Christmas trees each January. In addition, three existing City Public Works drop-off sites accept yard waste for recycling from City residents year-round. In total, the City composts approximately 3,000 tons of material each year, at a cost of about \$100,000. The City receives 10% of the

33 Epley, D. et al. (2009). "Pittsburgh Solar America Cities: Roadmapping Solar Installation Tool." December 2009. City of Pittsburgh Office of Sustainability & Energy Efficiency and Carnegie Mellon University.

34 Ibid, Footnote 1. Community Recycling and Waste Management 2.4

finished compost to use at its parks and facilities. A feasibility study completed in 1999 found that the City could save money by establishing and operating its own composting facility. However, the City has been unable to find a suitable location and upfront capital for the purchase of equipment and hiring of personnel.

Strategies:

- Review results of existing feasibility study.
- Work with Pennsylvania Resources Council to update feasibility study.
- Identify potential locations for composting operations, including the Forestry Division headquarters, vacant lots, and City, URA, and Housing Authority unused property.
- Initially limit composting to yard waste, but eventually explore the possibility of composting food waste.

## GENERAL SUSTAINABILITY

### **MUNICIPAL General Sustainability 3.1: Establish Interactive Public Feedback System Regarding Sustainability Initiatives**

Since adoption of the *Pittsburgh Climate Action Plan, Version 1.0*, the City of Pittsburgh has developed multiple mechanisms for providing environmental outreach and education to residents. These include a sustainability website, monthly electronic newsletters, a brochure rack in the City-County Building, and participation in public events and festivals. However, this outreach is mostly one-sided and its effectiveness is difficult to measure. To more effectively engage residents, businesses, and visitors, the City should develop an interactive feedback system regarding sustainability initiatives.

### **MUNICIPAL General Sustainability 3.2: Consider Passive Solar Design for Zoning Criteria**

Zoning codes allow cities to regulate land use (including where and how development occurs) with a goal of providing the greatest benefit for the city as a whole. In recent years, zoning has increasingly been used to require or reward environmentally friendly aspects of development. Pittsburgh already has made changes to its zoning code to encourage energy efficiency and green building practices. However, studies have shown that new construction can achieve significant energy savings simply by being oriented to optimize use of the sun's energy for heating, cooling, and light.<sup>35</sup> This practice, referred to as passive solar design, includes several factors including:

- 1) The building's orientation towards the sun to optimize both winter heating and summer cooling needs,
- 3) Building insulation,
- 4) Window glazing,
- 5) Ventilation, and
- 6) Shading.

To maximize the benefit of solar energy in the Northern Hemisphere, the longest wall of the building should face south and have the most windows to take advantage of the sun. Because the sun's path is higher in the summer, roof overhangs and other shading mechanisms can be used to prevent overheating. The Department of City Planning should explore whether the zoning code can be used to require or incentivize the use of passive solar design for new construction.

Strategies:

- Assess existing research on the benefits of passive solar design, especially in climates similar to Pittsburgh's.
- Determine which aspects of passive

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35 U.S. Department of Energy. (2011). "Passive Solar Home Design." [www.energysavers.gov/your\\_home/designing\\_remodeling/index.cfm/mytopic=10250](http://www.energysavers.gov/your_home/designing_remodeling/index.cfm/mytopic=10250), Accessed 27 October 2011.

solar design are most appropriately suited to Pittsburgh, and whether the potential benefits are significant enough to justify a code change.

- Determine whether a mandate, incentive, or combination of both is the most effective way to promote passive solar design.

**MUNICIPAL General Sustainability 3.3:  
Offer Web Tools To Help Residents Track Energy Use**

There are several companies who work with cities and/or utility companies to offer online tools to help residents track their energy use. Studies have shown that the ability to track metrics makes people more likely to make attempts to improve those metrics. This phenomenon is often called the “Prius effect,” after the popular hybrid car, whose drivers attempt to get the best gas mileage possible because they have immediate feedback regarding their gas consumption.<sup>36</sup> Thus, tracking energy usage from month to month and year to year could incentivize people to reduce their energy use. A tool endorsed or provided by the City could lead to increased awareness of energy use and reductions in community-wide emissions.

Strategies:

- Assess various available programs to determine which might be the best fit for Pittsburgh.
- Acquire funding for purchase and advertising of program.
- Launch web tools for residents.

**MUNICIPAL General Sustainability 3.4:  
Complete a Repurposing Study of City-Owned Facilities**

Complete a usage study of all 330 City-owned buildings that takes into account building use, number of employees and visitors, public use, and

hours of operation to determine if buildings can be sold, leased or repurposed to better meet the needs of the City and avoid heating, cooling, and lighting unused space. This study would allow the City to better utilize its existing buildings.

Strategies:

- Create working group of relevant City staff to identify first buildings to be studied.
- Seek out funding towards repurposing study.
- Carry out repurposing study.

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36 Rosenwald, M. (May 26, 2008). “For Hybrid Drivers, Every Trip Is a Race for Fuel Efficiency.” The Washington Post. [www.washingtonpost.com/wp-dyn/content/article/2008/05/25/AR2008052502764.html](http://www.washingtonpost.com/wp-dyn/content/article/2008/05/25/AR2008052502764.html). Accessed October 27 2011.

## Housing Authority of the City of Pittsburgh

The largest strategy to reduce greenhouse gas emissions for the Housing Authority of the City of Pittsburgh (HACP) is to focus on HACP operations and building projects by retrofitting and, when necessary, replacing outdated buildings with new, more efficient buildings. For the HACP, energy demand is significantly reduced with the simple replacement of 80-year-old brick buildings supplied by a central boiler with new, lower density townhouses or small apartment buildings using individual unit heating. More specifically, as summarized below, the HACP has taken several steps to substantially reduce energy and water use throughout its operations and projects.

### ACTIONS IN PROGRESS

The following are actions that the Housing Authority of the City of Pittsburgh has already implemented or is in the process of implementing.

#### **MUNICIPAL HACP 1: Energy Savings Performance Contract (ESPC)**

Energy savings performance contracts (ESPC) use economic savings generated from energy efficient upgrades as a way to help finance capital improvements. An energy service company identifies improvements to help save energy and lays out a plan that guarantees specific paybacks from those improvements. Generally, if a payback is not reached, then the service company covers the loss. If a payback is overachieved, then the service company retains the extra savings.

The HACP recently completed physical work resulting from an ESPC with Honeywell, Inc. to install energy and water savings improvements at numerous HACP sites. The ESPC included a variety of specific upgrades including the following:

- Installation of flow restrictors and low flow toilets throughout all of the HACP's 4,700 units.
- Installation of high efficiency CFL lighting or other appropriate high efficiency lighting in all common areas and exterior lighting at HACP residential properties.
- Installation of geothermal heating and cooling systems at three HACP family properties: Northview Heights (446 units); Homewood North (134 units); and Arlington Heights (143 units).
- Replacement of older electric appliances with ENERGY STAR appliances (where ENERGY STAR appliances were not already in place).

#### **MUNICIPAL HACP 2: Energy Savings Measure as part of the Renovation of Mazza Pavilion**

Mazza Pavilion is a 30 unit senior/disabled building on Brookline Boulevard in the Brookline neighborhood of Pittsburgh. The complete renovation of this building, including a new roof, building envelope, and most major systems, includes the following energy features:

- Thermal envelope with R-42 insulation value for walls and R-60 for the roof (where Energy Conservation Code only requires R-19 and R-30, respectively).
- HVAC systems for heat plant, air conditioners, hot water heaters, and kitchen and bath exhaust fans are all ENERGY STAR rated.

#### **MUNICIPAL HACP 3: Environmentally Preferred Procurement**

As standard procedure, all apartment unit appliances purchased by the HACP qualify under the federal government's ENERGY STAR program

or are equivalent. This ensures that the appliances meet or exceed a certain degree of efficiency. In addition, all paint purchased by the HACP is low VOC paint--or contains low amounts of volatile organic compounds. VOCs are gases emitted from products that can cause short and long-term adverse health effects. Lastly, as the HACP upgrades its vehicle fleet, it chooses models that are most appropriately sized for their use.

### **FUTURE INITIATIVES**

In the future, the HACP will continue to evaluate energy efficiency opportunities when planning building upgrades or new construction and use current standards (e.g., installing double paned, higher efficiency windows). The HACP is also considering an additional ESPC to fund further energy saving upgrades to its facilities, but that will not occur until the existing ESPC is more established. The HACP will continue to pursue energy saving and waste reduction strategies in all areas of operations and new development, especially where cost savings and improved efficiency will result.

## Pittsburgh Water and Sewer Authority

The Pittsburgh Water and Sewer Authority (PWSA) is currently in the process of updating many of its facilities. All upgrades will prioritize new, energy efficient equipment. PWSA is involved in several partnerships that consolidate its services for greater efficiency and that decrease energy consumption, thereby cutting overall operational costs. Reducing energy demand, greenhouse gas emissions, and operating costs benefits both PWSA and city residents.

### ACTIONS IN PROGRESS

The following actions have already been implemented by PWSA or are in the process of implementation.

#### **MUNICIPAL PWSA 1:**

##### **Purchase 15% Renewable Energy**

PWSA is a member of the Western Pennsylvania Energy Consortium, a joint purchasing group managed by the City of Pittsburgh that buys 15% renewable electricity at a reduced rate. As members of the consortium, large PWSA electric accounts are required to use 15% green energy. This means 15% of the electric source comes from renewable energy. Smaller accounts are required to get 10% of their electric source from renewable energy. The Consortium received an U.S. EPA Green Power Partner Award in 2009.

#### **MUNICIPAL PWSA 2:**

##### **Off-Hour Pumping**

Due to their large storage capacity, PWSA is able to pump at night and drains water to users during the day. Because electricity is more expensive during peak hours, running PWSA pumps during off-peak hours reduces PWSA's costs and reduces pressure on the local electricity grid. When

demand is reduced on the electric grid during peak hours, it avoids having to bring older, more inefficient power plants online to cover the excess demand. By helping to limit the amount of power plants in operation, PWSA indirectly reduces CO<sub>2</sub>e emissions.

#### **MUNICIPAL PWSA 3:**

##### **Energy Efficient Procurement**

PWSA is in the process of replacing inefficient pumps with more efficient pumps and motors throughout the water distribution system to reduce overall energy demand. It is also installing metal halide light bulbs at the water treatment plant and at all pump stations.

#### **MUNICIPAL PWSA 4:**

##### **Real-Time Data Monitoring**

PWSA will be implementing a new supervisory control and data acquisition (SCADA) system, which allows for integrated monitoring and control of multiple systems throughout the PWSA water distribution network. Enhanced monitoring capabilities will alert operators to potential problems in a timelier manner, and thus reduce lost water, which represents lost energy. Transportation of water is the second largest portion of the City's carbon footprint and when this treated water is lost through leaks in pipes before it reaches the user, the energy used to get it there is wasted. Thus, minimizing PWSA water line leaks would significantly reduce wasted energy.

#### **MUNICIPAL PWSA 5:**

##### **Water Task Force Formation**

On January 15, 2010, the PWSA Board of Directors passed a resolution to form a Water Task Force. This group meets monthly to discuss various ways in which PWSA can reduce the amount of water that is unaccounted for. The group is made up of three PWSA board members and several PWSA

employees from the Operations and Engineering Divisions. Additionally, in late 2011, a *PWSA Sustainability Coordinator* was hired to work on this issue, as well as to reduce overall PWSA energy use.

**MUNICIPAL PWSA 6:**

**Demand Response Reduction Program**

Through North American Power Partners, PWSA participates in the PJM Interconnection's Demand Response Program, which aids in the reliability of the regional electricity grid. The PJM Interconnection is a transmission organization that coordinates the movement of wholesale electricity in our region. When heavy demand threatens the PJM electricity grid and brownouts or blackouts are imminent, PWSA will receive event notifications up to a day in advance, and will initiate pre-determined measures to reduce energy consumption throughout its facilities if possible. Event days are triggered by power system capacity constraints caused by a localized system capacity emergency declared by PJM or forecasted high temperatures.

As part of the Demand Response Program, PWSA receives payments for voluntarily reducing electricity use during times of extreme demand. The goal of the program is to temporarily reduce electricity consumption during times of peak energy demand to ensure system reliability, and to decrease the environmental impacts and economic costs of building new power plants just to meet infrequent peak demand.

## Table 2: URA Actions Already Taken

### URA Actions Already Taken

Action	Status	Details
Hire a Sustainability Coordinator	Complete	In 2007, the URA hired a Sustainability Coordinator to promote sustainable design and construction for URA programs and projects.
Require Energy Star Certification for All New Residential Construction Funded by the URA	Complete	As of January 2008, Energy Star certification is currently required for all new residential construction. This requires all construction to be at minimum 15% more energy efficient than required by code. URA-funded projects have averaged 35% more efficient than code through December of 2009.
Encourage LEED Certification for Commercial Development Projects funded by the URA	Complete	Since 2007, the URA encourages LEED certification of commercial development projects by: <ul style="list-style-type: none"> <li>-Having the development team meet early in the development process with the URA Sustainability Coordinator to review plans for sustainable elements and identify sources of funding for green aspects of the project.</li> <li>-Requiring developers to submit LEED checklists regardless of whether or not they are seeking certification.</li> <li>-Reducing interest rates for LEED certified projects based on level of certification achieved. Interest rates are reduced by 1.0% for LEED Silver, 1.75% for LEED Gold, and by 2.5% for LEED Platinum.</li> </ul>
Establish Loan Fund for Residential Energy Efficiency Upgrades	Complete	In the Fall of 2010, the URA introduced the Pittsburgh Home Rehabilitation Program (PHRP) PLUS program for homeowner energy efficiency improvements. The program offers a 0% interest rate loan to qualified homeowners for improvements as well as a \$2500 grant for an energy audit, air sealing, duct sealing, and insulation and increased lending limits for qualifying improvements (efficient appliances and other). <sup>37</sup>

37 For more information, see Community Home Energy Recommendation #2.

## Urban Redevelopment Authority of Pittsburgh

The Urban Redevelopment Authority of Pittsburgh (URA) is already doing a number of things to reduce greenhouse gas emissions. The Authority has developed and is continuing to develop policies, projects, and programs to not only reduce their own energy and water consumption, but also the consumption of residential and commercial projects that it is involved with. Below is a list of practices that the URA has adopted or proposes to adopt towards reducing greenhouse gas emissions. The following measures have already been implemented by the URA. While these were never recommendations in the *Pittsburgh Climate Action Plan, Version 1.0*, they show the progress made internally by the URA.

### ACTIONS IN PROGRESS

The following measures are currently being developed by the URA.

#### **MUNICIPAL URA 1: Pilot a Business Energy Savings Program**

The URA is currently initiating a Pilot Business Energy Savings Program, which provides energy audits and low interest loans to small businesses to improve energy and water efficiency (as recommended by the auditor). Highlights of the program include subsidized audits, 100% financing of projects with a 10 year payback or less, reduced interest rates, and identification of funding sources including local, state, federal, and utility incentives.

#### **MUNICIPAL URA 2: Create a URA Green Team**

The URA is looking into creating a URA Green Team to involve staff in the development and implementation of sustainable policies

and procedures in the office and within each department. The goal of this initiative is to build internal capacity within the URA to identify, understand, and implement sustainability goals into all URA projects.

#### **MUNICIPAL URA 3: Establish Sustainability Incentives for URA-Funded Projects**

The URA is looking into developing draft sustainability standards and incentives for commercial and mixed-use development projects. The URA is considering a variety of standards and incentives to increase the number of high performance buildings that the URA finances.

### FUTURE INITIATIVES

Looking forward, the URA has targeted the following items in continuing to reduce the Authority's carbon footprint:

- Determine benchmarks and thresholds for the carbon impact of URA activities.
- Develop energy and water efficiency standards for residential and commercial development based on *Pittsburgh Climate Action Plan* targets.
- Improve the energy and water efficiency of URA facilities through improvements such as more efficient lighting and plumbing fixtures and occupancy sensors.

Business recommendations in the *Pittsburgh Climate Action Plan, Version 1.0* were developed by the Green Government Task Force's business subcommittee. Since the *Plan's* publication in August 2008, progress has been made toward accomplishing those recommendations, as summarized in Table 3. Business sector recommendations in *Pittsburgh*

*Climate Action Plan, Version 1.0* focused on building social capital in Pittsburgh's business community to gain capacity for implementing programs toward measureable goals. In this *Pittsburgh Climate Action Plan, Version 2.0*, business recommendations establish goals, programmatic strategies, and measurement tactics for goal achievement for Pittsburgh's business community. These recommendations are aimed to advance cost effective solutions for all Pittsburgh businesses by addressing energy usage and climate change reduction. Business recommendations are organized into the following target areas:

- Business Climate Coalition  
Development
- Energy & Emissions
- Transportation
- Recycling & Waste Management
- Funding



Photo: Brad Feinknopf

## CHAPTER 3: BUSINESS

### Business Climate Coalition

A key partner to the business community is the Pittsburgh Climate Initiative's (PCI) Business Climate Coalition (BCC). The BCC works with local businesses and business networks as PCI's business sector outreach. The BCC is comprised of a diverse group of business leaders representing the Pittsburgh's various business sectors who are interested in energy and cost savings and climate issues. Sustainable Pittsburgh, through its Champions for Sustainability (C4S) business network, facilitates the BCC and its activities. The BCC is guided by actions organized under the Pittsburgh Climate Initiative. A Steering Committee advises and leads the BCC; a list of BCC Steering Committee members is provided in Table 8.

The BCC Steering Committee of 30 business leaders meets every 8 weeks to set business sector goals, plan events, organize focus group sessions, collect case study information, provide access to climate-related resources (e.g., legislation, measurement tools, and financing information), and collect information about what the business community needs in order to effectively address their climate concerns. Businesses can join the BCC by contacting Matt Mehalik at Sustainable Pittsburgh: [MMehalik@sustainablepittsburgh.org](mailto:MMehalik@sustainablepittsburgh.org).

The BCC holds events throughout the year to provide training in the skills necessary to establish a business's baseline greenhouse gas emissions and pursue reductions. BCC events also provide information on relevant policy developments, regional resources for reducing emissions, and funding resources at the regional, state, and federal levels. Events utilize regional expertise and case studies to better inform the BCC's future

work. Through regular events, the BCC facilitates discussion among businesses and across sectors to increase resource sharing and increase our region's best practices knowledge. Regular events also raise the profile of solutions-oriented discussion around climate change issues for businesses in our region.

### Sustainable Business Strategies Focus Group Study

In summer 2009, the BCC conducted a focus group study to gain insight from regional experts in sustainable business strategies and prioritize climate change solutions for Pittsburgh's business community. The study evaluated how experts perceive technological strategies and behavioral strategies in terms of cost, feasibility, and effectiveness. For example, experts were asked to rate the cost and feasibility of implementing various technological changes, as well as the effectiveness of that change in reducing negative environmental impacts. The results of this study provide guidelines for prioritizing BCC solutions related to climate change and have been taken into consideration in the development of the business sector goals of the *Pittsburgh Climate Action Plan, Version 2.0*.

The region's businesses have completed most of the goals from the *Pittsburgh Climate Action Plan, Version 1.0* and have established the infrastructure for even greater future success. In order to provide businesses in the region with the recognition they deserve, the business sector goals laid out in this document focus more on measurable actions. The programmatic strategies outlined in this document will steer the business community to achieving the citywide goal of

**Table 3: Business Recommendations' Status from *Pittsburgh Climate Action Plan, Version 1.0***

**Short-Term**

Classification	Title	Status	Details
General 1.1	Establish and Pittsburgh Business Climate Coalition	Complete	Business Climate Coalition (BCC) held regular meetings in 2009 & 2010
General 1.2	Hold a Business Sector Climate Event	Complete	2009 - 2010 BCC events: <a href="http://www.c4spgh.org/bcc_events.html">www.c4spgh.org/bcc_events.html</a>
General 1.3	Evaluate Business' Needs in Relation to Reducing Carbon Footprints	Complete	2010 BCC focus group studies and meeting discussions
General 1.4	Incorporate Sustainable Business Issues into City Government	In Progress	Active collaboration with City of Pittsburgh Sustainability Coordinator
General 1.5	Develop a Carbon Clearinghouse for Businesses	In Progress	Cases and even resources compiled on website
General 1.6	Provide assistance to Businesses for Completing Greenhouse Gas Inventories	In Progress	BCC 2010 events provided tools and resources for completing greenhouse gas inventories
Energy 1.1	Promote Energy Audits and Retrofits	In Progress	2009 & 2010 BCC Events
Recycling & Waste Management 1.1	Encourage Proper Waste Disposal	In Progress	2009 & 2010 BCC Events
Transportation 1.1	Encourage Employee Transit Use	In Progress	BCC meeting guest speakers
Transportation 1.2	Cooperate with the Oakland Transportation Management Association	Not Yet Addressed	
Transportation 1.3	Encourage Ridesharing	In Progress	Through 2011, BCC has been communicating with CommuteInfo regarding future Transportation Transformation program

## Medium-Term

Classification	Title	Status	Details
General 2.1	Provide PGH Small Business Grants	In Progress	Bridgeway Capital small grant project initiated October 2010
General 2.2	Establish Training for “How to Negotiate Green Lease”	Pending	Working towards in 2012
General 2.3	Establish a Pittsburgh Green Business Climate Award Program	Pending	Working towards in 2012
General 2.4	Develop Sustainable Procurement Practices	Pending	Working towards in 2012
Energy 2.1	Promote ENERGY STAR and/or LEED Certified Projects	In Progress	On May 22, 2010, BCC held a training event on how to measure energy savings, which promoted EPA’s ENERGY STAR program.
Recycling & Waste Management 2.1	Promote City of Pittsburgh recycling programs for all businesses	Pending	Working towards in 2012
Transportation 2.1	Provide Facilities to Encourage Bike Commuting	In Progress	BCC Meetings
Transportation 2.2	Obtain Business Memberships to Zip Car	In Progress	BCC Meetings

## Long-Term

General 3.1	Establish a Sustainable Business Seal	Complete	Summer of 2010 Sustainable Pittsburgh & Town Center Associates began offering a Sustainable Business designation
Energy 3.1	Encourage ongoing commercial building energy audits and/or recommissioning	Pending	Addressed in 2009 & 2010 BCC events, working towards for 2015
Transportation 3.1	Reduce Parking Spaces and Employee Parking Subsidies	Not Yet Addressed	

reducing greenhouse gas emissions 20% below 2003 levels by 2023.

In this *Pittsburgh Climate Action Plan, Version 2.0*, the BCC and its business networks aim to create more measurable recommendations that connect to the expressed needs and priorities in the region's business community. Toward that goal, the following recommendations outline work that anyone in the business community can undertake--and for which the BCC will act as a conduit for information and program organization. The recommendations below were developed during BCC working meetings, with guidance from the BCC's research.

## Business Climate Coalition

### Development

#### GOALS

- 2012: **Double membership in the Business Climate Coalition from 30 to 60+.**
- 2015: **Have Pittsburgh businesses and the Business Climate Coalition influence public policy decisions surrounding climate issues.**

#### MEASUREMENT TOOLS

##### **Business Climate Coalition membership**

To evaluate these goals, the BCC will track the number and diversity of businesses and organizations from business networks that participate in BCC meetings and programming. Increased BCC diversity is identified as increasing the participation of women and minority owned businesses, small and mid-sized businesses, and businesses representing all sectors.

##### **Collaboration with other sectors:**

The BCC will track the number of events and programmatic initiatives it collaborates on with higher education, local government, and community sectors.

## RECOMMENDATIONS

The following recommendations aim to continue to build the Business Climate Coalition network.

##### **BUSINESS BCC 1.1:**

##### **Identify Key Business Organizations to Recruit to Business Climate Coalition Membership**

The BCC's leadership will research potential new members, establish contacts, and conduct regular outreach to recruit new members to its programming. Strong recruitment practices involve one-on-one interaction with peers; the BCC can use this strategy to grow its network. Establishing a recruitment subcommittee may work well to generate a peer message describing the benefits and impact of the BCC's programming.

##### **BUSINESS BCC 1.2:**

##### **Engage More Small Businesses in the Business Climate Coalition**

The BCC's leadership will work with local small business organizations and neighborhood development corporations to recruit small businesses to the BCC's programming. In 2012, the BCC should recruit 5 additional small businesses. Small business members will provide valuable perspective to formulate successful programming that targets the large number of small businesses in Pittsburgh, making the BCC's programming more comprehensive and targeted to all levels of operation. Some key differences in small business administration include building occupancy, purchasing practices, and employee involvement in green initiatives.

**BUSINESS BCC 1.3:****Partner with the Higher Education Climate Consortium to Build Mutual Support with the Business Climate Coalition**

The Higher Education Climate Consortium network of 11 campuses could provide valuable information and skills to the BCC's ongoing program work--and the BCC's programming can provide valuable information to campus operations. Campus buildings are largely metered as commercial, and campus institutional operations are similar to business operations. Volunteers from the BCC Steering Committee will work to engage Pittsburgh's campuses to share best practices and trainings across these two sectors, building stronger capacity for citywide energy and resource management.

**BUSINESS BCC 1.4:****Create Greater Partnership with Policy Makers and Policy Advocates**

The BCC acts as a conduit for policy information relevant to local business practices, and can position itself as a resource to other groups or coalitions that pursue policy stances in line with the BCC's interests. BCC members will outline their policy interests and identify potential groups to whom the BCC will provide policy advocacy resources. Utilizing PCI's connections to local government, the BCC's information, and PCI's leverage, the BCC can facilitate partnerships between these advocacy groups and local policy makers. Thus, without directly advocating, the BCC can create the linkages and help unify the business community's support for legislation that addresses climate change and energy management locally and at the state and federal levels.

## Energy and Emissions

### GOALS

- **2012: Establish an energy and emissions baseline for a representative sample of regional businesses.**  
In conjunction with its regular events, the BCC will hold trainings in tools and strategies for tracking greenhouse gas emissions. In 2010, the BCC held a training using the EPA's free Portfolio Manager software, which tracks energy and water consumption for facilities, allowing building managers to establish an emissions baseline and then measure reductions. The BCC will continue providing resources for using this software and other tools as they become appropriate.
- **2013: Achieve a measureable reduction from the baseline established by participating businesses.**
- **2015: Achieve a 10% reduction from the baseline established by participating businesses.**

### MEASUREMENT TOOL

**Green Workplace Challenge Results**

The Green Workplace Challenge requires participating businesses to track their energy usage using EPA's Portfolio Manager software.<sup>38</sup> The data collected through the Green Workplace Challenge will be compiled and used to show both energy and emission reductions achieved by a portion of the Pittsburgh business sector. Additionally, the number of energy-related actions completed by businesses will be tracked and used as a BCC metric.

38 Pittsburgh Green Workplace Challenge. (2011). "Getting Started with the Green Workplace Challenge." <http://greenchallenge.c4spgh.org/overview/getting-started-with-the-gwc/>. Accessed 6 December 2011.

## RECOMMENDATIONS

The following recommendations aim to lower greenhouse gas emissions through reduced business energy consumption.

### **BUSINESS Energy & Emissions 2.1: Raise Business Awareness about Renewable Portfolio Standards and Pennsylvania Act 129**

As part of its outreach programming, the BCC will aim to increase understanding of state and regional renewable portfolio standards and their effect on energy issues in Pennsylvania; current Pennsylvania renewable portfolio standards require that 18% of all energy generated in the state come from alternative and renewable sources by 2021.<sup>39</sup> There is significant opportunity to ally with renewable energy stakeholders to increase the business community's understanding of the potential for decentralized renewable energy projects throughout the Pittsburgh region.

Through programming and other mechanisms, the BCC will also highlight the policy effects and financing opportunities afforded through Pennsylvania Act 129, which requires demand side reductions in electricity consumption and provides funding to public utilities for subsidies to equipment upgrades and outreach programming. Duquesne Light's *Watt Choices* program carries out the Act 129 mandate for its customers in Pittsburgh.<sup>40</sup> *Watt Choices* provides rebates for equipment upgrades to reduce energy demand.

In addition to Duquesne Light's *Watt Choices* program, the BCC can provide information about other electricity providers that source renewable and/or Green-e certified renewable energy for customers.

Businesses should look to the BCC as a conduit for information about these opportunities, while reaching into their own

networks to build awareness among their business peers.

### **BUSINESS Energy & Emissions 2.2: Promote Energy Audits and Retrofits for Pittsburgh Businesses**

As part of its educational and outreach events, the BCC will encourage businesses of all sizes to pursue energy audits and retrofits. Energy audits and retrofits provide significant cost savings by reducing energy consumption and providing reasonable payback periods for equipment upgrades through utility bill savings. There are a number of resources in the Pittsburgh region for providing professional energy audits. To successfully translate audit results into completed retrofit installations, the BCC will provide information about funding opportunities and help local businesses provide success stories from their energy audits and retrofits to publicly encourage others to do the same. Positive media coverage can increase Pittsburgh's profile as a green business region.

### **BUSINESS Energy & Emissions 2.3: Promote ENERGY STAR Label and/or LEED Certification for Business-Occupied Buildings**

As a component to its programs and as a main priority in its direct outreach, the BCC will promote certifications that help businesses reduce costs through energy saving measures. Two such certifications are ENERGY STAR, administered by the U.S. Environmental Protection Agency (EPA), and the Leadership in Energy and Environmental Design (LEED®) green building rating system.

These two third-party verifications provide guidelines for buildings and interior spaces to achieve reductions in energy consumption through a variety of methods. While ENERGY STAR focuses primarily on energy and water consumption, LEED certification affords additional benefits to environmental and human health,

39 Alternative Energy Portfolio Standards. (2011).

[www.dsireusa.org/solar/incentives/incentive.cfm?Incentive\\_Code=PA06R&re=1&ee=1](http://www.dsireusa.org/solar/incentives/incentive.cfm?Incentive_Code=PA06R&re=1&ee=1). Accessed 6 December 2011.

40 Duquesne Light. (2011). "Watt Choices." <https://www.duquesnelight.com/wattChoices/default.cfm>. Accessed 14 March 2012.

including options for reduced regional greenhouse gas emissions, increased indoor environmental quality, increased local product sourcing, sustainable land use, and achieving solutions to region-specific environmental issues.

Targeting business-occupied buildings strategically focuses energy management programming on commercial buildings, which are the major source of greenhouse gas emissions in Pittsburgh (especially commercial building electricity use). The BCC will work with Green Building Alliance to provide information and organize programs in this area, while businesses throughout the Pittsburgh region can create events and meetings to strategize among their peers.

**BUSINESS Energy & Emissions 2.4:  
Encourage Onsite Renewable Energy**

In line with its other outreach programming, the BCC will promote renewable energy as part of the region's portfolio, including small-scale on-site renewable energy installations. There are a number of existing information resources, locally produced products, and funding opportunities for on-site renewable energy in Pennsylvania that could be harnessed toward implementing more on-site renewable projects. The BCC will work with Green Building Alliance, Citizens for Pennsylvania's Future, and other Pittsburgh organizations to provide resources and guidance, while local businesses can provide public case studies to raise the profile of localized renewable energy projects.

**BUSINESS Energy & Emissions 2.5:  
Encourage Purchasing of Renewable Energy Credits**

Renewable energy credits (RECs) are tradable commodities that measure the environmental benefit of energy produced from renewable sources. RECs can be purchased to "offset" dirty

energy production within the national electricity grid. Businesses can also purchase RECs to offset greenhouse gas emissions from specific portfolio items such as travel and events, or to offset their entire fossil fuel energy demand (including transportation).

The BCC, along with members of Pittsburgh's business community, will work with businesses and Citizens for Pennsylvania's Future to encourage purchasing RECs to increase investment in clean energy, prioritizing locally generated RECs that benefit our region's health and reduce the negative environmental impacts of local electricity demand

**BUSINESS Energy & Emissions 2.6:  
Provide Assistance to Businesses for Completing Greenhouse Gas Emissions Inventories**

The BCC will work to provide training and program support to businesses for completing an inventory of greenhouse gas emissions resulting from firms' buildings and operations. A greenhouse gas inventory provides a baseline from which a firm can measure reductions and identify inefficiencies and outliers that should be targeted for reductions. For areas that are often excluded from inventories (e.g., purchasing practices), the BCC can provide best practices guidance. Members of the Pittsburgh business community can publicly share their experiences with conducting an emissions inventory and the benefits they have gained through using the results to address inefficiencies. Greater publicity will help build expectation within the business community to participate in energy saving strategies, including greenhouse gas emissions inventories.

**BUSINESS Energy & Emissions 2.7:  
Expand Small-Business Energy Conservation Programming**

The BCC will work with local partners to model energy efficiency in small and mid-sized

businesses in a neighborhood business district. This could be done through seminars catering to the small and mid-size business budget and context, as well as through in-person information sharing throughout neighborhood business districts.

The BCC should work with business district associations and/or neighborhood development corporations to aggregate small businesses based on geography to increase small-business participation in BCC programming. The BCC should profile small businesses that adopt green practices, aiming toward a portfolio of 25 small business stories by 2015. Additionally, the BCC, in partnership with small businesses and small business district networks, could establish a group of peer experts to advise small businesses on strategies and funding for energy conservation improvements.

Small businesses in Pittsburgh can then work with existing local business networks to share their experience with gaining energy efficiency to reduce costs, providing public encouragement to other small businesses and raising Pittsburgh's profile as a leader for greening small business operations.

**BUSINESS Energy & Emissions 2.8:  
Target Larger Users for Participation in Energy Conservation Strategies**

Several existing data sources exist to support the BCC in targeting local large end-use energy users, including the U.S. Energy Information Administration's (EIA) Commercial Buildings Energy Consumption survey (CBECS) (which provides information on end-use energy demand by commercial buildings within census tracts) and the Allegheny County Tax Assessor's database (which lists buildings by square footage). The BCC can use this data to target large building energy users for participation in BCC energy conservation programming. This strategy seeks short-term,

significant reductions in citywide greenhouse gas emissions by targeting the largest energy consumers.

**BUSINESS Energy & Emissions 2.9:  
Engage Commercial and Multi-Family Residential Landlords in Energy Conservation Programming**

As managers of large numbers of buildings, commercial and multi-building residential landlords represent a significant opportunity to implement large-scale energy conservation strategies; they are also a large market for new financing mechanisms. Strategies in this area should include providing information about funding resources for multi-unit energy efficiency upgrades, guidance on best practices from existing regional projects, and training on how to negotiate green leases. Key partners to utilize existing landlord networks include the Energy Conservation Collaborative of Western Pennsylvania (convened by ACTION Housing, Inc.), the Urban Redevelopment Authority, and Green Building Alliance.

**BUSINESS Energy & Emissions 2.10:  
Implement a Pittsburgh Green Workplace Challenge Program**

In collaboration with Sustainable Pittsburgh's Sustainable Business certification program and business networks throughout the Pittsburgh region, the BCC designed and is piloting a Green Workplace Challenge.<sup>41</sup> Launched in September 2011, the program awards points for measureable reductions in energy use, water use, and transportation fuel use, as well as recognition for employee behavior change programs. As of November 2011, 47 organizations had registered for the year-long pilot competition. Regional public recognition will be awarded to participants and to winners.

The BCC will continue to implement and seek funding and sponsorship for the Green Workplace

41 Ibid, Footnote 36.

Challenge. After completion of the first-year pilot program, the BCC aspires to have 100+ annual Green Workplace Challenge participants.

### **BUSINESS Energy & Emissions 2.11: Provide Trainings and Information about Portfolio Manager**

In 2010, the BCC held a highly successful, well-attended Portfolio Manager training seminar led by a representative from the EPA. Another seminar was held in October 2011 as part of the Green Workplace Challenge to introduce participants to the software. This type of skills training is essential to building capacity within the region's business community for measuring greenhouse gas emissions reductions. The BCC will continue to design and host trainings about using the free EPA Portfolio Manager software tool to measure business' energy and water use. Measurement is essential to verifying baseline energy usage and reductions over time.

## **Transportation GOALS**

- **Reduce the number of single occupancy vehicles commuting to Pittsburgh**  
The BCC will work with businesses in the Pittsburgh region to develop programs that encourage personal strategies for reducing single occupancy vehicle transportation among commuters. Strategies include carpooling, public transit use, non-motorized transportation, and working remotely. Reducing single occupancy vehicle numbers results in reductions in greenhouse gas emission reductions from transportation to and within the city.

An article in the June 2010 edition of *National Geographic* showed that, in Pittsburgh, it would only take one day of making small changes in commuter behavior to save \$534,250, 213,700 gallons of gas, and the CO<sub>2</sub> equivalent of taking 370 cars off of the road for a year.<sup>42</sup>

The BCC hopes to encourage all Pittsburgh commuters to rise to this challenge presented by *National Geographic* by participating in a Transportation Transformation. This future one day event will allow Pittsburgh commuters to match the changes outlined in the article. In future years, the Transportation Transformation could go for one full work week, followed by two full work weeks for the next year.

If Pittsburghers achieve the outlined reductions in single occupancy vehicle commuting, the following annual results will be attained:

- **2012: Reduce 2,458 MtCO<sub>2</sub>e; 0.05% annual reduction in single vehicle users**
- **2013: Reduce 12,290 MtCO<sub>2</sub>e; 0.25% annual reduction in single vehicle users**
- **2014: Reduce 24,580 MtCO<sub>2</sub>e; 0.5% annual reduction in single vehicle users**

## **MEASUREMENT TOOL**

### **Conduct a commuter survey**

The BCC will work with businesses, CommuteInfo, and the Southwestern Pennsylvania Commission to conduct employee commuter surveys that gather transportation behavior data for businesses to better understand their transportation footprint. The survey would generate baseline data against which changes to employees' commuting behavior could be

42 Silver, M. (2010). "A Day With Less Driving". National Geographic. June 7, 2010. [http://blogs.ngm.com/blog\\_central/2010/06/a-day-with-less-driving.html](http://blogs.ngm.com/blog_central/2010/06/a-day-with-less-driving.html). Accessed 14 March 2012.

compared, thereby measuring the effectiveness of transportation programming.

### **Results from the Transportation Transformation program**

A transportation behavior reporting tool and calculator will be developed for the program with assistance from Bike Pittsburgh, CommuteInfo, and the Southwestern Pennsylvania Commission. This calculator will allow commuters to see how much money, gas, and air and carbon emissions they can save by choosing an alternative mode of transit. It will also be used to measure and report the collective efforts of Pittsburghers during the Transportation Transformation challenge.

## **RECOMMENDATIONS**

The following recommendations aim to lower business greenhouse gas emissions by enhancing regional transportation.

### **BUSINESS Transportation 3.1: Reduce Commuter and Travel Footprints**

Targeting businesses and organizations, the BCC will work with PCI Partners to create outreach programming that encourages residents to track and reduce their individual transportation footprints. This personalized programming creates a foundation of active participants through which the BCC's programming can reach an entire body of employees and effect change in the commercial sector's commuting behavior, thereby achieving reductions in greenhouse gas emissions from transportation.

### **BUSINESS Transportation 3.2: Encourage Ridesharing among Employees**

The Southwestern Pennsylvania Commission's CommuteInfo program helps organize carpool and vanpool commutes in the region. This existing network could be built upon to help encourage

ridesharing among businesses. Working with Commute Info via information campaigns and commuter networks, the BCC will encourage Pittsburgh employees to reduce single occupancy vehicle travel through ridesharing. There are a number of programs across the nation that could be adapted to Pittsburgh commuters--and there are existing organizations that work to provide information and resources for carpooling.

### **BUSINESS Transportation 3.3: Encourage Employee Public Transit Use**

To reduce greenhouse gas emissions while increasing Pittsburgh air quality and quality of life, businesses in the region can incentivize and encourage their employees to use cleaner forms of transportation. Through outreach events and larger programming, the BCC will promote employee commuting through alternative transit and public transit. As with any city, Pittsburgh experiences a surge of single occupancy vehicles during morning and evening rush hours.

### **BUSINESS Transportation 3.4: Promote Business Memberships to Zipcar**

As a coalition, the BCC may be able to use its buying power to negotiate with Zipcar for a Pittsburgh BCC business rate on memberships and usage to reduce the need for employees to commute to work by car so that they have a vehicle with which they can drive to meetings during the day. The BCC should consult with the Higher Education Climate Consortium regarding how to pursue these negotiations since several Higher Education Climate Consortium institutions already have Zipcar memberships (with the ability to add other schools onto those memberships). Businesses could opt to purchase collective memberships and share the vehicles and costs.

### **BUSINESS Transportation 3.5: Encourage Bicycle Commuting**

To provide greater capacity for bicycling as an emissions-free transportation option, the BCC will partner with bicycle advocacy groups in the Pittsburgh region and with municipal authorities to increase bicycle infrastructure and driver education. Bike Pittsburgh promotes biking in the Pittsburgh region and regularly hosts events, including Car Free Fridays which promote the use of bicycles and other alternative means of commuting. In addition, the BCC can work with other local bicycle groups identified on the Bike Pittsburgh website:

[www.bike-pgh.org/resources/links/](http://www.bike-pgh.org/resources/links/).

### **BUSINESS Transportation 3.6: Implement Transportation Transformation Program**

The BCC will design, pursue funding for, and administer a transportation behavior change program in coordination with the other PCI Partners. The proposed program will use existing workplace and residential networks to target individual transportation choices, reducing single occupancy vehicle transit and increasing carpools, public transit use, biking, and walking. As mentioned in the “Goals” section above, the proposed Transportation Transformation program is based on data provided in a 2010 *National Geographic* article.<sup>43</sup> The program’s pilot year would focus on a one-day competition, while successive years would organize longer-term commitments to transportation behavior change. The goal of a Transportation Transformation program would be to achieve the target of set out by the NRDC’s Vehicle Analyst in the *National Geographic* article, as well as to improve local air quality and reduce greenhouse gas emissions.

The pilot Transportation Transformation one-day program will share some similarities with the existing Bike Pittsburgh “Car Free Fridays”

program, but will be significantly larger in scale. In addition to providing biker breakfasts, this event will organize walk pools and possibly close select streets off to traffic in Downtown Pittsburgh. It will also work directly with businesses to plan and promote alternative commuting and to measure changes in commuter behavior. The program will build off of the “Transportation Exploration” event held in September 2011 through collaboration between Pittsburgh Climate Initiative, Bike Pittsburgh, Southwest Pennsylvania Commission, and Port Authority.

## **Recycling and Waste Management**

### **GOALS**

- **Reduce CO<sub>2</sub>e by improving waste management practices in businesses**  
Reducing waste by recycling and composting materials results in a direct reduction of greenhouse gas emissions. As businesses in the region carry out waste audits and pursue waste reduction, they will be encouraged to share their findings so that a collective reduction in greenhouse gas emissions can be measured and tracked, laying ground for future goals.

### **MEASUREMENT TOOL**

#### **Green Workplace Challenge results**

As part of the Green Workplace Challenge, businesses can conduct waste audits with the help of a waste-related organization. The results of these audits can be compiled to measure the overall tonnage of waste diverted from landfills.

**EPA’s Waste Reduction Model (WARM) <sup>44</sup>**

The U.S. Environmental Protection Agency (EPA) provides a tool for voluntarily reporting waste management practices through source reduction, recycling, combustion, composting, and landfilling. The tool calculates greenhouse gas emissions resulting from waste management.

**RECOMMENDATIONS**

The following recommendations aim to lower business greenhouse gas emissions by decreasing the amount of waste sent to landfills and promoting the reuse and recycling of materials.

**BUSINESS Recycling & Waste Management 4.1: Encourage Proper Waste Disposal**

Recycling saves resources and reduces the region’s overall waste stream, thereby reducing greenhouse gas emissions from landfilled waste. Proper handling and disposal of hazardous waste protects our region’s water quality and air quality. As part of its comprehensive outreach efforts, the BCC will promote proper disposal of recyclable and hazardous waste products among the region’s businesses. The BCC will work with Pennsylvania Resources Council to provide information on and gather local business case studies featuring excellent waste management by diverse businesses.

**BUSINESS Recycling & Waste Management 4.2: Promote Waste Reduction Accomplishment Certification**

The BCC will promote the Pennsylvania Resource Council’s ZIP waste reduction certificate to businesses. Through ZIP, businesses are encouraged, rewarded, and acknowledged for reducing waste through source reduction, recycling, and material reuse to minimize life cycle costs and life cycle emissions from commercial purchasing practices. By gaining ZIP certification,

businesses can save money on waste removal costs, take advantage of perks and discounts offered to certified organizations by local goods and service providers, and appeal to the public by marketing their achievements.

More Information:

- Zero Waste Pittsburgh: [www.zerowastepgh.org/zipWhat.html](http://www.zerowastepgh.org/zipWhat.html)

Example:

**Syracuse, NY** – The Onondaga County Resource Recovery Agency runs the Blue Ribbon Recycler Program where businesses are rewarded for committing to high standards of waste reduction through recycling, procurement, and green office policies. Participating businesses receive an award and decal, certification letter, seal of recycling excellence for company use, and publicity including an individualized promotional event. Over 40 businesses are currently certified Blue Ribbon Recyclers.<sup>45</sup>

**BUSINESS Recycling & Waste Management 4.3: Establish Environmentally Preferred Purchasing Policy Guidelines**

The BCC will provide summary guidelines and examples of environmentally preferred purchasing (EPP) policy adoption by businesses in the Pittsburgh region. The guidelines should be adaptable to small and mid-size businesses as well as large and corporate operations. Guidelines will feature products certified by national green product standards that consider resource conservation and safety for human health. The Responsible Purchasing Network has existing sample EPP guidelines from federal, state, and county governments as well as educational institutions.

More Information:

- Responsible Purchasing EPP Guidelines:

43 Ibid, Footnote 40.

44 U.S. Environmental Protection Agency. (2011). “Waste Reduction Model.” [www.epa.gov/climatechange/wycd/waste/calculators/Warm\\_home.html](http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html). Accessed 30 August 2011.

45 Onondaga County Resource Recovery Agency. (2011). “Blue Ribbon Recycler.” [www.blueribbonrecycler.com](http://www.blueribbonrecycler.com). Accessed 27 October 2011

[www.responsiblepurchasing.org/purchasing\\_guides/all/policies/](http://www.responsiblepurchasing.org/purchasing_guides/all/policies/)

in partnership with other sectors, including local government.

#### **BUSINESS Recycling & Waste Management 4.4: Support Waste Reduction through the Green Workplace Challenge**

The Pittsburgh Green Workplace Challenge engages the region's business community in a fair and friendly competition that promotes sustainable business practices.<sup>46</sup> The competition provides a series of measureable actions for businesses and property owners to implement and track measureable reductions. The Green Workplace Challenge includes a series of waste reduction actions including performing a waste audit and providing reusable food containers. As with all competitions, it will conclude with public recognition for successful participants.

### **Funding GOALS**

- **Hold regular trainings in financial strategies for increasing sustainability in business operations**  
Businesses can benefit from a centralized collection of funding opportunities for sustainability activities. Thus, the BCC will design trainings to assist businesses in understanding the portfolio of funding resources available for reducing energy and water demand and waste generation.
- **Facilitate new funding strategies and programs**  
The BCC can act as a conduit for new funding programs aimed toward reducing the upfront costs of technical upgrades. To generate local funding opportunities, the BCC can work

### **MEASUREMENT TOOL**

Funding recommendations will be measured by the number of projects funded by opportunities through BCC programming and resources.

### **RECOMMENDATIONS**

The following recommendations aim to provide and disseminate financial incentives for reducing business greenhouse gas emissions.

#### **BUSINESS Funding 5.1: Partner with Available Small Grants Programs for Small-Business Energy Management**

The BCC will provide information and guidance to Pittsburgh businesses to utilize existing small grants opportunities for energy efficiency improvements in buildings and operations. In 2010, small grants for businesses for energy management are available through Bridgeway Capital and through the Urban Redevelopment Authority<sup>47</sup>.

The Business Development Center at the URA helps businesses located in the City of Pittsburgh leverage the capital necessary for their growth and success. The Business Energy Efficiency Loan Program launched in 2011, which will provide subsidized energy audits and reduced interest rates for the financing of improvements recommended through the audit.

#### More Information:

- URA Business Loans: [www.ura.org/business\\_owners/loan\\_programs.php](http://www.ura.org/business_owners/loan_programs.php)
- URA Business Development Center: (412) 255-6669.

46 Ibid, Footnote 36.

47 For more information, see Table 2: URA Actions Already Taken.

**BUSINESS Funding 5.2:**

**Aggregate Financing Sources in an Online Clearinghouse**

The BCC should regularly provide information about varying levels of funding for diverse projects to conserve energy, water, and waste. Through business networks' online tools, regular newsletters, meetings, and projects the BCC can distribute funding resources to reach firms outside of BCC membership.

As a centralized resource, the BCC can build an easy-to-access online database of financing opportunities for businesses that should include grants, tax rebates, and other financial incentives. The BCC can partner with the City of Pittsburgh to incorporate this funding clearinghouse into the City's sustainability webpages, and the BCC can distribute this centralized resource to other business networks throughout Pittsburgh's commercial sectors.

**BUSINESS Funding 5.3:**

**Hold Green Lease Training for Both Tenants and Owners**

To better enable building occupants and building owners/managers to negotiate resource-saving building improvements, the BCC will collaborate with Green Building Alliance to hold trainings in creating and negotiating a green lease. Traditional leases frequently act as roadblocks towards building efficiency improvements because while tenants pay the utility costs, landlords own the building and are responsible for building improvements. Thus, the landlord has little incentive to upgrade building inefficiencies when the tenants are would absorb all of the benefits. Green leases are structured to incentivize sustainable improvements to building space by appropriately sharing costs and benefits among tenants and the owner.





Photo: Shane Martin

## CHAPTER 4: COMMUNITY

Community recommendations published in the *Pittsburgh Climate Action Plan, Version 1.0* were generated during a series of community visioning sessions held across Pittsburgh's neighborhoods in 2007 and 2008 to brainstorm citywide actions to mitigate climate change. Much progress has been made in initiating the original recommendations, as summarized in Table 4.

In this updated *Pittsburgh Climate Action Plan, Version, 2.0*, the Pittsburgh Climate Initiative aims to adapt the language of our community goals to bring the strategies into line with community members' capabilities; thus placing action in the hands of community members to implement these resident-driven recommendations. This restructuring is meant to maintain the recommendations generated through the original community meetings while empowering community members with a roadmap for implementation.

Residents, through the Black & Gold City Goes Green campaign and other networks, can organize conversations with the identified partners and pursue progress on these goals. To assist residents in taking on these tasks, a list of potential partners has been provided for each recommendation. Residents can also refer to APPENDIX C for a list of neighborhood organizations and APPENDIX E for local groups already performing climate-related work. Residents can work with these groups to implement recommendations laid out in this community section.

Nearly all recommendations are based on community input from the 2007 and 2008 visioning sessions, while new recommendations were added based on input received from 2010 meetings of the Black and Gold City

Goes Green Community Partners. Community recommendations are organized into the following target areas:

- Home Energy
- Transportation
- Food and Waste
- Green Space
- Capacity Building: Partnerships

Because these recommendations are meant to be taken on by community members and do not fall under one implementing agency, this section no longer contains time frames for implementation.

As an existing cross-sector collaborative network, the Pittsburgh Climate Initiative's (PCI) Black and Gold City Goes Green community campaign works with over 100 Community Partners to provide tools to individuals for reducing household greenhouse gas and air emissions. In 2011, the campaign had over 800 participants who reported their carbon-saving actions through the online portal.<sup>48</sup> Individual residents have a significant opportunity to reduce greenhouse gas emissions through changes to residential buildings, transportation behavior, purchasing practices, and through continued outreach to friends and neighbors.

Each month, the Black and Gold City Goes Green community campaign provides information on actions that individuals can pursue to reduce personal greenhouse gas emissions. These actions align with themes and goals laid out in the community section of the *Pittsburgh Climate Action Plan, Version 1.0*. While the *Pittsburgh Climate Action Plan, Version 1.0* outlined larger projects and initiatives for citywide effect, the

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48 Citizens for Pennsylvania's Future (2011). "The Black and Gold City Goes Green." [www.blackandgoldcitygoesgreen.com](http://www.blackandgoldcitygoesgreen.com). Accessed 4 November 2011.

**Table 4: Community Recommendations' Status from *Pittsburgh Climate Action Plan, Version 1.0***

**Short-Term**

Classification	Title	Status	Details
General 1.1	Engage Community Groups and Residents to Form a Community Climate Coalition	Ongoing	Black and Gold City Goes Green Campaign
General 1.2	Engage Public through Education Campaign	Ongoing	
General 1.3	Expand the Involvement of Labor Unions in Climate Protection Activities	Some Progress	
General 1.4	Plant Trees	Ongoing	Since 2008, TreeVitalize has planted over 12,000 trees
General 1.5	Engage the Pittsburgh Public Schools	Ongoing	
Energy 1.1	Build a Green Arena	Complete	Pittsburgh's new arena (Consol Energy Center) achieved LEED Gold certification in August 2010
Recycling & Waste Management 1.1	Enforcement of Mandatory Recycling	Not Yet Addressed	
Recycling & Waste Management 1.2	Expand Recycling Drop-Off Hours and/or Locations	Not Yet Addressed	
Recycling & Waste Management 1.2	Pair Every City Trash Container with a Recycling Container	Ongoing	Funding awarded to City; incremental implementation in business districts
Transportation 1.1	Use Biodiesel for Public Transportation	Complete	Port Authority currently uses B2 fuel mix in bus fleet
Transportation 1.2	Encourage Non-Motorized Transportation	Ongoing	2011 Transportation Exploration Event
Transportation 1.3	Provide City Alternative Fuel Map	Not Yet Addressed	
Transportation 1.4	Encourage Retail Stations to Supply B5	Ongoing	Available at some stations
Transportation 1.5	Support and Undertake Downtown Circulation Plan Recommendations	No Longer Active	
Transportation 1.6	Encourage Ridesharing and Telecommuting	Ongoing	

## Medium-Term

Classification	Title	Status	Details
General 2.1	Encourage Smart Growth	Ongoing	
General 2.2	Create Neighborhood Climate Champions	Significant Progress	Citizens Climate Corps hosts regular meetings
General 2.3	Enhance and Develop K-12 Climate Change Curriculum	Some Progress	
Energy 2.1	Create More Efficient Energy Codes	Ongoing	
Energy 2.2	Support and Create Incentives for Solar	Ongoing	
Energy 2.3	Create Incentives or Requirements for Green Roofs through Planning Department	Not Yet Addressed	
Energy 2.4	Grow Bioenergy Plants	Some Progress	
Energy 2.5	Encourage Better Loan Rates for Energy Efficient, ENERGY STAR Certified, and/or LEED Certified Homes	Not Yet Addressed	
Recycling & Waste Management 2.1	Support Methane Recovery	Complete	Pittsburgh landfills now recover methane
Recycling & Waste Management 2.2	Create Incentives for Renovation of Existing Buildings Rather Than Demolition; Reuse Construction and Demolition Debris	Not Yet Addressed	
Recycling & Waste Management 2.3	Establish Incentives for Restaurants to Recycle Waste Grease	Not Yet Addressed	
Recycling & Waste Management 2.4	Create City-Operated Compost Facility	Not Yet Addressed	
Transportation 2.1	Incentives for Hybrids and Alternative Fuel Vehicles	Addressed at State and Federal Level	
Transportation 2.2	Enforce Anti-Idling Laws	Ongoing	
Transportation 2.3	Improve Funding and Efficiency of Public Transit	Ongoing	
Transportation 2.4	Expand Fuel Rewards Programs to Include Public Transit	Not Yet Addressed	

## Long-Term

Classification	Title	Status	Details
Energy 3.1	Explore a Peak Pricing Pilot Project	Not Yet Addressed	
Energy 3.2	Create Energy Improvement Resources for Landowners (Homeowners)	Ongoing	
Energy 3.3	Create City of Pittsburgh Lobbying Effort for State and Federal Government Sustainable Energy Policy and Tax Incentives	Not Yet Addressed	
Recycling & Waste Management 3.1	Create Policy Incentives for Value-Added Vacant Land Management Strategy Following Building Demolition	Not Yet Addressed	
Recycling & Waste Management 3.2	Establish Pay-As-You-Throw Policies	Not Yet Addressed	
Recycling & Waste Management 3.3	Lobby for a Bottle Bill	State Level Policy Goal	
Transportation 3.1	Establish Congestion Fees	Not Yet Addressed	
Transportation 3.2	Reestablish Trolley Service	Not Yet Addressed	

campaign's calendar of actions brings those goals to the individual level. The Black and Gold City Goes Green 2009 and 2010 calendars are included in Appendix D. Videos featuring 2011 monthly actions can be viewed on the campaign website.<sup>49</sup>

The Black & Gold City Goes Green campaign has built a large network of Community Partners -- organizations that facilitate outreach and recruitment and that provide input to the campaign's strategies. Through the Black and Gold City goes Green Community Partners, programs exist to more deeply engage the Pittsburgh region in our work. In 2011, the

campaign executed 5 Blitz events in various Pittsburgh neighborhoods. The May 2011 blitz in the Mt. Washington neighborhood of Pittsburgh distributed energy saving materials to over 100 houses, thus reducing greenhouse gas emissions by 52,528 pounds annually. The campaign also launched a main street version of the blitz, distributing energy-saving devices and offering services to neighborhood businesses; this inaugural "Green Business Blitz" took place in Lawrenceville in September 2011. Additionally, a university-centric blitz program was held in the Oakland neighborhood, which houses several local universities.

49 Ibid, Footnote 38.

Additionally, in 2011, the Black & Gold City Goes Green led a Youth Community Partners program where they worked with 4 groups of high schoolers to lead students in an exploration of the climate action planning process and examine strategies for combating and mitigating climate change in our region. The process culminated in a Youth Climate Summit in May 2011 where students presented their plans to PCI Partners.

## Home Energy

The following recommendations aim to reduce greenhouse gas emissions by reducing household energy consumption.

### **COMMUNITY Home Energy 1: Advocate for More Efficient Energy Codes (Local and State) and Sustainable Energy Policy and Tax Incentives (State and Federal)**

For energy efficiency in Pennsylvania, residential and commercial new construction and renovations are regulated by the 2006 International Energy Conservation Code (IECC) Standard.<sup>50</sup> However, many local governments have adopted more stringent building codes for energy efficiency to save homeowners money through energy savings reduce greenhouse gas emissions.

The City of Pittsburgh could experience substantial benefit from better energy efficiency. A first step would be to work with the Building Codes Assistance Project ([www.bcap-energy.org](http://www.bcap-energy.org)), a nonprofit organization that would provide free assistance to local governments updating codes to include sustainability concerns. Logical partners to take the lead in exploring available options are Conservation Consultants Inc. (CCI) and Green Building Alliance (GBA).

Community members can arrange a meeting with the staff at the Building Codes Assistance Project to identify code changes that Pittsburgh City Council and other municipalities could employ to increase energy efficiency. This group of residents can then arrange a discussion with CCI and GBA to identify local priorities and

roadblocks for these code changes. With this information, the resident group can meet with their City Council representatives and identify the process to propose the identified code changes to the appropriate City Council committee. The community members can then work with the Community Partners in the Black & Gold City Goes Green to build a resident coalition and advocate for the City of Pittsburgh and other municipalities to review and adopt code changes identified by the Building Codes Assistance Project and vetted by local building expert organizations.

To advocate for state and federal policy and incentives, City and County residents can also collaborate with established environmental advocacy groups to support advocacy campaigns for local, state, and federal policies that address sustainability, renewable energy, and financing incentives for both.

#### Examples:

**Marin County, California** - Single-family homes larger than 3,500 ft<sup>2</sup> cannot exceed the energy efficiency of a 3,500 ft<sup>2</sup> home.<sup>51</sup> Private residents can build homes as large as they choose, but they must equip the home with energy efficiency measures or use alternative means of energy to keep the ecological footprint the same as that of a 3,500 ft.<sup>2</sup> home.

**Tucson, Arizona** -- and surrounding Pima County have both developed energy standards for new construction of homes and commercial buildings, establishing quantifiable requirements for building plans, to ensure that finished buildings will enjoy significantly less energy usage than under the Model Energy Code.

#### More Information:

- Tucson City Code, Chapter 6, Section 6-10, Exhibit C to Ordinance No. 10417: "International Energy Conservation Code, 2006 Edition" with local

50 1 Pa. Code § 403.21.

51 Ibid, Footnote 1. Community Energy 2.1

amendments; available from Tucson, City Clerk, <http://m.tucsonaz.gov/clerks/>

Suggested Foci:

- Federal renewable energy and energy efficiency standards.
- Continuation of tax credits for renewable energy development.
- Increasing and extending Pennsylvania’s Alternative Energy Portfolio Standards Act to require additional electricity supply from renewable energy sources.
- Removing economic disincentives for energy conservation by utilities (e.g., decoupling).
- Continuing Pennsylvania’s energy conservation mandate beyond 2012.

Potential Partners:

- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@ccicenter.org](mailto:anng@ccicenter.org);
- Rob Zahorchak, *Communications Director*, Green Building Alliance, [robz@gbapgh.org](mailto:robz@gbapgh.org);
- Cosimina Panetti, *Training and Outreach Manager*, Building Codes Assistance Project, [cpanetti@ase.org](mailto:cpanetti@ase.org);
- Tiffany Hickman, *Outreach Coordinator*, Citizens for Pennsylvania’s Future, [hickman@pennfuture.org](mailto:hickman@pennfuture.org);
- Myron Arnowitt, *Western PA Director*, Clean Water Action, [pittcwa@cleanwater.org](mailto:pittcwa@cleanwater.org);
- Sierra Club Allegheny Chapter, (412) 802 6161;
- PennEnvironment, Pittsburgh office, (412) 521-0943.

**COMMUNITY Home Energy 2:  
Identify and Advocate for Locally Appropriate  
Incentives for Solar**

The Solar Energy Program coordinated by Citizens for Pennsylvania’s Future, has identified major barriers to solar deployment in Southwestern Pennsylvania. Specifically, there is little to no residential project financing, inadequate public knowledge, and non-uniform zoning codes.

The largest barrier the Solar Energy Program has identified is inadequate public understanding of successful solar applications in our region. Performance-based data about solar power has not trickled into the public understanding of solar infrastructure. Our region has several photovoltaic and solar thermal installations that function properly and are paying dividends. The Solar Energy Program seeks to create case studies from existing solar applications in the region’s residential and small commercial sectors, thus building public champions for solar technology from those case studies’ successful performance data.

In terms of financing, individual residents currently have few options beyond home equity loans. The Pennsylvania Sunshine Solar Grant has had little publicity and outreach in the Pittsburgh region, with few Pittsburgh homeowners accessing the funds.

Another identified regional barrier is non-uniform permitting, zoning, and inspection standards at the local government level. Local champions for a model ordinance and reasonable permitting fees should be identified in Pittsburgh and other municipalities. Community members can partner with the Solar Energy Program to disseminate information and model code to municipal planners, zoning boards, and inspectors.

Local organizations should work to locate and disseminate existing local solar incentives, as well as advocate for effective future incentives for

solar energy that seek to clear barriers to solar energy deployment.

Existing Opportunities:

**Pennsylvania Green Energy Loan Fund:**

Schools, multifamily residential units, and nonprofits may apply for state loans of up to \$2.5 million in order to fund solar electric (photovoltaic) and solar hot water (solar thermal) projects.

**U.S. Solar America City Award:** In Fall 2007, Pittsburgh was named one of 13 cities in the U.S. to receive a Solar America City Award from the U.S. Department of Energy. This grant included technical assistance that amounted to \$2 million in 2007 and \$600,000 in 2008. The goal of the award is to develop infrastructure to make solar energy mainstream in the City of Pittsburgh. Within that infrastructure planning, the City of Pittsburgh has identified creating incentives for solar power as a goal. In particular, the City aims to work with local unions and the Community College of Allegheny County to continue training courses in installation and maintenance of photovoltaic systems.

**Power Purchase Agreements (PPA):** PPA is a financing device in which a government, business, organization, or school district hosts photovoltaic installations on its properties. A third-party retains ownership and maintenance responsibilities, with the resulting solar electricity sold directly to the host institution or to the local utility grid. Building owners can contract a fixed rate at which to purchase the renewable energy produced by a PPA system. There is great potential for this financing mechanism to increase solar energy production. Community members who wish to champion solar energy could be armed with

information and resources to approach their school districts, churches, community centers, or employers to enter into a PPA contract.

Citizen Strategies:

- Identify barriers to solar installation in Pittsburgh and Southwestern Pennsylvania.
- Build a citizen and business coalition to work with local legislators to reduce and eliminate these barriers.
- Approach businesses and homeowners with information about photovoltaic installations and financing opportunities.
- Encourage business-to-business relationships between companies with existing solar installations and those considering the investment.
- Encourage solar technology manufacturers and vendors to connect with financing institutions that offer solar specific financial products.
- Identify demonstration sites on both residential and commercial scales. Provide property owners with successful case studies outlining locally-applicable solar performance data.
- Identify new avenues to disseminate information about the performance potential and application of solar installations in our region.
- Create a “Solar Working Group” with membership including industry experts (e.g., regional solar contactors) to continually identify barriers and solutions to solar application.
- Identify local government solar champions and arm them with information, case studies, and model ordinances to affect change in local zoning and legislation.

Potential Partners:

- James Sloss, *Energy and Utilities Manager*, City Information Systems, City of Pittsburgh, [james.sloss@city.pittsburgh.pa.us](mailto:james.sloss@city.pittsburgh.pa.us);
- Evan Endres, *Project Coordinator*, Solar Energy Program, Citizens for Pennsylvania’s Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);

**COMMUNITY Home Energy 3:  
Work with Municipal Planning Departments to Create Incentives for Green Roofs**

Green roofs decrease the heating and cooling demands of buildings, absorb rainwater to reduce runoff, increase carbon sequestration, and decrease the heat island effect in urban areas. While green roofs can have a larger initial cost than traditional roofs, when installed and maintained properly, they can last longer and provide a host of benefits. The installation of green roofs on homes and businesses would decrease Pittsburgh’s energy demand, thereby saving money and reducing greenhouse gas and air emissions, while also alleviating stormwater concerns such as flooding and combined sewer overflows.

The Black & Gold City Goes Green community campaign should work with Green Building Alliance, green infrastructure stakeholders, and with Community Partners who have green roofs to communicate the benefits to City of Pittsburgh and other municipal governments. Stakeholders should meet with City and County legislators to identify locally appropriate incentives and requirements for green roof installations. They can then work together to build support among other legislators, businesses, and community members to adopt those changes.

Examples:<sup>52</sup>

**Washington, DC** - Builders who incorporate

green roofs into their designs receive expedited permitting, because addressing stormwater is a priority for the city.

**Portland, Oregon** - A floor area ratio (FAR) bonus is available to builders who employ preferred practices, including green roofs.

**Chicago, Illinois** - In Chicago’s cultural district, buildings with green roofs receive a density bonus, expedited permitting process, and waived building permit application fee.

Potential Partners:

- Aurora Sharrard, *VP of Innovation*, Green Building Alliance, [auroras@gbapgh.org](mailto:auroras@gbapgh.org);
- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@ccicenter.org](mailto:anng@ccicenter.org);
- City of Pittsburgh, Planning Advisory Committee on Community Based Organizations, (412) 255-2213;
- City of Pittsburgh, Planning Zoning Board of Adjustment, (412) 255-2235.

**COMMUNITY Home Energy 4:  
Disseminate Information about Existing Low-Interest Loans and Identify New Loan Markets for Energy Efficient, ENERGY STAR, and/or LEED Certified Homes**

At the federal, state, and local levels, there are multiple financing avenues for home energy improvements currently available, as described below. The Black & Gold City Goes Green community campaign should initiate a subcommittee focused on disseminating information about these financing options to homeowners. This subcommittee can work with the URA and CCI to increase its outreach to homeowners through the Community Partners network. These residents, the URA, CCI, and

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52 Ibid, Footnote 1, Community Energy 2.3

homeowners to whom they provide information can convene a roundtable to identify untapped loan markets for home energy efficiency improvements.

City and County residents currently have access to lower interest rates for energy efficiency improvements through the state level Keystone Home Energy Loan Program (improvements to existing homes) and the Federal Housing Administration's (FHA) Energy Efficient Mortgages (new home purchases or improvements to existing homes). The FHA program requires the services of a Home Energy Rater.

Locally, the Urban Redevelopment Authority-administered Pittsburgh Home Rehabilitation Program (PHRP) provides 0% interest loans and grants for improvements to eligible City of Pittsburgh homeowners.<sup>53</sup> The loan term can be spread over 20 years, making payment as low as possible. Income limits apply for participation; qualifying households earn less than 80% of the area median income.<sup>54</sup> Homeowners may borrow up to \$25,000 for a single-unit home and \$35,000 for a two-unit home. In combination with the loan, grants are available for an assortment of needs, including exterior improvements, removal of lead hazards, accessibility improvements, and sidewalk repair or replacement.

PHRP Plus also features a \$2,500 grant for an energy audit (required) and insulation, air sealing and duct sealing. Participants in this program are eligible to receive \$10,000 above the \$25,000 limit for the standard PHRP loan. The additional borrowing limit can be used for qualifying energy efficient improvements, including insulation, air and duct sealing, efficient heating and cooling, lighting, water heating equipment, and efficient windows and doors.<sup>55</sup>

More Information:

- Federal Housing Administration Energy Efficient Mortgage: [www.fha.com/energy\\_efficient.cfm](http://www.fha.com/energy_efficient.cfm)
- Home Energy Raters Listings: [www.resnet.us/trade/find-raters-auditors](http://www.resnet.us/trade/find-raters-auditors)
- PA Home Energy: [www.pahomeenergy.com](http://www.pahomeenergy.com)
- Keystone Home Energy Loan Program: [www.keystonehelp.com](http://www.keystonehelp.com)
- Home Improvement Loans from the Urban Redevelopment Authority of Pittsburgh: [www.ura.org/pittsburgh\\_residents/home\\_improvement\\_loans.php](http://www.ura.org/pittsburgh_residents/home_improvement_loans.php)

Examples:

**New York** – New York State Energy Research and Development Authority (NYSERDA) provides interest rate reductions on home loans up to \$20,000 for improvements such as the purchase of ENERGY STAR appliances, and the use of wind turbines or photovoltaic cells. The NYSERDA program offers interest rates of 4 to 6%.<sup>56</sup>

**Alaska** - The Alaska Housing Finance Corporation offers reduced interest rates to borrowers who purchase a new or existing energy efficient home, or who renovate a home to make it more efficient. The interest rate reductions apply to the first \$200,000 borrowed, and range from 0.125% to 0.75%, depending on technologies utilized.<sup>57</sup>

Potential Partners:

- Matthew Smuts, *Sustainable Design Coordinator*, Urban Redevelopment Authority, [msmuts@ura.org](mailto:msmuts@ura.org);

53 Also listed in Table 2: URA Actions Already Taken

54 A household of one cannot earn more than \$35,000, a household of two cannot make earn than \$40,000.

55 Urban Redevelopment Authority. (2009). "URA Adds Green Incentive to Enhance Consumer Loan Program." [www.ura.org/pdfs/press/PHRPplus-121809.pdf](http://www.ura.org/pdfs/press/PHRPplus-121809.pdf). Accessed 30 August 2011.

56 Ibid, Footnote 1, Community Energy 2.5

57 Ibid, Footnote 55.

- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@ccicenter.org](mailto:anng@ccicenter.org);
- Rob Zahorchak, *Communications Director*, Green Building Alliance, [robz@gbapgh.org](mailto:robz@gbapgh.org).

**COMMUNITY Home Energy 5:  
Promote Building and Building Material Reuse**

According to the Worldwatch Institute, building construction worldwide uses 40% of raw materials extracted from the earth. Renovation and demolition of buildings accounts for more than 1/5 of the total annual waste stream in the U.S. Upgrading existing buildings instead of demolishing them to build new structures, can conserve energy and resources and prevent waste. Reuse of existing buildings can eliminate the need for new infrastructure as well, such as water lines, sewage, and utilities. Gutting and renovating an existing building can cost 30% less than new construction.<sup>58</sup>

While it is unrealistic to ban building demolition activities, the City of Pittsburgh and other municipalities can take steps to encourage building renovation and the recycling of construction and demolition debris. Residents can work with the City of Pittsburgh’s *Sustainability Coordinator* to develop policies for City construction and demolition--and they can work with the business sector to encourage building and material reuse among contractors. The community outreach campaign can facilitate these conversations by connecting residents who are interested in leading this recommendation with the appropriate parties.

Example:

**California** - 40 cities in California, including every city in San Mateo County, 9 cities in Alameda County, and the cities of Santa Clara and San Jose, have construction

and demolition debris ordinances and/or programs.<sup>59</sup>

Strategies to Promote Locally:

- Keep future uses in mind when constructing new buildings, so that they can be either altered for reuse or disassembled, with individual parts reused.
- Require contractors to submit two bids for building removal contracts - one for demolition and one for deconstruction.
- Reuse components of a deconstruction project in nearby construction projects by using a materials exchange program such as Construction Junction or Pennsylvania Materials Trader.
- Provide lower interest loans for renovation compared to construction.

More Information:

- Construction Junction: [www.constructionjunction.org](http://www.constructionjunction.org)
- Pennsylvania Material Trader: [www.materialtrader.org](http://www.materialtrader.org)

Potential Partners:

- Mike Gable, *Executive Director*, Construction Junction, [mgable@constructionjunction.org](mailto:mgable@constructionjunction.org);
- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us).
- Rob Zahorchak, *Communications Director*, Green Building Alliance, [robz@gbapgh.org](mailto:robz@gbapgh.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania’s Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Preservation Pittsburgh, [info@preservationpittsburgh.org](mailto:info@preservationpittsburgh.org);
- Dan Holland, *CEO*, Young

58 Lennsen, N. & Roodman, D. (1995). “A Building Revolution: How Ecology and Health Concerns Are Transforming Construction.” World watch Institute. [www.worldwatch.org/node/866](http://www.worldwatch.org/node/866). Accessed 14 March 2012.

59 Ibid, Footnote 1, Community Recycling and Waste Management 2.2

Preservationists of Pittsburgh,  
[youngpreservationists@gmail.org](mailto:youngpreservationists@gmail.org).

**COMMUNITY Home Energy 6:  
 Promote the Installation of Water-Conserving  
 Fixtures in Homes**

Water conservation is an often untapped opportunity for energy conservation. Energy is required to heat water in homes, as well as to treat and transport potable water for drinking and wastewater after use. Community members can utilize existing programs and funding avenues to promote water conservation as an energy conservation strategy. Partner organizations can organize community volunteers to distribute water-conserving fixtures to residents. Duquesne Light's *Watt Choices* program provides rebates for efficient fixtures (i.e., low flow shower heads, low flow faucet aerators, and dual flush toilet adaptors). Other fixtures that could be encouraged in residential buildings are tankless water heaters and composting toilets. The following savings can be obtained by retrofitting basic appliances with EPA WaterSense certified, low flow models:<sup>60</sup>

- Faucet – \$80 for 6,000 gallons over 10 years
- Showerhead – \$340 for 23,000 gallons over 10 years
- Dual flush adapters or single flush with same effective flush volume – \$640 for 110,000 gallons over 10 years

*Potential Partners:*

- Evan Endres, *Project Coordinator*, Black & Gold City Goes Green, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Dave Defide, *Manager of Energy Efficiency*, Watt Choices Program,

Duquesne Light,  
[DDefide@duqlight.com](mailto:DDefide@duqlight.com);

- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@cccenter.org](mailto:anng@cccenter.org);
- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us).

**COMMUNITY Home Energy 7:  
 Partner with the City and with Homeowners  
 to More Widely Provide Energy Improvement  
 Resources**

Residents expressed many creative ideas for improving home efficiency by offering educational and financial resources for homeowners. For example, new mortgages for residences could require that applicants attend an energy efficiency training to learn the benefits of implementing energy saving practices in their new homes. A second recommendation was to offer subsidized energy audits for homeowners. Conservation Consultants Inc. offers this service to low-income homes in specific neighborhoods. Participants at the community visioning session recommended that this service be expanded throughout the City and offered to homeowners of all income levels, perhaps on a sliding price scale based on income.

The Black & Gold City Goes Green community campaign should explore the feasibility of this recommendation and identify organizations or individuals who are appropriate information contacts for residents. The community campaign will provide the connections and other relevant resources to a group of residents who will pursue establishing these types of programs and policies.

*Potential Partners:*

- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);

60 U.S. Environmental Protection Agency Water Sense. (2011). "Calculate Your Water Savings." [www.epa.gov/watersense/our\\_water/be\\_the\\_change.html#tabs-3](http://www.epa.gov/watersense/our_water/be_the_change.html#tabs-3). Accessed 14 March 2012.

- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@ccicenter.org](mailto:anng@ccicenter.org).

**COMMUNITY Home Energy 8:  
Create Incentives or Model Leases for Building  
Owners and Tenants Sharing in Energy  
Conservation**

Community Partners for the Black & Gold City Goes Green campaign identified the incentive gap between tenants and landlords to perform energy conservation improvements to rental units. Where tenants pay utility bills, landlords do not receive the financial benefit from building improvements that reduce energy demand. This split incentive could be addressed through a green lease (or other model) that shares the costs and benefits of building improvements; this incentive could be applied to both residential and commercial buildings.

Community Partners and community members should research best practices for addressing the split incentive for rental building energy conservation and propose policies to City Council and to the Pennsylvania legislature. Community members can partner with local advocacy organizations (e.g., Citizens for Pennsylvania's Future, Sierra Club, and PennEnvironment), to support related policies through local and state legislatures.

Interested residents can work together to identify potential building owners or building associations willing to participate in the development of a model lease arrangement at both the commercial and residential scales. These groups can then promote best practices as part of Pittsburgh Climate Initiative. Targeted outreach could follow to encourage increasing numbers of building owners to participate in energy conservation. Partnering with Duquesne Light's *Watt Choices* program to develop resources and

materials for tenants and building owners might also increase participation.

Potential Partners:

- Heather Sage, *Vice President*, Citizens for Pennsylvania's Future, [sage@pennfuture.org](mailto:sage@pennfuture.org);
- Rob Zahorchak, *Communications Director*, Green Building Alliance, [robz@gbapgh.org](mailto:robz@gbapgh.org);
- Ann Gerace, *Executive Director*, Conservation Consultants Inc., [anng@ccicenter.org](mailto:anng@ccicenter.org);
- Dave Defide, *Manager of Energy Efficiency*, Watt Choices Program, Duquesne Light, [DDefide@duqlight.com](mailto:DDefide@duqlight.com).

**COMMUNITY Home Energy 9:  
Explore an Electricity Peak Pricing Pilot Project**

Generating and delivering electricity on a hot summer afternoon costs a lot more than that same electricity would cost on a cool Saturday night. For residential consumers, electric utilities generally charge a flat rate for electricity service, regardless of season or time of day. In the past 30 years, there have been some experiments with time-of-use pricing, where energy used during certain blocks of time in the day, week, season, or year are charged at adjusted rates. Most large commercial and industrial customers are already charged these types of adjusted rates.

A long-term goal of community members is to work with utility companies, the City of Pittsburgh, other municipalities, and the Commonwealth to implement a pricing program that encourages consumers to conserve electricity during peak demand times. Given that the Carnegie Mellon University Electricity Industry Center (CEIC) has researched the benefits of using peak pricing, community members should use CEIC findings to inform their work.

Pennsylvania Act 129 currently includes voluntary time-of-use pricing and smart meter deployment. Southeast Pennsylvania utility companies have already been voluntarily rolling out these programs, which could be used to develop case studies for application in Western Pennsylvania. PCI Partners should act as a facilitator and liaison for these discussions and policy development.

Potential Partners:

- Heather Sage, *Vice President*, Citizens for Pennsylvania’s Future, [sage@pennfuture.org](mailto:sage@pennfuture.org);
- Carnegie Mellon University Electricity Industry Center, [www.cmu.edu/electricity](http://www.cmu.edu/electricity);
- Carolyn Pengidore, *CEO*, Clear Choice Energy, Duquesne Light’s Demand Response Program, [carolyn@clearchoice-energy.com](mailto:carolyn@clearchoice-energy.com).

## Transportation

The following recommendations seek to reduce community greenhouse gas emissions through alternative fuel use, public transit, proper planning, and enforcing existing regulations.

### **COMMUNITY Transportation 1: Encourage Non-Motorized Transportation**

Popular recommendations community visioning sessions included encouraging and expanding bike path development and use, encouraging shower and bike storage facilities, requiring all parking lots to include bike racks, and establishing citywide bike rentals.

Residents can partner with established advocacy groups, community groups, and the Black & Gold City Goes Green campaign to encourage walking and biking among City and County residents. Strategies to provide

strong infrastructure are provided below--and should be supported by widespread outreach to increase participation. A Black & Gold City Goes Green community campaign Transportation Subcommittee should unite those who lead advocacy for non-motorized transportation and increase their outreach into community groups.

In order to reduce Pittsburgh’s vehicle miles traveled (VMT), a multipronged approach must be adopted relating to infrastructure, enforcement, education, and incentives. Pittsburgh has a wonderful trail system that can be enhanced with lighting and more frequent maintenance so that the trails can serve as bike commuting routes year-round. A “Complete Streets” policy needs to be adopted by the City of Pittsburgh and other local municipalities so that all modes of transportation are planned for in new developments, street paving, and bridge rehabilitations. Traffic calming measures should also be explored in Pittsburgh and County neighborhoods. Bicycle route signage should be placed directing cyclists to preferred streets and to destinations. An outreach program to cyclists should be implemented to provide cyclists safety equipment for their bikes such as lights and reflectors. Expansion of current programs, such as Car Free Fridays and Bike Friendly Employers, would provide an avenue for increased non-motorized transportation outreach.

Additionally, City of Pittsburgh community members can advocate for inclusion of more non-motorized transportation in Plan PGH, which is the effort to create a comprehensive plan for the City of Pittsburgh. Residents can participate in PlanPGH by submitting feedback online at the PlanPGH Exchange:

<http://exchange.planpgh.com/portal>.

More Information:

- Biking Initiatives in Allegheny County
  - Complete Streets Info:

- [www.bike-pgh.org/campaigns/complete-streets](http://www.bike-pgh.org/campaigns/complete-streets)
- Comprehensive Bicycle and Pedestrian Plan: [www.activealleggheny.com](http://www.activealleggheny.com)
- Environmental Benefits: [www.bike-pgh.org/green](http://www.bike-pgh.org/green)
- Car Free Fridays Event: [www.bike-pgh.org/events/car-free-fridays](http://www.bike-pgh.org/events/car-free-fridays)
- Bike Friendly Employer Certification: [www.bike-pgh.org/campaigns/bike-friendly-employer](http://www.bike-pgh.org/campaigns/bike-friendly-employer)

Potential Partners:

- Scott Bricker, *Executive Director*, Bike Pittsburgh, [scott@bike-pgh.org](mailto:scott@bike-pgh.org);
- Stephen Patchan, *Bike and Pedestrian Coordinator*, Department of City Planning, City of Pittsburgh, [Stephen.Patchan@city.pittsburgh.pa.us](mailto:Stephen.Patchan@city.pittsburgh.pa.us);
- Lisa Kay Schweyer, *Program Manager*, CommuteInfo, Southwestern Pennsylvania Commission, [LKschweyer@spcregion.org](mailto:LKschweyer@spcregion.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org).

**COMMUNITY Transportation 2:  
Encourage Ridesharing and Telecommuting**

An important goal of several of the community visioning sessions identified was to alleviate traffic, particularly during the morning and evening commutes. While reducing air emissions was an important goal, participants also saw the potential for improved quality of life through limiting the amount of time vehicles spend idling on Pittsburgh's bridges and parkways.

Ridesharing is one tactic to decreasing the number of vehicles coming in and out of the City. It could include friends taking turns driving

in their personal vehicles or paying to use a van shuttle service. The Black and Gold City Goes Green community campaign should work with diverse partners such as the City of Pittsburgh, Allegheny County, Southwestern Pennsylvania Commission, employers, and area businesses to provide incentives for ridesharing.

Another tactic for decreasing traffic and emissions is telecommuting, which allows employees to work part or all of their hours from home or another remote location, thus reducing their need to commute for work. This tactic is better suited to some positions than others. Telecommuting reduces vehicle miles traveled during rush hour, and may often reduce unnecessary travel (i.e., if an employee has a meeting close to home and chooses to work from home that day). However, the benefits of telecommuting need to be assessed on a case by case basis because working from home may use more energy for lighting, heating, and cooling than working from a centralized office location.

The Black and Gold City Goes Green community campaign should work with partners such as Pittsburgh Region Clean Cities to explore tactics for encouraging ridesharing and exploring the potential benefits of telecommuting.

More Information:

- Benefits of Ridesharing from the Victoria Transport Policy Institute: [www.vtppi.org/tdm/tdm34.htm](http://www.vtppi.org/tdm/tdm34.htm)
- Telecommuting from the Victoria Transport Policy Institute: [www.vtppi.org/tdm/tdm43.htm](http://www.vtppi.org/tdm/tdm43.htm)

Potential Partners:

- Lisa Kay Schweyer, *Program Manager*, CommuteInfo, Southwestern Pennsylvania Commission, [LKschweyer@spcregion.org](mailto:LKschweyer@spcregion.org);
- Richard Price, *Coordinator*, Pittsburgh

- Region Clean Cities,  
[coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org);
- Matt Mehalik, *Program Manager*,  
Business Climate Coalition, Sustainable  
Pittsburgh,  
[mmehalik@sustainablepittsburgh.org](mailto:mmehalik@sustainablepittsburgh.org).

### **COMMUNITY Transportation 3: Develop a Pittsburgh Alternative Fuel Map in Partnership with the City**

A greater use of alternative fuels in Greater Pittsburgh could be encouraged by developing an Alternative Fuel Map that shows the locations of local retail fuel stations that sell alternative fuels as well as the types of fuel sold by each station. This map would better inform consumers of their fuel purchasing options, thereby providing greater opportunity to develop demand for the alternative fuel market in our region. The map would also provide free promotion to retailers, potentially laying the groundwork for leveraging their partnership in future initiatives.

The Alternative Fuel Map could be produced by any number of organizations, including the City of Pittsburgh or a Community Partner. Pittsburgh City and County residents should initiate a conversation with the City, County, and other appropriate partners to ask for this public document.

#### Examples:

Representative state and regional alternative fuel maps include:

- U.S. Department of Energy Alternative Fueling Station Locator: [www.afdc.energy.gov/afdc/locator/stations/](http://www.afdc.energy.gov/afdc/locator/stations/)
- Clean Car Maps: <http://www.cleancarmaps.com/>
- Florida Department of Agriculture Renewable Fuel Station Map: [www.doacs.state.fl.us/standard/petro/AltSiteMap.html](http://www.doacs.state.fl.us/standard/petro/AltSiteMap.html)

- Clean Cars Map for California, Nevada, and Arizona Alternative Fueling Stations: [www.cleancarmaps.com](http://www.cleancarmaps.com)

#### Potential Partners:

- Aftyn Giles, *City of Pittsburgh Sustainability Coordinator*,  
[Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us);
- Richard Price, *Coordinator*,  
Pittsburgh Region Clean Cities,  
[coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org).
- Matt Pavlosky, *Transportation Planner*, Southwestern Pennsylvania Commission,  
[mpavlosky@spcregion.org](mailto:mpavlosky@spcregion.org);
- Asa Watten, *CEO*, Fossil Free Fuel,  
[a.watten@fossilfreefuel.com](mailto:a.watten@fossilfreefuel.com);
- Andrew Butcher, *CEO*, GTECH Strategies,  
[a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org);

### **COMMUNITY Transportation 4: Encourage Retail Stations to Supply B5 and Diesel Vehicle Owners to Purchase B5**

A common concern of residents during the community visioning sessions was the availability of alternative fuels at retail fueling stations. Since diesel engines can process a biodiesel blend without any mechanical upgrades, encouraging the availability of B5 (5% biofuel, 95% diesel) was identified as a short-term goal. Community members should continue to work with local organizations to make B5 and/or other alternative fuels more available at fueling stations across Allegheny County. Strategies include providing sourcing information, demonstrating local existing and potential demand, and establishing a continual conversation to keep retailers informed of market developments.

Recent market developments have been affected by a 2008 Pennsylvania law that requires incrementally increasing amounts of biodiesel

to be blended with standard petroleum diesel as production increases in the Commonwealth. Pennsylvania House Bill 1202 requires a 2% blend of biodiesel in 2010.<sup>61</sup>

More Information:

In 2010, biofuel was available to individual consumers through:

- Baum Automotive, Baum Blvd, Pittsburgh [B100]
- Fossil Free Fuel, Braddock Ave, Braddock: [www.fossilfreefuel.com](http://www.fossilfreefuel.com) [Straight vegetable oil]
- Get Go, Baum Blvd, Pittsburgh [B5]

Larger scale biofuel is distributed by:

- Export Fuel Company, Export, Pennsylvania: [www.exportfuel.com](http://www.exportfuel.com) [Biodiesel blends]
- Fossil Free Fuel, Braddock: [www.fossilfreefuel.com](http://www.fossilfreefuel.com), [Straight vegetable oil]
- Guttman Oil, Belle Vernon, Pennsylvania: [www.guttmanoil.com](http://www.guttmanoil.com) [Biodiesel blends]

Owners of truck and heavy equipment fleets can install fuel systems from Optimus Technologies in Braddock, PA, ([www.optimustec.com](http://www.optimustec.com)) to be able to utilize straight vegetable oil fuel, which is typically a cost savings of \$0.50 per gallon compared to diesel<sup>62</sup> and results in a CO<sub>2</sub> reduction of at least 85% compared to diesel.<sup>63</sup>

City and County residents can contribute waste cooking oil to local biodiesel production through ReFuel PGH ([www.refuelpgh.com](http://www.refuelpgh.com)). As of December 2011, collection sites are located in front of the Whole Foods Market in East Liberty and Construction Junction in Homewood; ReFuel is currently negotiating collection sites at City of

Pittsburgh recycling centers in the Strip District and Homewood.

More Information:

- Construction Junction, 214 N. Lexington Street, Pittsburgh, PA 15208
- Whole Foods Market – Pittsburgh, 5880 Centre Ave., Pittsburgh, PA 15206

Residents can also initiate outreach to diesel vehicle owners to encourage increased purchase of B5. Strategies include working with B5 retailers to provide written information about the benefits to purchasing B5 and its harmlessness to diesel vehicles. Community members can also organize advocacy days where teams visit B5 retailers and talk to diesel vehicle drivers about the benefits of purchasing B5.

Potential Partners:

- Asa Watten, *CEO*, Fossil Free Fuel, [a.watten@fossilfreefuel.com](mailto:a.watten@fossilfreefuel.com);
- Andrew Butcher, *CEO*, GTECH Strategies, [a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org);
- Richard Price, *Coordinator*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org).

**COMMUNITY Transportation 5:  
Support Bioenergy Projects as a Strategy  
for Carbon Sequestration and Vacant Land  
Remediation**

City and County residents can partner with existing biofuel projects to increase vacant land use for productive fuel crops. Residents can identify neighborhood partners who can assist with managing productive lots for existing programs. Community members can arrange conversations between neighborhood groups and

61 Pennsylvania House Bill 1202 (2008). [www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?year=2007&kind=0&body=H&type=B&bn=1202](http://www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?year=2007&kind=0&body=H&type=B&bn=1202). Accessed 6 December 2011.

62 Parson, Miriam. (2010). Personal Communication with Asa Watten, Fossil Free Fuel. Green Building Alliance. 9 December 2010.

63 Parson, Miriam. (2010). Personal Communication with Asa Watten, Fossil Free Fuel (using EPA calculations from [www.epa.gov/oms/renewablefuels/420f09024.htm](http://www.epa.gov/oms/renewablefuels/420f09024.htm)). Green Building Alliance. 9 December 2010. EPA rule on life cycle emissions of biofuels for the Renewable Fuel Standard - based on biodiesel from waste sources. Vegetable oil fuel would have greater reductions, because vegetable oil takes fewer inputs and energy to produce.

organizations such as Fossil Free Fuel and GTECH to expand vacant land use for bioenergy crops.

Plants that produce feedstock for biofuel can be grown on the region’s vacant lands and brownfields, contributing in part to locally produced energy sources, increasing usable green space, and decreasing the region’s carbon footprint. Not only do biofuels emit less carbon after combustion, but supporting the local industry decreases dependence on foreign fuel sources. Additionally, bioenergy plants like sunflower and canola have the potential to remediate contaminated land, consequently increasing the amount of appropriate “clean” space available for local food production. Currently, both the City and County have thousands of acres of vacant land. This land increases locally-based economic initiatives for small scale agriculture and bolsters the region’s carbon sequestration capacity.

Potential Partners:

- Andrew Butcher, *CEO*, GTECH Strategies, [a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org);
- Asa Watten, *CEO*, Fossil Free Fuel, [a.watten@fossilfreefuel.com](mailto:a.watten@fossilfreefuel.com).

**COMMUNITY Transportation 6:  
Provide Community Support to Projects that Encourage Smart Growth**

Urban sprawl compromises a region’s sustainable development. Despite overall population decline in Greater Pittsburgh, housing developments and strip malls have been developed on the greenfields surrounding Pittsburgh over the past several decades. Urban sprawl is resource intensive, requiring lots of new infrastructure, such as paved roads and water lines. As City residents move to the suburbs and even the exurbs, the City and County tax base is decreased as well, thus making improvements to aging

infrastructure difficult. Urban sprawl has also been linked to increased auto dependence -- as people live further from where they work and further from public transit access, they are forced to drive more. As job opportunities are distanced from residential areas, social equity issues are often exacerbated.

At the community visioning sessions, residents asked for incentives for development along existing transit corridors and in densely populated areas. This type of “smart growth” can be defined as follows: “Smart growth invests time, attention, and resources in restoring community and vitality to center cities and older suburbs. New smart growth is more town-centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial, and retail uses. It also preserves open space and many other environmental amenities.”<sup>64</sup>

A goal of the Pittsburgh Climate Initiative is to work with community, university, business, and government partners to develop smart growth policies for Pittsburgh and other municipalities. Policies could include growth boundaries, zoning to encourage development along transportation corridors, policies requiring mixed-use development, and requirements for prioritization of pedestrian access and open space. Community members can initiate a smart growth policy conversation with key stakeholders to develop policies and usher them through the local legislative process. A key strategy is to include all interests in the conversation and to fully research the social and economic benefits to local smart growth policies.

More Information:

- Sierra Club Healthy Growth Calculator for communities: [www.sierraclub.org/sprawl/density](http://www.sierraclub.org/sprawl/density).

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64 Ibid, Footnote 1, Community General recommendation 2.1

Potential Partners:

- Court Gould, *Executive Director*, Sustainable Pittsburgh, [cgoould@sustainablepittsburgh.org](mailto:cgoould@sustainablepittsburgh.org);
- Aftyn Giles, *City of Pittsburgh Sustainability Coordinator*, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us);
- Matthew Smuts, *Sustainable Design Coordinator*, Urban Redevelopment Authority of the City of Pittsburgh, [msmuts@ura.org](mailto:msmuts@ura.org);
- Aurora Sharrard, *VP of Innovation*, Green Building Alliance, [auroras@gbapgh.org](mailto:auroras@gbapgh.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org).

### **COMMUNITY Transportation 7: Propose City Incentives for Hybrids and Alternative Fuel Vehicles**

Residents commonly recommended incentives to encourage the use of hybrids and alternative fuel vehicles. For example, many residents supported an exception for these vehicles to use the HOV lane, even when driving alone. Other recommendations included preferential parking spots, and/or a reduced fee or free parking at City-owned garages. Financial incentives were also recommended, such as a price reduction for on-street parking permits.

A medium-term goal for City and County residents is to work with local partners (such as Pittsburgh Region Clean Cities and local universities) to catalog what types of incentives could be offered, what the criteria for qualifying vehicles should be, and how the City of Pittsburgh and other municipalities should explore the feasibility of these incentives for Pittsburgh.

Community residents, the City of Pittsburgh, Allegheny County, and other municipalities should work to create incentives that align with existing projects. For example, in 2011, Pittsburgh Region Clean Cities was awarded \$285,267 to install 54 electric vehicle charging stations in Allegheny County as part of a joint effort with 19 regional public and private entities to create an energy corridor along Interstate 376.<sup>65</sup> The project will add 9 electric charging stations along Pittsburgh's most travelled and visible corridor, create public access infrastructure for electric vehicle consumers with the potential to expand, and reduce CO<sub>2</sub>e emissions by an estimated 484 tons annually. City or County incentives could promote the use of this infrastructure and encourage further expansion.

Potential Partners:

- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org);
- Matt Pavlosky, *Transportation Planner*, Southwestern Pennsylvania Commission, [mpavlosky@spcregion.org](mailto:mpavlosky@spcregion.org);
- Lauren Seiple, *Coordinator*, ReFuel PGH, [ReFuelPgh@gtechstrategies.org](mailto:ReFuelPgh@gtechstrategies.org);
- Asa Watten, *CEO*, Fossil Free Fuel, [a.watten@fossilfreefuel.com](mailto:a.watten@fossilfreefuel.com);
- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us).

### **COMMUNITY Transportation 8: Increase Citizen Reporting to Enforce Anti-Idling Laws**

Community members and public interest groups should work with local governments to enforce anti-idling regulations.

According to the EPA, a typical school bus wastes half a gallon of fuel per hour of idling,

65 Garcia, D. (October 26, 2011). "Millions of Dollars Handed Out for Alternative Fuel Projects." Essential Public Radio. [www.essentialpublicradio.org/story/2011-10-26/millions-dollars-handed-out-alternative-fuel-projects-8851](http://www.essentialpublicradio.org/story/2011-10-26/millions-dollars-handed-out-alternative-fuel-projects-8851). Accessed 6 December 2011.

66 U.S. Environmental Protection Agency. (2011). National Anti-Idle Reduction Campaign. [www.epa.gov/cleanschoolbus/antiidling.htm](http://www.epa.gov/cleanschoolbus/antiidling.htm). Accessed 7 November 2011.

releasing approximately 11 pounds CO<sub>2</sub>e.<sup>66</sup> If a typical school bus idles for half an hour per school day, then one bus emits almost half a ton of CO<sub>2</sub>e over the course of a 180 day school year. The Pittsburgh City School District operates 350 diesel buses (in addition to gasoline buses and vans). If each diesel bus idles for 30 minutes per school day, 173 tons of CO<sub>2</sub>e is being emitted per school year. This number does not count school bus trips for sporting events, field trips, and summertime usage. Private school buses, Port Authority buses, and trucks contribute additional diesel emissions locally.

The Allegheny County Health Department currently has two anti-idling regulations. School bus regulation became law in October 2004 and the diesel-powered motor vehicle regulation became law in July 2005.<sup>67, 68</sup> This second regulation applies to all other diesel vehicles, including public buses, garbage trucks, and other diesel trucks. A third regulation from Allegheny County Council applies to diesel off-road construction equipment and went into effect on May 1, 2010.<sup>69</sup>

According to these local regulations, diesel vehicles cannot idle more than five minutes, but there are exemptions (such as in extreme weather or when picking up a disabled person). The regulations are enforced by Allegheny County Health Department Inspectors and local police officers in whose jurisdiction a violation occurs. Enforcement depends on resident-reporting of violations. Penalties are as follows:

- A warning for the first offense;
- A penalty of \$100 for the second offense; or
- A penalty of \$500 for the third offense, and any subsequent offenses.

Additionally, in October 2008, the Pennsylvania legislature enacted the Diesel-Powered Motor Vehicle Idling Act to regulate idling by diesel vehicles weighing 10,001 pounds or more.<sup>70</sup> The Act provides sole enforcement power to Pennsylvania Department of Environmental Protection (DEP) employees, not to local officials. The Act also supersedes local regulation except where the local regulation is more restrictive.

Anti-idling laws are difficult, at best, to enforce in Allegheny County because of jurisdictional conflict between local regulations and the Pennsylvania regulation. Pennsylvania law only allows DEP employees to enforce idling regulations, barring local officials from validly pursuing violators. Consequently, the Allegheny County Health Department and local police cannot legally enforce idling violations when citizens report incidents.

Thus, it is recommended that community members and public interest groups work with Pittsburgh City Council, Allegheny County Council, and the DEP to rectify this conflict in jurisdiction to enforce anti-idling regulations. Community members can also work with the Group Against Smog and Pollution (GASP) and other local partners to help spread awareness and increase citizen reporting of violations to encourage greater compliance. Enforcing the anti-idling rule County-wide would decrease greenhouse gas emissions and have a positive impact on human health through local air quality improvements.

More Information:

- To report a violation, residents can contact the Allegheny County Health Department at (412) 687-2243.

67 Regulation 2105.91. (2004). "School Bus Idling." Allegheny County Health Department. [www.achd.net/airqual/pubs/pdf/Art21\\_polctrl2010.pdf](http://www.achd.net/airqual/pubs/pdf/Art21_polctrl2010.pdf). Accessed 6 December 2011.

68 Regulation 2105.92. (2005). "Diesel Powered Motor Vehicle Idling." Allegheny County Health Department. [www.achd.net/airqual/pubs/pdf/Art21\\_polctrl2010.pdf](http://www.achd.net/airqual/pubs/pdf/Art21_polctrl2010.pdf). Accessed 6 December 2011.

69 Regulation 2105.93. (2010). "In-Use Off-Road Diesel Powered Mobile Equipment Engine Idling." Allegheny County Health Department. [www.achd.net/airqual/pubs/pdf/Final\\_Off-Road\\_Idling\\_reg.pdf](http://www.achd.net/airqual/pubs/pdf/Final_Off-Road_Idling_reg.pdf). Accessed 6 December 2011.

70 Act 124. (2008). "Diesel Powered Motor Vehicle Idling Act." Pennsylvania Department of Environmental Protection. [www.dep.state.pa.us/dep/deputate/airwaste/qa/cars/idling.htm](http://www.dep.state.pa.us/dep/deputate/airwaste/qa/cars/idling.htm). Accessed 6 December 2011.

Potential Partners:

- Rachel Filippini, *Executive Director*, Group Against Smog and Pollution, [gasp@gasp-pgh.org](mailto:gasp@gasp-pgh.org);
- Heather Sage, *Vice President*, Citizens for Pennsylvania’s Future, [sage@pennfuture.org](mailto:sage@pennfuture.org);
- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org).

**COMMUNITY Transportation 9:  
Advocate to Improve Funding and Efficiency of Public Transit**

Many recommendations at the community visioning sessions included improvements to public transportation. In 2010, the Port Authority of Allegheny County underwent a new strategic plan that is being implemented incrementally throughout Allegheny County. City and County residents should organize members of the community to continue to present concerns to the Port Authority at its monthly board meetings, which are open to the public.

Potential Partners:

- David Wohlwill, *Lead Transit Planner*, Port Authority, [dwohlwill@portauthority.org](mailto:dwohlwill@portauthority.org);
- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org);
- Lisa Kay Schweyer, *Program Manager*, CommuteInfo, Southwestern Pennsylvania Commission, [LKschweyer@spcregion.org](mailto:LKschweyer@spcregion.org);
- Lucinda Beattie, *VP of Transportation*, Pittsburgh Downtown Partnership & KeepPGH Moving, [lbeattie@downtownpittsburgh.com](mailto:lbeattie@downtownpittsburgh.com);

- Court Gould, *Executive Director*, Sustainable Pittsburgh, [cgould@sustainablepittsburgh.org](mailto:cgould@sustainablepittsburgh.org).

**COMMUNITY Transportation 10:  
Advocate to Expand Fuel Reward Programs to Include Public Transit Passes**

Many Pittsburgh grocery stores offer reward programs to their shoppers to save money on gas purchases. When customers use their discount cards, they can earn discounts on of the price of gasoline, which can then be used towards fuel purchases.

Residents recommended that a community coalition work with retail grocers and the Port Authority to allow shoppers to use their gas discounts towards the purchase of bus passes. Community members could utilize the Black & Gold City Goes Green campaign’s partnerships to help facilitate this conversation and to recruit support from Pittsburgh neighborhood organizations that represent community interests.

Potential Partners:

- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania’s Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Deborah Skillings, *Community Outreach Coordinator*, Port Authority of Allegheny County, [dskillings@PortAuthority.org](mailto:dskillings@PortAuthority.org).

**COMMUNITY Transportation 11:  
Advocate to Reestablish Trolley Service**

Pittsburgh’s first trolley car lines began operating in 1889.<sup>71</sup> Soon, trolley lines had extended throughout Pittsburgh proper and outlying areas. The trolleys remained popular through World War II, but began to be replaced by motorized buses

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71 Ibid, Footnote 1, Community Transportation 3.2

in the mid-1900s. By the 1980s, all remaining trolleys had been replaced by the light rail “T” which runs through Downtown and to locations in the South Hills. While some trolley lines were removed, many were paved over throughout the City. While reinstating the trolley service was an extremely popular recommendation at the community visioning sessions, it is listed as a long-term recommendation because it would require huge infrastructure changes and financial resources.

Community volunteers and PCI Partners could commission and facilitate research to provide data on cost feasibility, rider demand, and potential environmental benefits of reestablishing Pittsburgh’s trolley service.

#### Potential Partners:

- David Wohlwill, *Lead Transit Planner*, Port Authority of Allegheny County, [dwohlwill@portauthority.org](mailto:dwohlwill@portauthority.org);
- Jamie Colecchi, *Community Manager*, Southwestern Pennsylvania Commission, [jcolecchi@spcregion.org](mailto:jcolecchi@spcregion.org);
- Lindsay Baxter, *Project Manager*, Pennsylvania Environmental Council, [lbaxter@pecpa.org](mailto:lbaxter@pecpa.org).

## Food and Waste

The recommendations in this section are aimed at lowering community emissions by diverting more waste from landfills and promoting less energy intensive food.

### **COMMUNITY Food & Waste 1: Provide Community Support for Enforcement of Mandatory Citywide Recycling**

Community members believe that mandatory recycling needs to be better enforced in the City. Recycling is mandatory in the City of Pittsburgh for residences, businesses, offices, and institutions.

Residences (including apartment buildings of 5 or fewer units) must separate recyclable items from trash items and place comingled recyclables at the curb for biweekly recycling--or take them to a drop-off center.

Businesses in the City of Pittsburgh (including apartment buildings with 6 or more units) must have a program in place to recycle high-grade office paper, plastic bottles, corrugated cardboard, aluminum cans and leaves, where applicable. Businesses can take their recyclables to a City drop-off facility or use a private hauler. Apartment buildings can either place comingled recyclables at the curb or use a private hauler. Businesses must report their recycling tonnages to the City on a quarterly or yearly basis.<sup>72,73</sup>

Finally, special events expecting 200 or more individuals per day must recycle beverage containers (glass, plastic, aluminum, and steel) and corrugated cardboard. Upon request, City of Pittsburgh Recycling Services will provide assistance to groups planning recycling at their events.

Community members believe that mandatory recycling needs to be better enforced in the City. The City of Pittsburgh conducted a major recycling education and enforcement campaign in 2008. At that time, in addition to new residential programs, the City contacted every business in the City and informed them of the recycling requirements. After an initial education period, the City cited businesses in non-compliance. In 2008, the City of Pittsburgh Recycling Office issued over 11,000 recycling verification notices to commercial establishments; 30% of the verification forms were returned and hundreds of phone calls were received. As a result, commercial haulers reported that recycling tonnage more than doubled. Residential and special events recycling increased significantly during this same time frame.

Community groups and nonprofits can

72 *City of Pittsburgh Code 619*. (2008). [www.city.pittsburgh.pa.us/pw/html/regulations\\_and\\_guidelines.htm](http://www.city.pittsburgh.pa.us/pw/html/regulations_and_guidelines.htm). Accessed 6 December 2011.

73 *Commonwealth of Pennsylvania Act 101*. (1988). [www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/facts/act101.htm](http://www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/facts/act101.htm). Accessed 6 December 2011.

support citywide recycling enforcement efforts by participating in existing recycling programs and by requesting that employers or buildings offer recycling options if none exist. Community members can also provide commercial buildings with the City's commercial hauler directory. If a reasonable effort in not made to provide recycling services, individuals or groups can contact the City of Pittsburgh, which will investigate recycling compliance issues.

More Information:

- City of Pittsburgh Commercial Hauler Directory: [www.city.pittsburgh.pa.us/pw/assets/commercial\\_haulers.pdf](http://www.city.pittsburgh.pa.us/pw/assets/commercial_haulers.pdf)

Potential Partners:

- Dave Mazza, *Regional Director*, Pennsylvania Resources Council, [davem@ccicenter.org](mailto:davem@ccicenter.org)
- Shawn Wigle, *Recycling Supervisor*, Department of Public Works, City of Pittsburgh, [Shawn.Wigle@city.pittsburgh.pa.us](mailto:Shawn.Wigle@city.pittsburgh.pa.us);
- Matt Mehalik, *Program Manager*, Business Climate Coalition, Sustainable Pittsburgh, [mmehalik@sustainablepittsburgh.org](mailto:mmehalik@sustainablepittsburgh.org).

**COMMUNITY Food & Waste 2:  
Advocate to the City to Expand Recycling Center Drop-off Hours**

In addition to curbside pickup, the City of Pittsburgh maintains five drop-off centers, open Monday through Friday 8:00 a.m. to 2:00 p.m., with some open on Saturdays.<sup>74</sup> Drop-off centers accept the same materials as curbside pickup, including corrugated cardboard, magazines, catalogs, paperboard, office paper, and telephone books. Public Works drop-off sites also accept tires, yard debris, and scrap metal.

Since 2008, the City has expanded the Strip District recycling drop-off to accept more materials--and it has secured State recycling funding to develop two additional drop-off sites. The City of Pittsburgh is in the process of securing two new locations for these facilities. City residents are now able to recycle many of the items previously only recyclable via drop-off at the curb; these materials include cardboard and mixed paper, in addition the bottles, cans, and newspaper. City residents also now have curbside collection of leaves and other yard debris twice annually.

Community members expressed dissatisfaction with available hours at the recycling drop-off centers and requested evening or weekend hours, allowing those who work during the day to drop-off items. A community group or nonprofit, such as Pennsylvania Resources Council, should collaborate with the City of Pittsburgh *Recycling Supervisor* to establish a pilot program for expanding drop-off hours, in order to assess feasibility.

Potential Partners:

- Dave Mazza, *Regional Director*, Pennsylvania Resources Council, [davem@ccicenter.org](mailto:davem@ccicenter.org);
- Shawn Wigle, *Recycling Supervisor*, Department of Public Works, City of Pittsburgh, [Shawn.Wigle@city.pittsburgh.pa.us](mailto:Shawn.Wigle@city.pittsburgh.pa.us);
- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us).

**COMMUNITY Food & Waste 3:  
Advocate for Meatless Mondays**

Community Partners in the Black & Gold City Goes Green campaign suggest Meatless Mondays as a strategy to cut individual emissions. Community members and organizations can work with dining

74 Pittsburgh Public Works. (2011). "Recycling Drop-Off Information." [www.city.pittsburgh.pa.us/pw/html/drop-off\\_information.html](http://www.city.pittsburgh.pa.us/pw/html/drop-off_information.html). Accessed 19 September 2011.

centers throughout Pittsburgh to participate in the global program: [www.meatlessmonday.com](http://www.meatlessmonday.com). The Citizens Climate Corps has discussed advocating for implementation of Meatless Mondays campaigns in city schools.

Potential Partners:

- Citizens Climate Corps, [citizensclimatecorps@gmail.com](mailto:citizensclimatecorps@gmail.com);
- Berry Breene, *Outreach Coordinator*, East End Food Co-Op, [outreach@eastendfood.coop](mailto:outreach@eastendfood.coop);
- Heather Mikulas, *Program Associate for Community Based Agriculture*, Pennsylvania State University Extension in Allegheny County, [hem12@psu.edu](mailto:hem12@psu.edu);
- Kelly Ogrodnik, *Sustainable Design and Programs Manager*, Phipps Conservatory and Botanical Gardens, [kogrodnik@phipps.conservatory.org](mailto:kogrodnik@phipps.conservatory.org).

**COMMUNITY Food & Waste 4:  
Encourage Restaurants to Recycle Waste  
Cooking Oil through Biofuel Programs**

In December 2006, Pittsburgh Mayor Ravenstahl announced that waste grease from fryers at Heinz Field would soon be used as fuel for Public Works vehicles. As a citywide effort to reduce Pittsburgh's carbon footprint, Pittsburgh organizations are exploring and establishing various systems for collecting used cooking grease from residents and restaurants for use as biofuel.

In 2010, GTECH Strategies launched the ReFuel PGH program to convert waste cooking oil into biofuel. Residents and restaurants can drop their waste oil at centrally located collection sites, listed in the "Transportation" section of this chapter.

Fossil Free Fuel also collects waste cooking oil to process into straight vegetable oil (SVO) biofuel, which Fossil Free Fuel then provides to vehicle fleets and individual drivers.

Community members can form a coalition to approach restaurants and dining halls with information about existing biofuel programs that collect waste cooking oil. Community members can then connect kitchen managers with these programs and encourage contractual agreements to reuse waste oil.

As mentioned in the "Transportation" section of this chapter, combusting biofuel for transportation significantly reduces greenhouse gas emissions compared to combusting gasoline or petroleum-diesel.

More Information:

- ReFuel PGH Program: [www.gtechstrategies.org/39/refuelpgh](http://www.gtechstrategies.org/39/refuelpgh)
- Fossil Free Fuels: [www.fossilfreefuel.com](http://www.fossilfreefuel.com)

Potential Partners:

- Asa Watten, *CEO*, Fossil Free Fuel, [a.watten@fossilfreefuel.org](mailto:a.watten@fossilfreefuel.org);
- Lauren Seiple, *Coordinator*, ReFuel PGH, [l.seiple@gtechstrategies.org](mailto:l.seiple@gtechstrategies.org);
- Richard Price, *Executive Director*, Pittsburgh Region Clean Cities, [coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org);
- Andrew Butcher, *CEO*, GTECH Strategies, [a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org).

**COMMUNITY Food & Waste 5:  
Advocate for a Citywide Composting Program  
and Facilities**

Community members suggested that the City of Pittsburgh should operate a composting facility that accepts not only yard waste, but also food waste from commercial/institutional food service. Community members also suggest that the City consider curbside pickup of yard waste and food waste/organics from residents to capitalize on this opportunity.

Composting diverts waste from landfills, which is a major point source of methane, one of the most potent greenhouse gases. For every 20 tons of food waste composted instead of sent to a landfill, 18.6 tons of CO<sub>2</sub>e emissions are avoided.

The City of Pittsburgh has taken a composting program and facility on as a long-term recommendation, and community members can advocate to both the City Office of Sustainability and the Department of Public Works for this project.<sup>75</sup> The City of Pittsburgh continues to evaluate the possibility of opening and operating its own yard waste facility. It has been challenging to find a suitable site within city limits that can host the commercial composting facility; a suitable location has yet to be found for just composting yard waste that will meet the DEP permitting requirements. In addition, a funding source for the initial cost and operating costs needs to be secured. Adding food waste composting to will further complicate the permitting process for such a facility.

Strategies:

- Review past municipal composting case studies and feasibility studies.
- Request assistance from the Pennsylvania Department of Environmental Protection through a 920 Grant.
- Collaborate with other municipalities to increase cost-efficiency.

Potential Partners:

- Dave Mazza, *Executive Director*, Pennsylvania Resources Council, [davem@ccicenter.org](mailto:davem@ccicenter.org);
- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us);
- Shawn Wigle, *Recycling Supervisor*, Department of

Public Works, City of Pittsburgh, [Shawn.Wigle@city.pittsburgh.pa.us](mailto:Shawn.Wigle@city.pittsburgh.pa.us)

- Jeff Newman, Steel City Soils, [jnewman11@gmail.com](mailto:jnewman11@gmail.com).

**COMMUNITY Food & Waste 6:**

**Advocate for Pay-As-You-Throw Policies**

A “pay as you throw” waste collection system eliminates unlimited waste disposal, providing residents with incentive to limit waste production and increase recycling and composting. These programs are proven to reduce residential waste generation by 17% through recycling, diversion to yard waste collection programs, and other means.<sup>76</sup>

Major challenges to implementing such a program in Pittsburgh include staffing to monitor and enforce the program, and Pittsburgh’s larger population compared to other municipalities that have implemented a pay-as-you-throw policy (which are smaller). Community groups should work with the City of Pittsburgh to assess this recommendation’s feasibility and to secure appropriate funding.

Example:

**Cranberry Township, PA** - With approximately 8,000 housing units and 23,625 residents, Cranberry Township established a waste disposal program, called “Collection Connection” in November 2004 that requires customers to pay a base monthly trash fee, determined by the size of their garbage can. Customers then have the option to purchase tags for extra bags of garbage or larger items that do not fit in their can. This system eliminates “unlimited waste service.” Users choose between a 35, 64, or 96 gallon garbage can, which is paid for by Butler County and owned by Cranberry Township. The monthly fee also includes collection of recyclables and

75 Municipal Recycling & Waste Management Recommendation 3.1.

76 Widener Environmental Law Center. (2011). “Next Generation Recycling & Waste Reduction: Building on the Success of Pennsylvania’s 1988 Legislation.” <http://blogs.law.widener.edu/envirolawblog/files/2011/03/White-Paper-with-Cover-Final-4-12-11small.pdf>. Accessed 14 June 2011.

77 Ibid, Footnote 1, Community Recycling and Waste Management 3.2

yard waste (8 months of the year).<sup>77</sup>

A tag for an extra bag of garbage costs \$0.65. A \$4 tag can be purchased to throw away larger “bulk” items, such as a couch, and a customer must call ahead for a special pickup. A \$10 fee is charged for the pickup of large appliances. Additional benefits of the pay-as-you-throw waste collection program include new trucks with automated arms to pick up the uniformly-sized cans and recycling bins, allowing drivers to service more homes, decreasing fuel costs, road and vehicle wear and tear, and even workmen’s compensation claims.

Collection Connection initially received funding in part from a 902 Grant to help with recycling and composting, allowing the Township to pay for the purchase of garbage cans. Similar programs exist locally in Pine and Marshall Townships.

More Information:

- Cranberry Township,  
[www.cranberrytownship.org](http://www.cranberrytownship.org)  
Lorin Meeder, *Sustainability Coordinator*, Cranberry Township  
(724) 776-4806 x1176.

Potential Partners:

- Dave Mazza, *Regional Director*, Pennsylvania Resources Council,  
[davem@ccicenter.org](mailto:davem@ccicenter.org);
- Shawn Wigle, *Recycling Supervisor*, Department of Public Works, City of Pittsburgh,  
[shawn.wigle@city.pittsburgh.pa.us](mailto:shawn.wigle@city.pittsburgh.pa.us).

**COMMUNITY Food & Waste 7:  
Lobby for a Bottle Bill**

The term “bottle bill” is synonymous with a container deposit law. Before disposable cans and plastic bottles were commonplace, soda and

beer companies charged a deposit fee for their bottles. When a customer returned the empty bottle to the distributor, s/he was refunded the bottle deposit. The bottles were then returned to the manufacturer to be cleaned and reused. When technology advanced so that disposable containers could be made cheaply, this deposit system was no longer necessary.

California, Connecticut, Delaware, Hawaii, Iowa, Maine, Massachusetts, Michigan, New York, Oregon, and Vermont currently have state bottle bills. Benefits of state bottle bills include reduced litter and increased recycling. Additionally, in some states, unclaimed deposits are used to fund other public programs. Bottle bills have been proposed in Pennsylvania before, most recently in September 2007.<sup>78</sup>

Community members should work with environmental groups who are legislatively active, such as Citizens for Pennsylvania’s Future, to stay abreast of bottle bill legislation and to mobilize residents to lobby their representatives to support it.

More Information:

- Bottle Bill Resource Guide,  
[www.bottlebill.org](http://www.bottlebill.org)

Potential Partners:

- Heather Sage, *Vice President*, Citizens for Pennsylvania’s Future,  
[sage@pennfuture.org](mailto:sage@pennfuture.org).

**COMMUNITY Food & Waste 8:  
Increase Urban Farming**

City and County residents can take advantage of the region’s significant rainfall and moderate growing season to participate in, encourage, and rally for increased urban agriculture. Per the City of Pittsburgh’s Urban Agriculture Zoning Code of February 2011, food production can take place on any land owned by a resident, chickens and

78 Ibid, Footnote 1, Community Recycling and Waste Management 3.3

79 Urban Agriculture Zoning Code. (2011).

<http://pittsburgh.legistar.com/LegislationDetail.aspx?ID=775953&GUID=4E3A6EF6-99FB-4818-BFEF-8C9A17611A3D>. Accessed 6 December 2011.

bees may be kept on city lots of appropriate size, and urban agriculture activities may take place on vacant land with permission from the owner.<sup>79</sup> Recognition of and compliance with this code, together with continued promotion by City officials, will improve capacity for urban agriculture going forward.

Residents should participate in urban agriculture in any manner that suits them including, but not limited to, backyard gardening, raised bed gardening, rooftop gardening (including green roofs), and container gardening. Community gardens are another way to become involved in urban agriculture and, while many exist within the city limits, there is space for more. While they improve aesthetics, quality of life, air quality, and storm water management, urban agriculture efforts also help mitigate climate change as outlined below:

- Transportation of food is a major contributor of carbon dioxide. Urban agriculture puts food where the people are and thus limits transportation distances, fuel consumption, and CO<sub>2</sub> emissions. Use of plastic, oil-based packaging is also decreased.
- Urban agriculture relies on minimal mechanization because plots are usually small, requiring less fuel.
- Urban agriculture frees up rural land that can be restored to forests or other natural habitats.
- If performed on small plots of land, urban agriculture requires rotational farming practices that maintain the soil's ability to store carbon that helps mitigate climate change.
- Green roofs decrease temperatures in urban areas, thereby decreasing the urban heat island effect. The urban heat island effect contributes to increased energy consumption and pollution. Air conditioners and

car exhaust further contribute to the heat island--the more temperatures increase, the more people rely on energy intensive artificial cooling that emits greenhouse gases, which fuels a positive feedback loop of rising temperatures and climate change. Green roofs also reduce heating and cooling loads, thus reducing the amounts of greenhouse gases emitted by those systems.

There are numerous local organizations where residents can find support for their urban agriculture or gardening projects; these include the Pennsylvania State University Extension Office in Allegheny County, Grow Pittsburgh, the Pittsburgh Garden Experiment, and Phipps Conservatory and Botanical Gardens. By contacting these organizations, residents can learn urban farming techniques and gain access to a network of information sharing with other urban farmers.

Urban Agriculture also allows for opportunities to collaborate with other organizations mentioned in the PCAP 2.0 recommendations. This includes using vacant lots to grow fuel crops for biofuel and composting urban agriculture byproducts to create healthier soils that will help propagate future agricultural endeavors.

Potential Partners:

- Michael Masiuk, *Director*, Pennsylvania State University Extension in Allegheny County, [mcm2@psu.edu](mailto:mcm2@psu.edu);
- Heather Mikulas, *Chair*, Pittsburgh Food Policy Council, [hem12@psu.edu](mailto:hem12@psu.edu);
- Julie Pezzino, *Executive Director*, Grow Pittsburgh, [jpezzino@growpittsburgh.org](mailto:jpezzino@growpittsburgh.org);
- Jeff Newman, *Creator*, Pittsburgh Garden Experiment, [jnewman11@gmail.com](mailto:jnewman11@gmail.com);

- Kelly Ogrodnik, *Sustainable Design and Programs Manager*, Phipps Conservatory and Botanical Gardens, [kogrodnik@hipps.conservatory.org](mailto:kogrodnik@hipps.conservatory.org).

## Green Space

The recommendations in this section seek to reduce community greenhouse gas emissions by providing strategies that reduce the urban heat island effect.

### COMMUNITY Green Space 1:

#### Plant Trees

While the tree planting and maintenance activities of the City of Pittsburgh are discussed under Existing Measures in the municipal portion of this plan, residents at the community meetings demanded that more trees be planted in the City of Pittsburgh. Trees not only sequester carbon, but can also decrease the heat island effect in urban areas, decreasing the needs for air conditioning. Additional benefits include providing shade, soil stabilization, stormwater control, point and mobile source pollution mitigation, and neighborhood beautification.

Organizations such as Tree Pittsburgh are likely partners to work with the community members and the Black & Gold City Goes Green campaign to identify barriers to tree planting and collaborate to increase the number of trees in Pittsburgh. Residents can directly apply for and receive trees free of cost through the TreeVitalize program. There must be at least one certified Tree Tender for every 10 TreeVitalize trees planted. Residents can become Tree Tenders through training courses with Tree Pittsburgh.

Additionally, in late 2011 Tree Pittsburgh completed a comprehensive tree canopy assessment with LiDAR (Light Detection and Ranging) technology. The tree canopy assessment will enable tree planting initiatives to be more

directed and efficient, planting areas within the city based on tree density and other factors such as public health and socioeconomics. The report will provide valuable baseline data to establish goals and monitor progress.

#### More Information:

- Apply for trees through TreeVitalize: [www.paconserve.org/216/treevitalize](http://www.paconserve.org/216/treevitalize)
- Tree Pittsburgh Tree Tenders Program: [www.treepittsburgh.org/TreeTenderCourse](http://www.treepittsburgh.org/TreeTenderCourse)

#### Potential Partners:

- Danielle Crumrine, *Executive Director*, Tree Pittsburgh, [Danielle@treepittsburgh.org](mailto:Danielle@treepittsburgh.org);
- Jeff Bergman, *TreeVitalize Project Director*, Western Pennsylvania Conservancy, [jbergman@paconserve.org](mailto:jbergman@paconserve.org).

### COMMUNITY Green Space 2:

#### Advocate for City Policy Incentives for Value-Added Vacant Land Management Strategies Following Building Demolition

Currently, standard protocol for building demolition does not incorporate the true cost of the vacant space left behind (i.e., the cost of maintenance of the vacant space, the negative economic impact of vacancy [30% reduction of the property value of adjacent property], or the limitation placed on future programming on those sites, such as public green space or community gardens).<sup>80</sup> Hence, incentives or even mandates could refine demolition protocol to address issues associated with the implementation of green, intermediary strategies on vacant land. Examples of this strategy include capping a water line so it can easily be reopened for community green projects or greater disclosure of what type of fill is dumped on vacant lots.

80 Ibid, Footnote 1, Community Recycling and Waste Management 3.1

Another policy incentive could include allocating a small portion (5 to 10%) of demolition funding towards the implementation of value-added, community-based green strategies for the maintenance of vacant land. Hence, a demolition job of \$5,000 would create \$500 for a community fund to kick start land reclamation strategies and community programming.

Community members can partner with organizations and City and County government to build policy for value-added vacant land management in neighborhoods.

Potential Partners:

- Andrew Butcher, *CEO*, GTECH Strategies, [a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org);
- Julie Butcher Pezzino, *Executive Director*, Grow Pittsburgh, [jpezzino@growpittsburgh.org](mailto:jpezzino@growpittsburgh.org).

## Building Capacity: Partnerships & Funding

The recommendations in this section seek to lay the groundwork for emission reduction activities through collaborations and funding opportunities.

### COMMUNITY Partnerships & Funding 1: Expand the Involvement of Labor Unions in Climate Protection Activities

Some activity regarding the engagement of labor unions in climate reduction activities is already occurring around a pre-apprenticeship green job-training program administered by the A. Philip Randolph Institute's Pittsburgh Chapter and facilitated in partnership with United Steelworkers and the Housing Authority of the City of Pittsburgh. GTECH Strategies has also provided ongoing technical assistance and support for this program, which is a 6-week training provided in collaboration with the United Steelworker's

Tony Mazzocchi Center for Safety, Health, and Environmental Education; all participants are residents of public housing or communities adjacent to public housing. Since its inception in the fall 2009, the program has achieved the following:

- Of the 98 participants, 63 have completed the training
- Nearly 50 have been placed in jobs (57% placement rate ranging from \$8/hr to \$22/hr)
  - 4 graduates of the program have been trained and hired as green job trainers to expand program
  - 6 placements with weatherization contractors
  - 1 placement with Gulf of Mexico cleanup
  - 1 green job placement as a community energy advocate with Kingsley's ULI
  - 1 graduate completed CCAC's state certified weatherization training center

Additionally, the Pennsylvania Department of the Environment's Energy Development Authority awarded a \$150,000 grant to International Union of Operating Engineers Local 95 for measurement of local facilities' energy consumption and a training program for facilities operators in ENERGY STAR energy conservation techniques. As a result, Local 95 students have been instructed on using ENERGY STAR software to track progress in energy conservation and reduction of greenhouse gases and other emissions (such as mercury) in their facilities. The students are also trained in implement conservation measures. The grant also covered the foregone work and wages of the students as they are completing the training.<sup>81</sup> The value of this training to individual facility

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81 Ibid, Footnote 1, Community General 1.3

operators, as well as to the local economy, is significant. These trained and skilled green building operators boost Pittsburgh's comparative advantage in the green building market--and boost the individual's competitiveness in his/her own job markets. Community members can work to encourage expansion of this program and to involve other trade organizations in the program's further development.

Potential Partners:

- William Cagney, *Business Manager and Financial Secretary*, International Union of Operating Engineers Local 95, [bcagney@iuoelocal95.org](mailto:bcagney@iuoelocal95.org);
- Andrew Butcher, *CEO*, GTECH Strategies, [a.butcher@gtechstrategies.org](mailto:a.butcher@gtechstrategies.org);
- Emily Adair, *Senior Consultant*, World-Class Industrial Network, [emily@winnets.com](mailto:emily@winnets.com).

**COMMUNITY Partnerships & Funding 2: Engage the Pittsburgh Public Schools in Community Projects to Address Climate Change**

The Pittsburgh Public School District is the second largest district in the state, educating 29,447 students in 65 schools.<sup>82</sup> A short-term goal of the Black & Gold City Goes Green community campaign is to engage representation of Pittsburgh Public Schools. Not only can the schools have a role in educating their students about climate change, but they can also make changes in their own operations to save energy and money.

For example, in 2004 the Pittsburgh Public Schools joined EPA's ENERGY STAR program. Energy improvements resulted in 5,142 tons CO<sub>2</sub>e reduction in 2004 and 22,375 tons CO<sub>2</sub>e reduction in 2005 from decreased natural gas usage.<sup>83</sup> The environmental impact of the Pittsburgh Public Schools is significant considering the number of

students, employees, buildings, and buses that comprise the school district's operations. The district could be an important partner in climate protection efforts.

In addition to encouraging best practices in energy conservation for school operations, community members can encourage outreach to families to increase residential action to reduce greenhouse gas emissions. Families can work with their school to organize community education projects about environmental issues including climate change, and to distribute information about the Black & Gold City Goes Green campaign.

Potential Partners:

- Vidyadhar Patil, *Director of Facilities/Plant Operations*, Pittsburgh Public Schools, [vpatil@pghboe.net](mailto:vpatil@pghboe.net);
- Jenna Cramer, *VP of Green Schools*, Green Building Alliance, [jennac@gabpgh.org](mailto:jennac@gabpgh.org).

**COMMUNITY Partnerships & Funding 3: Expand Neighborhood Blitz Model to Business Districts**

In October 2010, the Black & Gold City Goes Green campaign launched a Neighborhood Blitz program in which residents talked to neighbors door-to-door and provided free energy savings tools and information. This model should be expanded to Pittsburgh's business districts in partnership with the Business Climate Coalition and other business networks, such as community development corporations focused on neighborhood economic development.

Developing a complimentary Business Blitz model would disseminate best practices for reducing costs and increasing sustainability in small and mid-sized businesses. The Business Blitz could distribute tangible items that

82 Ibid, Footnote 1, Community General 1.5

83 Ibid, Footnote 54.

businesses can use in the immediate term, such as best practices for employee behavior, recycling services information, energy efficient equipment information, and financing information. Project sponsors would be necessary for implementation.

This Business Blitz model provides significant opportunity for collaboration among PCI's sectors: local government can provide public promotion, businesses can provide expertise and connections, community members can provide volunteers, and higher education institutions can provide both volunteers and expertise.

Potential Partners:

- Matt Mehalik, *Program Manager*, Sustainable Pittsburgh, [MMehalik@sustainablepittsburgh.org](mailto:MMehalik@sustainablepittsburgh.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Aftyn Giles, *City of Pittsburgh Sustainability Coordinator*, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us);
- Lindsay Baxter, *Project Manager*, Pennsylvania Environmental Council, [lbaxter@pecpa.org](mailto:lbaxter@pecpa.org).

**COMMUNITY Partnerships & Funding 4: Develop or Enhance K-12 Climate Change Curriculum**

Incorporating climate change into K-12 curriculum is a way to integrate climate protection into the region's way of life. The earlier students begin to understand the climate consequences of their actions, the more likely they are to turn climate-friendly activities into habits they carry throughout life. Additionally, schoolchildren are likely to talk about climate change with their parents, further spreading knowledge.

The U.S. Environmental Protection Agency (EPA) has developed a robust and diverse curricula portfolio that integrates greenhouse gas reduction into K-12 education. In addition, the U.S. Department of Energy manages the

Atmospheric Radiation Measurement Program's Education and Outreach Program. The program's goals include developing basic science awareness and increasing critical thinking skills with a focus on environmental science and climate change. In addition, the program supports relationship building between teachers, students, scientists, and communities.

K-12 schools in Pittsburgh should integrate climate change into their curriculums, not only in science classes, but in subjects across the board from kindergarten through high school. The many nonprofits in Pittsburgh that already are involved in education should collaboratively support and progress a climate change curriculum. Also, the schools of education at local universities and colleges may be logical partners for developing curriculum and educating teachers (new and current) about climate change.

To engage schools more readily, the Black and Gold City Goes Green campaign launched a Youth Community Partners program that works to educate high school-aged youth about the social and environmental impacts of global climate change. The program utilizes educational workshops and service learning strategies. Students create a Climate Action Plan for their self-identified community. The program's educational goals are to build a science-based understanding of climate change issues and promote civic engagement in public policy addressing environmental issues.

In 2011, three institutions joined the program's pilot year: The Pittsburgh Science and Technology Academy, The Kingsley Association, and Propel Andrew Street High School.

More Information:

- Department of Energy Atmospheric Radiation Measurement (ARM) Program: <http://education.arm.gov>
- EPA Environmental Education: [www.epa.gov/enviroed](http://www.epa.gov/enviroed)

Potential Partners:

- Indigo Raffel, *Education Outreach Coordinator*, Conservation Consultants Inc., [indigor@ccicenter.org](mailto:indigor@ccicenter.org);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- School of Education or *Sustainability Coordinators* at local colleges and universities.

**COMMUNITY Partnerships & Funding 5:  
Create Online Clearinghouse for Residential  
Financial Incentives**

Funding is major barrier for reducing community greenhouse gas emissions. Through The Black & Gold City Goes Green campaign, Community Partners should work with the City of Pittsburgh and Allegheny County to create and update an online clearinghouse of information regarding financial incentives for residents. This clearinghouse can be integrated into the City of Pittsburgh's green website, Allegheny County's green webpage, The Black & Gold City Goes Green website, and several other sources. Financing opportunities for residents should include grants, tax rebates, utility rebates, and other financial incentives.

Potential Partners:

- Aftyn Giles, *Sustainability Coordinator*, City of Pittsburgh, [Aftyn.Giles@city.pittsburgh.pa.us](mailto:Aftyn.Giles@city.pittsburgh.pa.us);
- Evan Endres, *Project Coordinator*, Citizens for Pennsylvania's Future, [endres@pennfuture.org](mailto:endres@pennfuture.org);
- Bradd Celidonia, *Multimedia Director*, Green Building Alliance, [braddc@gbapgh.org](mailto:braddc@gbapgh.org).



Photo: Kayla Durbin

## CHAPTER 5: HIGHER EDUCATION

The Pittsburgh Climate Initiative works with local colleges and universities to reduce our region's greenhouse gas emissions. The Higher Education Climate Consortium includes 11 local campuses and is often joined by neighboring institutions. These campuses are significant employers, building managers, transit users, and consumers—and therefore represent a hub of action to reduce greenhouse gas emissions resulting from institutional operations and campus members' behavior.

The Higher Education Climate Consortium's self-determined mission is to actively engage all Pittsburgh region colleges and universities to collaborate, share information, and set goals regarding research agenda, education curricula, operations, outreach activities, and commitments that reduce greenhouse gas emissions so that the organizations comprising the Higher Education Climate Consortium align with the City of Pittsburgh's overall greenhouse gas reduction goal.

The following Pittsburgh-area colleges and universities have Higher Education Climate Consortium representation:

- Art Institute of Pittsburgh
- Carlow University
- Community College of Allegheny County
- Chatham University
- Carnegie Mellon University
- Duquesne University
- La Roche College
- The Pennsylvania State University Metro Center
- University of Pittsburgh
- Point Park University
- Robert Morris University

Since late 2008, Pittsburgh's higher education institutions have made progress on many of the recommendations laid out in the *Pittsburgh Climate Action Plan, Version 1.0*, as outlined in Table 5.

In this second iteration of the *Pittsburgh Climate Action Plan*, the Higher Education Climate Consortium seeks to build upon previous recommendations and expand the schools' collective action toward reducing greenhouse gas emissions across all member institutions. This chapter is the result of group discussion during the Higher Education Climate Consortium's quarterly meetings. Given the group's 3 years of experience establishing their role within the Pittsburgh Climate Initiative, many new recommendations are offered in this second climate action plan, some recommendations' language from the previous climate action plan are expanded here, and others are excluded moving forward.

**Table 5: Higher Education Recommendations' Status from Pittsburgh Climate Action Plan, Version 1.0**

**Short-Term**

Classification	Title	Status	Details
General 1.1	Establish a Pittsburgh Higher Education Climate Coalition	Complete	Meets Quarterly
General 1.2	Develop College and University Information Sharing	Ongoing	
Campus-Wide 1.1	Individual Institutions Should Join State and National Level Higher Education Sustainability Organizations	Ongoing	
Campus-Wide 1.2	Explore Resources Available Through Higher Education Professional Organizations	Not Yet Addressed	
Campus-Wide 1.3	Create a Higher Education Best Practices Guide	Ongoing	
Campus-Wide 1.4	Develop Greenhouse Gas Inventories for Each Pittsburgh College and University	Ongoing	CCAC, Chatham, Carnegie Mellon, Duquesne, and University of Pittsburgh have performed at least one inventory each
Energy 1.1	Explore Carbon Offsets	Ongoing	
Transportation 1.1	Compile Port Authority Transit Information	Not Yet Addressed	
Transportation 1.2	Investigate Zipcar Feasibility	Significant Progress	Carnegie Mellon, Duquesne, and University of Pittsburgh have contracts that other schools can join. Chatham has joined CMU's contract
Recycling & Waste Management 1.1	Food Composting Coalition Kick-Off Meeting	Complete	
Green Building Practices 1.1	Expand Online Higher Education Green Building Case Studies	Ongoing	
Student Engagement & Education 1.1	Catalog Pittsburgh Higher Education Climate Actions	Ongoing	

## Medium-Term

Classification	Title	Status	Details
General 2.1	Establish a Revolving Loan Fund or Alternative Financing Mechanism	Not Yet Addressed	
Campus-Wide 2.1	Create Institutional Benchmarks	Significant Progress	
Energy 2.1	Establish Energy Conservation Behavioral Change Programs	Some Progress	
Energy 2.2	Institute Widespread Thermostat Adjustments	Some Progress	
Energy 2.3	Institute Unplug It Programs	Some Progress	
Energy 2.4	Apply ENERGY STAR Computer Settings	Ongoing	
Energy 2.5	Create and Participate in Energy Competitions	Some Progress	Institutions investigating joining 2012 national energy competition
Student Engagement & Education 2.1	Participate in Student Environmental Competitions: RecycleMania Competition	Some Progress	Chatham and CMU participate
Student Engagement & Education 2.2	Student Environmental Competitions: Energy Efficiency Competitions	Some Progress	In 2012, CMU will participate in Campus Conservation Nationals
Student Engagement & Education 2.3	Increase “Social Marketing”	Some Progress	

## Long-Term

Energy 3.1	Explore Real-Time Energy Monitoring	Some Progress	CMU currently developing an energy dashboard; other schools exploring dashboard options
Energy 3.2	University Energy Co-op	Some Progress	Currently exploring this option through EPA Green Power Partnership and City of Pittsburgh
Energy 3.2	Hire an Energy Conservation Programs Coordinator	Not Yet Addressed	
Transportation 3.1	Collective Negotiations with the Port Authority of Allegheny County	Not Yet Addressed	
Recycling & Waste Management 3.1	Implement a Food Composting Program	Significant Progress	Chatham, CMU, LaRoche, and University of Pittsburgh compost food waste

## Short-Term Recommendations

Short-term recommendations for the higher education sector are targeted to be accomplished within 2 years of publication of this plan.

### ENERGY

#### **HIGHER EDUCATION Energy 1.1: Pursue Regional Participation in ENERGY STAR Settings Policy for All Campus Computers**

ENERGY STAR computer settings regulate sleep, hibernate, and other modes of energy management for personal computers, which have proven an effective energy management strategy for college and university campuses. The Higher Education Climate Consortium can leverage the region's commitment to PCI to persuade campus leadership to adopt ENERGY STAR policies across all 11 campuses for computer settings.

#### *Example:*

##### **University of Wisconsin-Oshkosh -**

UW Oshkosh is one of many success stories regarding campus computer power management. The school computer labs used to keep all personal computers powered on 24 hours a day to accommodate students and nightly software updates. Using built-in functions and a free network tool provided by EPA, UW Oshkosh was able to place 485 computers into a low-power "sleep" mode, continue regular updates, and save over \$9,000 annually (at 5 cents/kWh).

#### **HIGHER EDUCATION Energy 1.2: Explore Purchasing Renewable Energy**

After energy deregulation, Pennsylvania electricity customers are able to choose which company provides their service while maintaining the existing transmission infrastructure. Customers can purchase energy through companies that

provide renewable electricity products. The Higher Education Climate Consortium will explore purchasing renewable energy either collectively or as individual institutions through local companies, thereby supporting renewable energy generation in the region.

#### **HIGHER EDUCATION Energy 1.3 Utilize Duquesne Light's Watt Choices Program**

Duquesne Light's Watt Choices program aims to fulfill the demand side energy use reductions required by Pennsylvania Act 129 for public utilities. Campuses could take advantage of rebates offered by Watt Choices for equipment upgrades, thereby minimizing costs for a variety of projects. An intern or fellow could identify potential projects from the available rebates and coordinate with Higher Education Climate Consortium representatives to advise facility managers on appropriate opportunities.

#### *More Information:*

- Duquesne Light Watt Choices Program: [www.duquesnelight.com/wattchoices](http://www.duquesnelight.com/wattchoices)

### TRANSPORTATION

#### **HIGHER EDUCATION Transportation 1.1 Promote Use of Washington, D.C. Travel Options to Decrease Faculty, Staff, and Students' Greenhouse Gas Footprints**

A 2009 Carnegie Mellon University greenhouse gas emissions inventory found that a significant portion of Carnegie Mellon's emissions result from faculty and staff air travel. Also, the number of trips faculty and staff make to Washington, D.C. (either as an end destination or as a first leg) was quite large. A resulting informal recommendation was made to collaborate toward establishing a shuttle service to Washington D.C. to reduce both air and single occupancy vehicle emissions.

In spring 2010, Megabus established a

low-cost shuttle service from Pittsburgh to Washington D.C. The Higher Education Climate Consortium will promote use of this and any other shuttle service to Washington, D.C. to decrease greenhouse gas emissions resulting from faculty, staff, and student travel. Additionally, the Higher Education Climate Consortium will open negotiations with Megabus to establish a bus stop in Oakland to serve the large population in that area of Pittsburgh.

## RECYCLING & WASTE MANAGEMENT

### **HIGHER EDUCATION Recycling & Waste Management 1.1: Promote Zero Waste Events across Member Institutions**

To reduce universities' contribution to the waste stream beyond what recycling and composting programs can eliminate, the Higher Education Climate Consortium will promote zero waste events across campuses. This recommendation is an opportunity to build expertise and set collaborative regional expectations among campuses. Some strategies for promoting zero waste events and projects include providing trainings on zero waste during new student and staff orientations, and establishing a guidebook for zero waste practices.

Pennsylvania Resources Council (PRC) provides information and services to organize and conduct zero waste events of all sizes; PRC's zero waste operations can serve as a model for Higher Education Climate Consortium zero waste projects.

#### *More Information:*

- Zero Waste Pittsburgh:  
[www.zerowastepittsburgh.org](http://www.zerowastepittsburgh.org)

## GENERAL SUSTAINABILITY

### **HIGHER EDUCATION General Sustainability 1.1: Establish a Full-Time Fellowship to Work with Higher Education Climate Consortium**

Current college and university staff members do not have enough time to dedicate to coordinating efforts across institutions. Consequently, given the Higher Education Climate Consortium's potential for project coordination, resource sharing, and collective events, the Consortium will establish a full-time fellowship to work directly with all campuses to increase the number and level of projects.

In 2011, the Higher Education Climate Consortium agreed to the fulfillment of this recommendation with a 2012 SCA Green Cities Corps Fellow. This Fellow will work with the Consortium as a whole, while also focusing on individual institutional projects including greenhouse gas inventories, climate action plans, and energy saving competitions (among others).

### **HIGHER EDUCATION General Sustainability 1.2: Establish a Financing Subcommittee**

To keep the Higher Education Climate Consortium informed of funding opportunities for sustainability projects such as building retrofits, equipment upgrades, and/or educational programming, the group will establish a Financing Subcommittee. Volunteer members will collect and distribute information about funding opportunities for campuses through a quarterly newsletter, which will coincide with the established Higher Education Climate Consortium quarterly meetings.

### **HIGHER EDUCATION General Sustainability 1.3: Standardize Information Sharing Strategies**

Ensuring that there is a single resource for information about Pittsburgh's higher education green practices provides publicity for individual

and collective efforts, while also allowing Pittsburgh's colleges and universities to serve as a model for higher education institutions elsewhere. Thus, in an effort to consistently share campus practices, Higher Education Climate Consortium members will commit to updating their public information on the PCI website on a quarterly basis. Establishing this standard expectation makes it simpler for all institutions to participate.

#### **HIGHER EDUCATION General Sustainability 1.4: Create a Higher Education Best Practices Guide**

The Higher Education Climate Consortium Fellow should focus on building a centralized guide to campus practices that is specific to Pittsburgh-area schools. A best practices guide will assist with project prioritization and can be built using the content from Higher Education Climate Consortium meetings, events, and projects. The guide should include funding opportunities, case studies, and performance data to be posted online. The guide could also include topical one-pagers that are updated annually with resources from regular meetings and website updates.

#### More Information:

Existing best practices guides that may be of assistance in completing this recommendation include the following:

- “New Energy for Campuses: Energy-Saving Policies for Universities and Colleges” Developed by the Apollo Alliance: [www.fypower.org/pdf/campus\\_energy.pdf](http://www.fypower.org/pdf/campus_energy.pdf)
- AASHE and Arnold Creek Publications: [www.arnoldcreekproductions.com](http://www.arnoldcreekproductions.com)
- EPA Environmental Management Systems Guide for Colleges and Universities: [www.epa.gov/region1/assistance/univ/emsguide.html](http://www.epa.gov/region1/assistance/univ/emsguide.html)

- The New Jersey Higher Education Partnership for Sustainability's toolkit: [www.njheps.org/Default.aspx?pageId=980012](http://www.njheps.org/Default.aspx?pageId=980012)
- Roadmap to a Green Campus: <http://www.centerforgreenschools.org/campus-roadmap.aspx>
- U.S. Green Building Council's *Green Campus Campaign*: [www.usgbc.org/DisplayPage.aspx?CMSPageID=1904](http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1904)
- Responsible Purchasing Network: [www.responsiblepurchasing.org](http://www.responsiblepurchasing.org)
- A Comprehensive Guide to Water Conservation: The Bottom Line Impacts, Challenges and Rewards: [www.ifmafoundation.org/documents/public/WaterGuide.pdf](http://www.ifmafoundation.org/documents/public/WaterGuide.pdf)

#### **HIGHER EDUCATION General Sustainability 1.5: Increase Student Participation in PCI**

To successfully build higher education support for PCI programs and goals (which are integral to the Pittsburgh region), the Higher Education Climate Consortium members aim to increase student involvement through a variety of mechanisms. Because individual campus representatives do not have the time or latitude to manage cross-institution projects, this increase in student involvement will require coordination by an intern or fellow; consequently, this recommendation will follow the establishment of an internship or fellowship to work with the Higher Education Climate Consortium full-time. Projects to increase student involvement in PCI include:

- (1) **Include PCI and the Higher Education Climate Consortium in new student orientation programs on campuses.** PCI information should be included during orientation tabling activities and other events so that all student bodies are

introduced to PCI through their university's involvement.

- (2) **Create “Unplug It!” campaigns on all campuses to reduce vampire loads.** At the University of New Hampshire, programs asking campus community members to unplug equipment before leaving for Thanksgiving break in fall 2006 saved over 159,000 kilowatt-hours (kWh) of energy, \$22,721 in energy and water costs, and over 50 metric tons of emissions of CO<sub>2</sub>e.<sup>84</sup> A longer-term program among all campuses would involve constant education and regular student commitments to unplug appliances to conserve electricity.
- (3) **Participate in or create energy savings competitions among campuses**--and potentially between dorms on each campus if submetering allows. Campus competitions to save energy have consistently shown success in reducing energy demand controlled by behavior. The Higher Education Climate Consortium is currently investigating organizing for a national energy saving competition that could also include a regional bracket of Higher Education Climate Consortium schools. Schools would compete to reduce energy consumption by the greatest percentage. If campuses have sufficient submetering, they may also conduct an internal competition among dorms and departments to reduce energy use. Competitions could be the foundation of future conservation programs across campuses.
- (4) **Participate in RecycleMania** or other waste reduction campus competitions. Several schools in the Higher Education Climate Consortium already participate in the national recycling campaign called RecycleMania. From existing experience in Pittsburgh, campuses can advise

each other regarding participation in this national campaign and leverage regional participation to strengthen other conservation programs across campuses.

- (5) **Increase utilization of social marketing.** To more effectively reach Pittsburgh's student bodies to engage in the Higher Education Climate Consortium commitments, schools can enlist student interns to work with campus publicity offices to build social marketing tools. These tools, such as Facebook campaigns, Twitter feeds, and mass texting networks, can mobilize student groups across the region's campuses for joint conservation programs and for broader PCI projects.

*More Information:* “Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing” by Doug McKenzie-Mohr.

- (6) **Increase research and curriculum collaboration among Higher Education Climate Consortium member schools.** Given the range of expertise provided by the Higher Education Climate Consortium member institutions, the group will organize to collaborate on research projects and curriculum development to better use the region's higher education assets.

#### **HIGHER EDUCATION General Sustainability 1.6: Increase Collaboration with Other PCI Sectors**

The Higher Education Climate Consortium will seek strategies to collaborate with other PCI sectors through events, publicity, and cross-sector meetings. Through 2011, the campuses have been represented by Green Building Alliance in PCI meetings and publicity; in 2012, the group will be represented by a Higher Education Climate Consortium SCA Green Cities Fellow. Additionally, the Higher Education Climate Consortium would like to regularly meet with the other PCI sectors to

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84 University of New Hampshire. (2011). “UNH Unplugged Energy Challenge 2011.” <http://sustainableunh.unh.edu/energy-challenge>. Accessed 6 December 2011.

increase project collaboration and support among PCI sectors where possible.

Most specifically, the Higher Education Climate Consortium would like to collaborate with the Business Climate Coalition's programming and trainings, given that campus facilities share operational synergies with commercial facilities. PCI can act as an information conduit to plug Higher Education Climate Consortium members into opportunities with the Business Climate Coalition.

**HIGHER EDUCATION General Sustainability 1.7: All Higher Education Climate Consortium Member Schools Should Conduct and Periodically Update a Greenhouse Gas Emissions Inventory**

A greenhouse gas inventory identifies the sources of greenhouse gas emissions, thereby enabling an institution to prioritize reduction strategies. All Higher Education Climate Consortium member institutions will conduct and periodically update a greenhouse gas inventory for their respective institution. Several Higher Education Climate Consortium campuses have already conducted an inventory through student projects or through an office of sustainability; from that experience, schools with existing inventories should provide technical guidance and troubleshooting to other Higher Education Climate Consortium members who have yet to inventory their campus operations.

Higher Education Climate Consortium representatives have agreed to use the Clean Air – Cool Planet Campus Carbon Calculator<sup>85</sup> and the measurement protocol set by the American College and University Presidents' Climate Commitment to conduct comparable greenhouse gas emissions inventories. To help develop a regional understanding of higher education campus emissions, campuses will benchmark against each other and as a whole. Data will

be normalized by full time employees/faculty/ students, square footage, and/or campus type to compare among the Pittsburgh region's campuses.

**HIGHER EDUCATION General Sustainability 1.8: Utilize STARS to Generate Campus Projects and Programs**

The AASHE STARS program is a nationally recognized campus sustainability rating system that can be used to prioritize policies and programs on campuses at all levels of sustainability. STARS utilizes nationwide experience to identify high priority areas for improvement in campus operations. This is especially useful to those schools that have yet to conduct an emissions inventory to identify their specific campus targets.

Higher Education Climate Consortium could commission a subcommittee or intern to review the STARS rating system and to talk with STARS staff to develop collaborative projects and programs. This is an opportunity to target common priorities across campuses so that individual campuses can leverage regional commitments, thereby gaining support for changes to institutional operations.

More Information:

- AASHE STARS Program: [www.aashe.org/stars](http://www.aashe.org/stars)

**Medium-Term Recommendations**

Medium-term recommendations for the higher education sector are targeted to be accomplished within 2 to 5 years of publication of this plan.

**ENERGY**

**HIGHER EDUCATION Energy 2.1: Create a Campus Energy and Water Toolkit**

To provide consistent regional information on energy and water management for college and

85 Clean Air-Cool Planet. (2011). Campus Carbon Calculator. Version 6.7. [www.cleanair-coolplanet.org/toolkit/inv-calculator.php](http://www.cleanair-coolplanet.org/toolkit/inv-calculator.php). Accessed 6 December 2011.

university campuses, the Higher Education Climate Consortium should commission a campus toolkit that outlines strategies for reducing energy and water use, as well as potential funding mechanisms for projects. Strategies include building retrofits, behavior change programs, and renewable energy purchasing. Case studies from our region's campuses should be included, as well as Pennsylvania-specific funding opportunities. An intern or fellow at a single or across institutions could target this project.

*Example:*

**New Jersey Higher Education Partnership for Sustainability's toolkit:** [www.njheps.org/Default.aspx?pageId=980012](http://www.njheps.org/Default.aspx?pageId=980012)

**HIGHER EDUCATION Energy 2.2:  
Explore Real-Time Energy Monitoring on  
Campuses**

The Higher Education Climate Consortium should research and discuss institutional dashboard systems that provide instant feedback on energy usage, incorporating facility management teams from across the region's schools. If submetering does not allow for effective feedback, campuses could collectively pursue financing for meters. The Higher Education Climate Consortium will provide the group a platform for these discussions and a collective proposal to campus leaders.

Real-time energy monitoring provides the necessary feedback for the most effective energy conservation behavior change programs. Dashboards would also provide greater troubleshooting capabilities to facilities for identifying leaks and other problems in a system.

A dashboard system could be programmed by students and faculty as a class project; several existing systems could also be serviced by national vendors.

**HIGHER EDUCATION Energy 2.3:  
Institute Thermostat Adjustments across All  
Member Institutions**

The Higher Education Climate Consortium could use the critical mass of the region's campuses to persuade all institutions to establish a thermostat settings policy. The group will research and recommend standard settings for use across all campus facilities, supported by similar policies at other institutions across the nation and in Pennsylvania. Thermostat adjustment policies are a no-cost energy management strategy that have shown significant energy savings and cost savings across a variety of building types.

*Example:*

**University at Buffalo** - As explained in the *Pittsburgh Climate Action Plan, Version 1.0*, "At the University at Buffalo (SUNY), annual savings from energy conservation efforts alone total \$9 million. The University determined that each degree of unnecessary heating and cooling costs \$100,000 a year, and adjusted baseline temperature settings accordingly. They have since instituted policies in which an altered summer dress code allows for higher summer thermostat settings (76 degrees), while in the winter, Deans must request off-hour additional heating if it is required by academic programs."

**TRANSPORTATION**

**HIGHER EDUCATION Transportation 2.1:  
Decrease Single Occupancy Vehicle  
Transportation among Campus Faculty, Staff, and  
Students**

The Higher Education Climate Consortium should research and organize incentive programs to increase non-motorized transportation, bus ridership, and carpooling among campus members to minimize driving to meetings

and events. The Southwestern Pennsylvania Commission provides an existing carpool organizing tool, CommuteInfo, which universities can promote. Car share programs like Zipcar are also a method for reducing the campus transportation footprint because they allow campus members to use public transit or non-motorized transit to travel to campus--and then a shared car to travel to meetings during the day, thereby limiting fuel combustion to fewer and shorter trips rather than commuting.

Thus, campuses should expand use of Zipcars where appropriate, using performance data and qualitative data from schools who currently have Zipcar memberships. Higher Education Climate Consortium institutions currently have the ability to join the existing Zipcar contracts of Carnegie Mellon University, Duquesne University, and the University of Pittsburgh. Chatham University has already taken advantage of this opportunity and shares a Zipcar contract and network of cars with the other schools. This provides an expanded network of cars available for students and allows for cost sharing among institutions. Moving forward, the Higher Education Climate Consortium could explore the potential to collectively contract with Zipcar to decrease monthly rental requirements.

Car sharing also encourages the use of other alternative forms of transportation, such as walking, biking, and using public transit. Zipcar reports that its members have increased public transit usage by 47%, bicycling by 10%, and walking trips by 26%.<sup>86</sup> This increased demand and usage of public transportation encourages funding and support for transit improvements, including better routing.

As outlined in the *Pittsburgh Climate Action Plan, Version 1.0*: “integrating the use of Zipcar into the campus culture can have a considerable impact. For instance, the University of Pittsburgh has an undergraduate student population of

approximately 17,000. If only 5% of this student population used Zipcar and avoided driving 20 miles per semester due to their membership, the students would decrease total miles driven by 17,000, translating to an emissions reduction of 14 tons of CO<sub>2</sub>e per academic year. Extending Zipcar use beyond undergraduate students to graduate students, faculty, and staff at all of the schools in Pittsburgh could significantly reduce greenhouse gas emissions from transportation.”

### **HIGHER EDUCATION Transportation 2.2: Pursue Collective Negotiations with the Port Authority for Campus Bus Passes**

The University of Pittsburgh and Carnegie Mellon University have a set bus pass rate negotiated with the Port Authority. Similarly, other campuses could collectively negotiate a bulk bus pass purchase for campus members. Bulk purchase agreements may be more feasible in 2012 because of increased ridership tracking through the Port Authority’s new smart card fare system. This system allows the Port Authority to compile information about the economic benefits of bulk ridership passes. This information will assist all higher education institutions as they assess continuing and pursuing bulk bus pass purchasing programs, while assisting the Port Authority in assessing appropriate financing asks for institutional bulk bus passes.

## **GENERAL SUSTAINABILITY**

### **HIGHER EDUCATION General Sustainability 2.1: Pursue Financing Mechanisms for Sustainability Projects across Campuses**

The Higher Education Climate Consortium member institutions should design and work with their appropriate campus offices to establish two main funding opportunities: alumni donations to sustainability programs and campus revolving loan funds from energy savings after equipment upgrades.

86 Zipcar, Inc.. (July 19, 2011). “Zipcar Introduces Car Sharing Into Downtown Redmond, Washington.” <http://ir.zipcar.com/releasedetail.cfm?releaseid=592510>. Accessed 6 December 2011.

Other modes of simple funding that all campuses can implement should be identified by the Higher Education Climate Consortium in 2012. The group can then serve as a platform for feasibility studies and for a collective voice that can be leveraged for individual campuses' conversations. At this time, it may not be feasible to combine financing mechanisms across campuses, so Higher Education Climate Consortium institutions should strategically support each campus's process for gaining funding for energy savings and sustainability projects.

## Long-Term Recommendations

Long-term recommendations for the higher education sector will be explored in 2012 through 2017 and be implemented in 2018 and afterwards.

### ENERGY

#### **HIGHER EDUCATION Energy 3.1:**

##### **Establish a University Energy Cooperative**

Purchasing electricity collectively could allow Higher Education Climate Consortium to increase their renewable energy consumption while maintaining or decreasing current energy costs. The Higher Education Climate Consortium can utilize its collective bargaining power to purchase electricity at a lower rate and include at set percentage of local, renewable energy. Campuses would essentially lock-in electricity at a lower rate in return for guaranteeing demand to the utility--and part of the contract would ensure a percentage of energy is provided from local wind, solar, or other renewable sources. In 2011, the Consortium initiated conversations with the EPA Green Power Partnership and the City of Pittsburgh to discuss how a Higher Education Climate Consortium energy cooperative might be structured.

The City of Pittsburgh established a similar cooperative, the Western Pennsylvania Energy Consortium, which jointly purchases 15% renewable electricity. To help secure a low rate, a reverse auction was conducted with electric providers bidding for the City's contract. Higher Education Climate Consortium schools could also conduct a reverse auction for their large purchasing contract and receive the associated financial and economic benefits.

#### **HIGHER EDUCATION Energy 3.2:**

##### **Explore Collectively Purchasing and Providing Local Renewable Energy Credits**

Using the collective purchasing power of its member schools, the Higher Education Climate Consortium should explore purchasing renewable energy credits that are produced within Allegheny County and/or Southwestern Pennsylvania. There is also the potential for Higher Education Climate Consortium member institutions to collectively seek funding to install on-site renewable energy infrastructure across campuses and share the resulting income from the sale of RECs from these installations. The stability of income generated by RECs is a significant incentive for campus investment in renewable energy infrastructure and could be harnessed to gain support from multiple campuses. Additionally, there is potential for the savings from reduced energy costs to initiate a revolving fund for other sustainability projects.

### RECYCLING AND WASTE MANAGEMENT

#### **HIGHER EDUCATION Recycling & Waste Management 3.1:**

##### **Compost Food Waste on All Higher Education Climate Consortium Campuses**

Composting from higher education campuses in the Pittsburgh region is a large opportunity to divert food waste from landfills and utilize

its nutrient value in local projects such as urban gardens. The Higher Education Climate Consortium should use the existing experiences of campuses who have established composting programs to mentor other campuses through starting a collection program and contracting with commercial composting providers or other solutions. The Higher Education Climate Consortium can provide the platform for facilitating discussion among dining service providers and compost facilities. Campuses with existing composting programs through their dining services include Chatham University, University of Pittsburgh, Carnegie Mellon University, and Duquesne University. As outlined in the *Pittsburgh Climate Action Plan, Version 1.0*:

In November 2006, Pennsylvania Resources Council published a food waste composting feasibility study. The feasibility study assessed composting at five food processing facilities in Pittsburgh, including Carnegie Mellon's University Center and Chatham University. For the purpose of the study, food waste was designated as Green, consisting of plant-based food without dairy, meat, or oils, or Yellow, made up of all other food waste except grease. For the [Carnegie Mellon] University Center, 358.33 pounds of Green waste and 284.66 pounds of Yellow waste were collected per day. For Chatham, 140.8 pounds of Green and 188.7 pounds of Yellow waste were collected per day. These numbers represent both pre- and post-consumer wastes, and equal an average of 486 pounds of food waste produced per day. Assuming that only half of this waste comes from pre-consumer food preparation, and that this number holds true for five days a week, the average Pittsburgh higher education institution would produce nearly 40,000 pounds of food waste over the course of an eight month school year. For every 20 tons of

pre-consumer food waste that is composted instead of sent to a landfill, 18.6 tons of CO<sub>2</sub>e are avoided. If the ten Pittsburgh higher education institutions listed in the Introduction composted 40,000 pounds, or 20 tons of food waste per year, CO<sub>2</sub>e emissions would be reduced by 3,720 tons. Schools which implemented post-consumer composting programs could reduce emissions further.<sup>87</sup>

## GENERAL SUSTAINABILITY

### **HIGHER EDUCATION General Sustainability 3.1: Establish a University Sustainable Purchasing Cooperative**

Similar to the energy cooperative, the Higher Education Climate Consortium could use its collective purchasing power to establish environmentally preferred purchasing (EPP) policies for campus supplies. A collective purchasing approach would reduce costs to buy sustainably-sourced products for campus operations. While every department on each campus manages its budget separately, a centralized agreement could be contracted among Pittsburgh's regional institutions to direct purchasing toward products that all campuses agree to be sustainable.

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87 Ibid, Footnote 1, Higher Education Recycling and Waste Management 3.1

## APPENDIX A: Glossary & Acronyms

<b>TERM</b>	<b>DEFINITION</b>
<b>Biodiesel</b>	<i>The EPA defines biodiesel as “renewable fuel produced from agricultural resources such as vegetable oils.”<sup>88</sup></i>
<b>Biofuel</b>	<i>A fuel derived directly from living matter.</i>
<b>BCC</b>	<b>Business Climate Coalition</b>
<b>Brownfield</b>	<i>The EPA defines a brownfield as “a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”<sup>89</sup></i>
<b>Carbon Footprint</b>	<i>A measurement used to calculate the impact human activities have on the environment. It is measured in terms of the amount of greenhouse gases emitted from each activity and reported in units of carbon dioxide equivalents (CO<sub>2</sub>e).</i>
<b>CCAC</b>	<b>Community College of Allegheny County</b>
<b>CFL</b>	<b>Compact fluorescent light bulb</b>
<b>CO<sub>2</sub>e</b>	<b>Carbon dioxide equivalent</b> <i>A unit of measure that allows emissions of greenhouse gases of different strengths to be added together based on their global warming potential. For example, if methane has a global warming potential 21 times stronger than carbon dioxide, one ton of methane is measured as 21 tons of CO<sub>2</sub>e.</i>
<b>DOE</b>	<b>U.S. Department of Energy</b> <i>The U.S. government department whose mission is to advance energy technology and promote related innovation in the United States.</i>
<b>ENERGY STAR</b>	<i>A joint program between the DOE and EPA that provides energy efficiency standards for products and buildings.</i>
<b>EPA</b>	<b>Environmental Protection Agency</b> <i>The U.S. government agency dedicated to protecting human health and the environment.</i>

88 U.S. Environmental Protection Agency. (2010). “Biodiesel: Technical Highlights.” [www.epa.gov/oms/renewablefuels/420f09064.htm](http://www.epa.gov/oms/renewablefuels/420f09064.htm). Accessed 27 October 2011.

89 U.S. Environmental Protection Agency. (2011). “Brownfields Definition.” [www.epa.gov/brownfields/overview/glossary.htm](http://www.epa.gov/brownfields/overview/glossary.htm). Accessed 1 November 2011.

<b>TERM</b>	<b>DEFINITION</b>
<b>GHG</b>	<p><b>Greenhouse gas</b>  <i>Atmospheric gases that create a greenhouse effect by increasing the amount of heat retained by the Earth’s atmosphere, thus contributing to an increase in global temperatures. Principle greenhouse gases emitted from human activities include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrogen oxides (NO<sub>x</sub>), and fluorocarbons.</i></p>
<b>Greenfield</b>	<p><i>Previously undeveloped land.</i></p>
<b>HACP</b>	<p><b>Housing Authority of the City of Pittsburgh</b>  <i>City of Pittsburgh Authority charged with providing decent, affordable housing for low-income persons.</i></p>
<b>HECC</b>	<p><b>Higher Education Climate Consortium</b></p>
<b>ICLEI</b>	<p>ICLEI Local Governments for Sustainability  <i>Formerly the International Council on Local Environmental Initiatives. An international association of local governments and their associations that have made a commitment to sustainable development.</i></p>
<b>kWh</b>	<p><b>Kilowatt hour</b>  <i>Unit of energy representing 1,000 watts.</i></p>
<b>LED</b>	<p><b>Light emitting diode</b></p>
<b>LEED®</b>	<p><b>Leadership in Energy and Environmental Design</b>  <i>A green building rating system created by the U.S. Green Building Council.</i></p>
<b>MWh</b>	<p><b>Megawatt hour</b>  <i>Unit of energy representing 1 million watts.</i></p>
<b>PCI</b>	<p><b>Pittsburgh Climate Initiative</b></p>
<b>PRCC</b>	<p><b>Pittsburgh Region Clean Cities</b>  <i>Local chapter of a U.S. DOE program that aims to advance the energy, economic, and environmental security of the United States by supporting local decisions that adopt practices to reduce the use of petroleum in the transportation sector.</i></p>

<b>TERM</b>	<b>DEFINITION</b>
<b>PWSA</b>	<b>Pittsburgh Water and Sewer Authority</b> <i>The managing agency for City water and sewer infrastructure.</i>
<b>SCA</b>	<b>Student Conservation Association</b> <i>A national nonprofit that promotes conservation work. In Pittsburgh, SCA runs the Green Cities Corps program that places young professionals in local nonprofits with the goal of reducing greenhouse gas emissions locally.</i>
<b>URA</b>	<b>Urban Redevelopment Authority of Pittsburgh</b> <i>The economic development agency that generates and manages redevelopment projects in the City of Pittsburgh.</i>
<b>Wastewater</b>	<i>Used water from process or non-process activities. Wastewater is non-potable; types of wastewater can include graywater and blackwater.</i>



Photo: Jeff Greenberg, VisitPittsburgh

## APPENDIX B: Pittsburgh Climate Initiative-Led Collaborations

The Pittsburgh Climate Initiative (PCI) is comprised of a 4 sector partnership, with each sector having its own committee to guide that sector. PCI Partners are listed in Table 6. The City Sustainability Commission (Table 7) is convened by the City of Pittsburgh, the Business Climate Coalition (Table 8) is convened by Sustainable Pittsburgh, the Community Partners of the Black and Gold City Goes Green campaign (Table 9) are convened by Citizens for Pennsylvania’s Future, and the Higher Education Climate Consortium (Table 10) was convened by Green Building Alliance through 2011. Each sector is represented by their convening organization at the monthly PCI Partner meetings. Pennsylvania Environmental Council, Allegheny County government, and Student Conservation Association are also PCI Partner organizations and attend PCI meetings (Table 6).

**TABLE 6: PITTSBURGH CLIMATE INITIATIVE PARTNERS**

Organization	Representative
Allegheny County	Jeaneen Zappa
Citizens for Pennsylvania’s Future	Evan Endres
City of Pittsburgh	Aftyn Giles
Green Building Alliance*	Aurora Sharrard
Pennsylvania Environmental Council**	Lindsay Baxter
Student Conservation Association	Miriam Parson
Sustainable Pittsburgh	Matt Mehalik

\* PCI Convener through 2011

\*\* PCI Convener from 2012 onwards

**TABLE 7: CITY OF PITTSBURGH SUSTAINABILITY COMMISSION**

Department	Representative
Bureau of Building Inspection	Lauren Beck
City Council Representative	Bill Peduto
Department of City Planning	Jason Kambitsis
Department of Finance	Cathy Qureshi
Department of Personnel	David Reed
Department of Public Works	Mike Gable
Energy and Utilities Manager	James Sloss
Recycling Supervisor	Shawn Wigle
Sustainability Coordinator*	Aftyn Giles
Urban Forester	Lisa Ceoffe

\* Commission Convener

**TABLE 8: BUSINESS CLIMATE COALITION STEERING COMMITTEE**

Organization	Representative
American Institute of Chemical Engineers	Chris Steffy
ARTEMIS Environmental Building Materials	Janice Donatelli
Astorino	Catherine Sheane
Bayer Business and Technology Services, LLC	Dan Santmyer
Bayer Materials Science, LLC	Irene McGee
Cardinal Resources, LLC	Joyce O'Connor
Carnegie Mellon University	H. Scott Matthews
Clear Choice Energy	Carolyn Pengidore
Constellation Energy	Greg Lok Lauren Ferrari
Direct Energy Business	Theresa Wilson
Dominion Peoples	Robert Jones Sr.
Duquesne University	Nagaraj Sivasubramaniam
evolve environment:: architecture	Christine Mondor Dave Deal
Group Against Smog and Pollution	Rachel Filippini
International Union of Operating Engineers, Local 95	William Cagney
Pittsburgh Cultural Trust	Bonny Kwolek
Port Authority of Allegheny County	Steve Bland Wendy Stern
Port of Pittsburgh Commission	JD Fogarty
Table Magazine	Christina French
Urban Redevelopment Authority of Pittsburgh	John Burke
VisitPittsburgh	Lynne Glover

**TABLE 9: BLACK AND GOLD CITY GOES GREEN COMMUNITY PARTNERS**

- ACORN of Allegheny County
- ACTION Housing, Inc.
- Allegheny Center Alliance Church
- Allegheny County
- Allegheny County Council, Bill Robinson
- Allegheny Unitarian Universalist Church
- Andy Warhol Museum
- Animal Advocates
- ARTEMIS Environmental Building Materials
- Association for the Advancement of Sustainability in Higher Education
- Astorino
- Beth El Congregation
- Bike Pittsburgh
- Bloomfield Development Corporation
- Burt Hill
- Career Link
- Carnegie Museum of Natural History
- Carnegie Science Center
- Chatham University
- Citizens Against Litter
- City of Pittsburgh
- City of Pittsburgh, Mayor Luke Ravenstahl
- City of Pittsburgh, City Council, Darlene Harris, *District 1*
- Clean Air Engineering
- Clean Water Action
- Commonwealth of Pennsylvania, House of Representatives, Chelsea Wagner, *22nd District*
- Commonwealth of Pennsylvania, Senate, Wayne Fontana, *42nd District*
- Community Technical Assistance Center
- CommuteInfo
- Conservation Consultants, Inc.
- Constellation Energy
- Construction Junction
- Democracy for Pittsburgh
- Duquesne Light, Watt Choices Program
- Duquesne University, School of Business
- East Allegheny Community Council
- East End Food Co-op
- East Liberty Development, Inc.
- Eastminster United Presbyterian Church
- EcoSeeds
- eLoop
- Environmental Charter School at Frick Park
- Find the Rivers!
- Friends of the Pittsburgh Urban Forest
- Friendship Preservation Group
- Fun Fitness Concepts
- Global Links
- Global Solutions Pittsburgh
- Greater Park Place Neighborhood Association
- Green Building Alliance
- Greenbridge Energy Consortium
- Greener Expressions
- Group Against Smog and Pollution
- Grow Pittsburgh
- Hazelwood Initiative, Inc.
- Hieber's Pharmacy
- Highmark, Inc.
- ICLEI Local Governments for Sustainability
- Immaculate Conception / St. Joseph
- Ingomar Elementary School
- International Union of Operation Engineers, Local 95
- Lawrenceville Corporation
- Lawrenceville United
- Magee-Womens Hospital of UMPC
- Mattress Factory
- Mount Washington Community Development Corporation

**TABLE 9: BLACK AND GOLD CITY GOES GREEN COMMUNITY PARTNERS**

- Nine Mile Run Watershed Association
- Northside Leadership Conference
- Passports: The Art Diversity Project
- Pennsylvania Environmental Council
- Pennsylvania Housing Finance Agency
- Pennsylvania Resources Council
- Pennsylvania State University Cooperative Extension, Allegheny County
- Phipps Conservatory & Botanical Gardens
- Pittsburgh Area Jewish Committee
- Pittsburgh Community Services, Inc.
- Pittsburgh Cultural Trust
- Pittsburgh Downtown Partnership
- Pittsburgh Garden Experiment
- Pittsburgh Parks Conservancy
- Pittsburgh Pirates
- Pittsburgh Public School District, Operations
- Pittsburgh Regional Center for Science
- Pittsburgh Steelers
- Pittsburgh Student Environmental Coalition
- Pittsburgh Water and Sewer Authority
- Pittsburgh Zoo & PPG Aquarium
- PNC Bank
- Pop City Media
- Port Authority of Allegheny County
- Propel East Charter School
- Rachel Carson Homestead Association
- REI Pittsburgh
- Rodef Shalom Congregation
- Sheraden Community Council
- Sierra Club
- Sisters of Mercy
- St. Paul's Lutheran Church of North Park
- Student Conservation Association
- Student Conservation Association at City High
- Sustainable Monroeville
- Sustainable Pittsburgh
- The Kingsley Association
- Union Project
- United Jewish Federation
- Urban Redevelopment Authority
- U.S. Senate, Robert Casey
- Venture Outdoors
- WeatherWise USA, Inc.
- Wilkins School Community Center
- yumpittsburgh
- Zipcar

**TABLE 10: HIGHER EDUCATION CLIMATE CONSORTIUM INSTITUTIONS**

College or University	Representative
Art Institute of Pittsburgh	Suzanne Sekula
Carlow University	Taylor Brice
Community College of Allegheny County	Elaine Sadowski Matthew Stefanik
Chatham University	Mary Whitney* **
Carnegie Mellon University	Barbara Kviz* Martin Altschul Shernell Smith
Duquesne University	Stan Kabala
La Roche College	Howard Ishiyama
Pennsylvania State University, Metro Center	Lisa Kunst Vavro
Point Park University	Elmer Burger
Robert Morris University	Patrick Litzinger
University of Pittsburgh	Daniel Marcinko Melissa Bilec Laura Zullo**

\* 2011 Co-chairs

\*\* 2012 Co-chairs



Photo: Kayla Durbin

## APPENDIX C: Pittsburgh Neighborhood Organizations

Pittsburgh is a city of neighborhoods, with 90 officially recognized neighborhoods (and several other unrecognized).<sup>58</sup> Many of Pittsburgh's neighborhoods have one or more community organization that provides neighborhood services. These Pittsburgh neighborhood organizations are listed in Table 11.

Detailed information on Allegheny County neighborhood organizations is available through the Urban League of Greater Pittsburgh or the United Way of Allegheny County.

**TABLE 11: PITTSBURGH NEIGHBORHOOD ORGANIZATIONS**

The following nonprofit and governmental organizations in Greater Pittsburgh have existing activities and programs that address climate change in a variety of ways. Pittsburgh Climate Initiative will expand this list as awareness of and progress on greenhouse gas reduction activities increase.

City of Pittsburgh Neighborhood	Neighborhood Organization	Website
Allentown	Allentown Civic Association Allentown Community Development Corporation	<a href="http://www.allentownalive.org">www.allentownalive.org</a>
Banksville	Banksville Civic Association	
Beltzhoover	Beltzhoover Citizens Community Development Corporation	
Bloomfield	Lower Bloomfield Unity Center Bloomfield Business Association Bloomfield-Garfield Corporation	<a href="http://www.bloomfield-garfield.org">www.bloomfield-garfield.org</a>
Brookline	South Pittsburgh Development Corporation	<a href="http://www.spdconline.org">www.spdconline.org</a>
City-Wide	Citizens Against Litter Community Technical Assistance Center Pittsburgh Community Reinvestment Group	<a href="http://www.citizensagainstlitter.org">www.citizensagainstlitter.org</a> <a href="http://www.ctaconline.org">www.ctaconline.org</a> <a href="http://www.pcr.org">www.pcr.org</a>
East Liberty	East Liberty Development, Inc.	<a href="http://www.eastliberty.org">www.eastliberty.org</a>
Friendship	Friendship Development Associates Friendship Preservation Group	<a href="http://www.friendship-pgh.org">www.friendship-pgh.org</a> <a href="http://www.friendship-pgh.org/fpg">www.friendship-pgh.org/fpg</a>
Garfield	Bloomfield-Garfield Corporation Garfield Jubilee Association	<a href="http://www.bloomfield-garfield.org">www.bloomfield-garfield.org</a> <a href="http://www.garfieldjubilee.org">www.garfieldjubilee.org</a>
Greenfield	Connect Greenfield Greenfield Organization	<a href="http://www.connectgreenfield.org">www.connectgreenfield.org</a> <a href="http://www.greenfieldorg.com">www.greenfieldorg.com</a>
Hazelwood	Hazelwood Initiative, Inc.	<a href="http://www.hazelwoodhomepage.org">www.hazelwoodhomepage.org</a>
Highland Park	Highland Park Community Development Corporation Highland Park Community Club	<a href="http://www.hpcdc.org">www.hpcdc.org</a> <a href="http://www.highlandparkpa.com">www.highlandparkpa.com</a>

City of Pittsburgh Neighborhood	Neighborhood Organization	Website
Hill District	Dinwiddie Community Alliance Hill District Consensus Group	
Homewood	Rosedale Block Cluster, Inc.	<a href="http://www.rosedaleblock.org">www.rosedaleblock.org</a>
Lawrenceville	Lawrenceville Corporation Lawrenceville United	<a href="http://www.lawrencevillecorp.com">www.lawrencevillecorp.com</a> <a href="http://www.lunited.org">www.lunited.org</a>
Morningside	Morningside Area Community Council	<a href="http://www.morningside-pa.org">www.morningside-pa.org</a>
Mount Washington	Mount Washington Community Development	<a href="http://www.mwcdc.org">www.mwcdc.org</a>
Northside	Allegheny West Civil Council Brighton Heights Citizens Federation Brightwood Civic Group Central Northside Neighborhood Council Fineview Citizens Council Historic Deutschtown Northside Chamber of Commerce Northside Leadership Conference Perry Hilltop Citizens Council Spring Garden Neighborhood Council Spring Hill Civic League	<a href="http://www.alleghenywest.info">www.alleghenywest.info</a> <a href="http://www.brightonheights.org">www.brightonheights.org</a> <a href="http://www.centralnorthside.org">www.centralnorthside.org</a> <a href="http://www.deushtown.org">www.deushtown.org</a> <a href="http://www.northsidechamberofcommerce.com">www.northsidechamberofcommerce.com</a> <a href="http://www.pittsburghnorthside.com">www.pittsburghnorthside.com</a> <a href="http://www.shcl.org">www.shcl.org</a>
Oakland	Oakland Business Improvement District Oakland Community Council Oakland Planning and Development Council	<a href="http://www.oaklandbid.org">www.oaklandbid.org</a>
Regent Square	Regent Square Civic Association	<a href="http://www.regentsquare-rsca.org">www.regentsquare-rsca.org</a>
Shadyside	Citizens Against Litter Shadyside Action Coalition	<a href="http://www.citizensagainstlitter.org">www.citizensagainstlitter.org</a> <a href="http://www.shadysideaction.org">www.shadysideaction.org</a>
South Side	South Side Chamber of Commerce South Side Community Council, Inc. South Side Local Development Company South Side Slopes Neighborhood Association	<a href="http://www.southsidechamber.org">www.southsidechamber.org</a> <a href="http://www.southsidecommunitycouncil.org">www.southsidecommunitycouncil.org</a> <a href="http://www.southsidepgh.com">www.southsidepgh.com</a> <a href="http://www.southsideslopes.org">www.southsideslopes.org</a>
Squirrel Hill	Squirrel Hill Urban Coalition	<a href="http://www.shuc.org">www.shuc.org</a>
Strip District	Neighbors in the Strip	<a href="http://www.neighborsinthestrip.com">www.neighborsinthestrip.com</a>
Uptown	Uptown Community Action Group	<a href="http://www.outreach.duq.edu/uptownaction.html">www.outreach.duq.edu/uptownaction.html</a>
West End	Elliot Citizens Council West Pittsburgh Partnership	<a href="http://www.wecc.org">www.wecc.org</a> <a href="http://www.westpittsburgh.org">www.westpittsburgh.org</a>





Photo: Shane Martin

# APPENDIX D: Black & Gold City Goes Green 2009 & 2010 Individual Action Calendars

2010 CALENDAR

MONTHLY ACTIONS

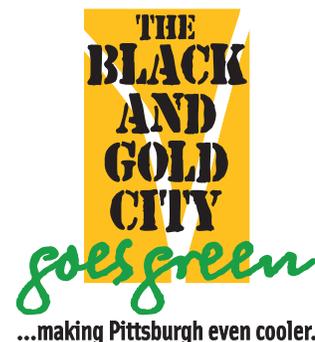
		GREEN	GREENER	GREENEST
<b>Home Energy</b>	Jan.	Change your light bulbs from incandescent to compact fluorescent.	Turn off the lights when you leave a room.	Get an Energy Audit.
	Feb.	Apply ENERGY STAR® computer settings.	Buy ENERGY STAR® appliances.	Buy green energy.
	Mar.	Turn your furnace thermostat down two degrees.	Install a programmable thermostat.	Get your furnace professionally serviced.
<b>Water</b>	Apr.	Stop drinking bottled water.	Set your water heater to 120 degrees.	Plant one or more drought-resistant native trees.
	May	Take shorter showers.	Turn off the water while you wash your hair and while you shave.	Install a low-flow showerhead.
	Jun.	Always run full loads in the washer and dishwasher.	Insulate water heating pipes.	Install a tankless water heater and/or install a rain barrel.
<b>Food and Waste</b>	Jul.	Recycle everything you can.	Compost at home.	Opt for cloth over disposable napkins and hand towels.
	Aug.	Have one meatless day per week.	Shop local – especially at our farmer's markets and farm stands.	Buy organic.
	Sep.	Join Freecycle or pick a resale shop and start donating things you don't need or want.	Cancel your junk mail and sign up for paperless e-billing.	Bring reuseable bags when shopping.
<b>Transportation</b>	Oct.	Don't use your car one day a week – carpool, walk, bike, sign up for rideshare, or take the bus.	Avoid short trips and plan trips well.	Make the change permanent. Dump your gas guzzler and buy a bus pass, a hybrid fuel vehicle, a bike or use a ZipCar.
	Nov.	Drive at the speed limit.	Check your tire pressure.	Don't idle your car for more than 20 seconds.
	Dec.	Clean out your trunk.	Use the recommended grade of oil.	Take your car in for scheduled maintenance.



## Monthly Actions

### March – December, 2009

Each month, we will offer one main action, with additional actions offered to those who want to do more.



	Green	Greener	Greenest
<b>March</b>	Change a light bulb from incandescent to compact fluorescent	Change three light bulbs	Change all your light bulbs
<b>April</b>	Set your water heater to 120 degrees	Install a programmable thermostat	Get your furnace professionally serviced
<b>May</b>	Check your tire pressure and drive at the speed limit	Don't use your car one day a week - carpool, walk, bike, sign up for rideshare, or take the bus	Make the change permanent - Dump your gas guzzler and buy a yearly bus pass, a hybrid or alternative fuel vehicle, upgrade your bike, or use ZipCar
<b>June</b>	Recycle everything you can	Cancel your junk mail and sign up for paperless e-billing	Join Freecycle or pick a resale shop and start donating things you don't want/need
<b>July</b>	Turn the air conditioner thermostat up 2 degrees	Air dry your clothes whenever possible, instead of using a clothes dryer	Buy green energy and reduce your peak energy use
<b>August</b>	Shop local - especially at our farmer's markets and farm stands	Compost at home	Install a tankless water heater and/or install a rain barrel
<b>September</b>	Go Green back to school with recycled products	Apply ENERGY STAR® computer settings	Buy ENERGY STAR appliances
<b>October</b>	Turn your furnace thermostat down 2 degrees	Get an Energy Audit	Insulate your home
<b>November</b>	Wash your clothes in cold water	Install a low-flow showerhead	Plant one or more drought-resistant native trees
<b>December - Green your celebration</b>	Re-use brown paper or newspaper, or use reusable boxes or bags to wrap presents	Switch your holiday lights to LED	Give a donation to the planet instead of a gift to one person you love - and tell her/him why
<b>Bonus ideas</b>	Bring reusable bags when shopping	Take your car in for scheduled maintenance	Get rid of your gasoline-powered lawn tools

Many of these actions are suggested by the Pittsburgh Climate Action Plan  
(<http://www.pittsburghclimate.org/documents/PittsburghClimateActionPlan.pdf>)

To report your actions, go to [www.theblackandgoldcitygoesgreen.com](http://www.theblackandgoldcitygoesgreen.com)  
and join the campaign today!





Photo: David Fulmer

## APPENDIX E:

# Existing Organizations Performing Climate Actions in Greater Pittsburgh

### 10,000 FRIENDS OF PENNSYLVANIA

10,000 Friends of Pennsylvania is an alliance of organizations and individuals dedicated to land use policies and actions that will strengthen Pennsylvania's communities, protect environmental quality, conserve fiscal resources, and preserve rural and heritage resources. The organization provides education and research on policies that support their goals to revitalize existing communities and business districts; strengthen local, regional, and Commonwealth land use planning and consistency of implementation through legislation, education, and incentives; encourage future development near existing infrastructure; reduce traffic congestion and air and water pollution; provide housing for people of all ages and incomes in our communities; protect historic, natural, agricultural, and recreation areas; and reduce land and resource consumption.

[www.10000friends.org](http://www.10000friends.org)

#### Contact:

Grant Ervin, *Pittsburgh Policy Director*  
425 Sixth Avenue, Suite 1740  
Regional Enterprise Tower  
Pittsburgh, PA 15219  
(412) 471-3727  
[ervin@10000friends.org](mailto:ervin@10000friends.org)

### ACTION HOUSING, INC.

ACTION Housing endeavors to empower people to build more secure and self-sufficient lives through the provision of decent, affordable housing, essential supportive services, asset building programs, and educational and employment opportunities. The organization provides energy audits and weatherization assistance for low-income residents and is currently developing the Pittsburgh

Green House, a project that will serve as a demonstration tool to educate contractors and educators about how to renovate existing residential structures in an affordable and practical way that lowers home heating and cooling costs and utility bills.

[www.actionhousinggreen.org](http://www.actionhousinggreen.org)

#### Contact:

Lawrence Swanson, *Executive Director*  
425 Sixth Avenue, Suite 950  
Pittsburgh, PA 15219-1819  
(412) 281-2102  
[ahi@actionhousing.org](mailto:ahi@actionhousing.org)

### AFFORDABLE COMFORT, INC.

Affordable Comfort seeks to advance the performance of residential buildings through unbiased education, so that every family has a home that is energy efficient, durable, comfortable, healthy, and safe--and every community has access to and values skilled home performance services.

[www.affordablecomfort.org](http://www.affordablecomfort.org)

#### Contact:

Amy Fazio, *Executive Director*  
One Thorn Run Center  
1187 Thorn Run Extension, Suite 625  
Moon Township, PA 15108  
(800) 344-4866  
[afazio@affordablecomfort.org](mailto:afazio@affordablecomfort.org)

### ALLEGHENY CLEANWAYS

Allegheny CleanWays works to eliminate illegal dumping and littering in Pennsylvania. In order to achieve this goal, the organization organizes cleanups in local communities, provides public education on the environmental costs of littering and illegal dumping, and undertakes

beautification projects on former dumpsites.

[www.allegheycleanways.org](http://www.allegheycleanways.org)

**Contact:**

Mary Wilson, *Executive Director*

33 Terminal Way

Pittsburgh, PA 15219

(412) 381-1301

[pacw\\_ac@hotmail.com](mailto:pacw_ac@hotmail.com)

**ALLEGHENY COUNTY SANITARY  
AUTHORITY (ALCOSAN)**

ALCOSAN provides wastewater treatment services to 83 communities including the City of Pittsburgh. ALCOSAN's 59-acre treatment plant is one of the largest wastewater treatment facilities in the Ohio River Valley, processing up to 250 million gallons of wastewater daily. The organization's mission is to provide cost effective, customer oriented and environmentally conscious wastewater treatment that protects public health and enhances the use of our natural resources. As a nonprofit agency, ALCOSAN is funded solely by user fees with capital funds raised through the sale of sewer revenue bonds.

[www.alcosan.org/](http://www.alcosan.org/)

**Contact:**

Arletta Scott Williams, *Executive Director*

3300 Preble Avenue

Pittsburgh, PA 15233

(412) 766-4810

[arletta.williams@alcosan.org](mailto:arletta.williams@alcosan.org)

**ALLEGHENY LAND TRUST (ALT)**

Allegheny Land Trust works with local residents to protect land in and adjacent to Allegheny County that contributes to the scenic, recreational, educational, and environmental wealth of our communities. In cooperation with community groups, ALT builds and maintains hiking trails at its wildlife preserves to enable people of all ages and backgrounds to learn

about the wild and enjoy a sense of wilderness close to home.

[www.alleghenylantrust.org](http://www.alleghenylantrust.org)

**Contact:**

Roy Kraynyk, *Executive Director*

The Car Barn Shops

409 Broad Street, Suite 206A

Sewickley, PA 15143

(412) 741-2750

[rkraynyk@alleghenylantrust.org](mailto:rkraynyk@alleghenylantrust.org)

**AUDUBON SOCIETY OF WESTERN  
PENNSYLVANIA (ASWP)**

ASWP works to inspire and educate the people of Southwestern Pennsylvania to be respectful and responsible stewards of the natural world. The ASWP works toward this mission by providing year-round nature and environmental education programming to students, children, families, adults, and teachers. The organization also manages two nature reserves in Southwestern Pennsylvania. [www.aswp.org](http://www.aswp.org)

**Contact:**

Jim Bonner, *Executive Director*

614 Dorseyville Road

Pittsburgh, PA 15238

(412) 963-6100

[jbbonner@aswp.org](mailto:jbbonner@aswp.org)

**BIKE PITTSBURGH**

Bike Pittsburgh advocates for the use of bicycles as a clean, green, and healthy alternative form of transportation, which includes advocating for infrastructure changes in the City of Pittsburgh to allow for the acceptance and safety of bicyclists. Bike Pittsburgh works to protect cyclist's rights and promote the vision of making Pittsburgh a safer and more enjoyable place to live and to ride. The organization acts as an educational resource and provides a variety of useful information such as a climate change fact sheet entitled "The Bicycle - Seven Wonders for

a Cool Planet.”

[www.bike-pgh.org](http://www.bike-pgh.org)

**Contact:**

Scott Bricker, *Executive Director*

3410 Penn Ave

Pittsburgh, PA 15219

(412) 325-4334

[scott@bike-pgh.org](mailto:scott@bike-pgh.org)

### CITIZENS CLIMATE CORPS

Citizens Climate Corps is a grassroots, community-based nonprofit organization that advocates for solutions to reducing greenhouse gas emissions. Volunteers undertake projects that quantifiably reduce greenhouse gas emissions and allow them to disconnect from the issue at the end of the action. Past projects have included lobbying to integrate composting at Giant Eagle and meatless Monday campaigns in the schools.

[www.citizensclimatecorps.org](http://www.citizensclimatecorps.org)

**Contact:**

[citizensclimatecorps@gmail.com](mailto:citizensclimatecorps@gmail.com)

### CITIZENS FOR PENNSYLVANIA’S FUTURE (PENNFUTURE)

PennFuture works to create a just future where nature, communities and the economy thrive. The statewide nonprofit enforces environmental laws and advocates for the transformation of public policy, public opinion and the marketplace to restore and protect the environment and safeguard public health. PennFuture advances effective solutions for the problems of pollution, sprawl and global warming; mobilizes citizens; crafts compelling communications; and provides excellent legal services and policy analysis.

[www.pennfuture.org](http://www.pennfuture.org)

**Contact:**

Heather Sage, *Vice President*

425 6th Ave., Suite 2770

Pittsburgh, PA 15219

(412) 258-6680

[sage@pennfuture.org](mailto:sage@pennfuture.org)

### CLEAN WATER ACTION

Clean Water Action is a national organization of diverse people and groups working together to assure supplies of clean, safe, and affordable water for all Americans, now and in the future; prevent health-threatening pollution at its source; build an economy based on environmentally safe jobs and businesses; and empower people to take charge of their environmental future. To reach these goals, Clean Water Action organizes grassroots coalitions and campaigns to solve environmental and community problems, and works to elect progressive and pro-environment candidates at every level of government.

[www.cleanwater.org](http://www.cleanwater.org)

**Contact:**

Myron Arnowitt, *Pennsylvania State Director*

100 Fifth Avenue, #1108

Pittsburgh, PA 15222

(412) 765-3053

[marnowitt@cleanwater.org](mailto:marnowitt@cleanwater.org)

### CONSERVATION CONSULTANTS INC. (CCI)

CCI focuses on energy conservation education in Western Pennsylvania. CCI’s Energy Conservation Program includes residential energy audits, which serve to advise residents on how to reduce their energy consumption; CCI completes 5,000 audits per year. CCI built and operates the CCI Center, a LEED Gold building on Pittsburgh’s South Side that houses several environmental nonprofit organizations. The CCI Center is used as a tool to educate the public about green buildings and technologies. In 2008, CCI received the Governor’s Environmental Excellence Award for

their educational programs with high school and college students focusing on renewable energy technologies.

[www.ccicenter.org](http://www.ccicenter.org)

**Contact:**

Ann Gerace, *Executive Director*  
64 South 14th Street  
Pittsburgh, PA 15203-1548  
(412) 431-4449  
[anng@ccicenter.org](mailto:anng@ccicenter.org)

### CONSTRUCTION JUNCTION

Construction Junction is committed to environmental stewardship in waste prevention through the practice of reuse. Construction Junction accepts donations of building materials, which it then resells. This practice reduces the burden on landfills and helps conserve natural resources by reducing the energy use and pollution associated with manufacturing new materials. Construction Junction also offers recycling services for Freon appliances, non-Freon appliances, and scrap metal; it also serves as a drop-off station for the City of Pittsburgh's recycling program.

[www.constructionjunction.org](http://www.constructionjunction.org)

**Contact:**

Mike Gable, *Executive Director*  
214 North Lexington Street  
Pittsburgh, PA 15208  
(412) 243-5025  
[mgable@constructionjunction.org](mailto:mgable@constructionjunction.org)

### EAST END FOOD CO-OP

The East End Food Co-op is Pittsburgh's only member-owned natural and organic food market, serving the community since 1977. They are committed to the cooperative principles of concern for community and building a strong local economy. In their mission to bring healthy food to the community, the Co-op also strives to build local consumer ownership

and participation while operating under the triple bottom line. They offer in-store classes and workshops, consumer information, and volunteer opportunities and support sustainable food, environmental responsibility and the community.

[www.eastendfood.coop](http://www.eastendfood.coop)

**Contact:**

Rob Baran, *General Manager*  
7516 Meade Street  
Pittsburgh, PA 15208  
(412) 242-3598  
[rbaran@eastendfood.coop](mailto:rbaran@eastendfood.coop)

### EAST LIBERTY DEVELOPMENT, INC. (ELDI)

ELDI is a nonprofit community development corporation that focuses on the East Liberty neighborhood of Pittsburgh. In fostering the revitalization of East Liberty, ELDI has implemented a multi-year design and redevelopment plan, which includes Mellon's Orchard South, a LEED for Neighborhood Development pilot project. ELDI is also developing a green corridor and advocating for bike lanes on Liberty Avenue.

[www.eastliberty.org](http://www.eastliberty.org)

**Contact:**

Nathan Wildfire, *Sustainable Policy Coordinator*  
Liberty Bank Building, Suite 201  
6101 Penn Avenue  
Pittsburgh, PA 15206-3924  
(412) 361-8061  
[nathan.wildfire@eastliberty.org](mailto:nathan.wildfire@eastliberty.org)

### ECODESIGNER'S GUILD

ecoDesigner's Guild is a group of local professional designers working together to inform, empower and inspire the community and its leaders to further sustainable practices at home, in urban and green spaces, and

the collective culture. eDG is comprised of designers, engineers, architects, artists, writers, and other residents--all bringing unique abilities to help solve local problems. Previous projects include installing green screens, rain barrels, and other artistic and environmental improvements to enhance vacant lots.

<http://ecodesignersguild.posterous.com>

**Contact:**

[ecodesignersguild@gmail.com](mailto:ecodesignersguild@gmail.com)

**FREecycle**

The Freecycle Network™ is made up of 4,944 groups with 8,449,161 members around the world. It is a nonprofit, grassroots movement of people who donate and receive items for free locally. The network's mission is to build a worldwide gifting movement that reduces waste, saves resources, and redirects usable items from landfills while enabling their members to be benefit from being in a larger community. Each local group is moderated by local volunteers and membership is free.

[www.freecycle.org](http://www.freecycle.org)

**Contact:**

[pittsburgh\\_freecycle-owner@yahoo.com](mailto:pittsburgh_freecycle-owner@yahoo.com)

**FRIENDS OF THE RIVERFRONT**

Friends of the Riverfront has been involved in creating nearly all of the trails along Pittsburgh's rivers. Through intense collaboration with community partners, government officials, and a diverse volunteer base, Pittsburgh's rivers and riverfronts have been transformed from industrial wastelands to international examples of environmental renewal.

[www.friendsoftheriverfront.org](http://www.friendsoftheriverfront.org)

**Contact:**

Thomas Baxter, *Executive Director*  
33 Terminal Way  
Pittsburgh, PA 15219

(412) 488-0212

[friends@friendsoftheriverfront.org](mailto:friends@friendsoftheriverfront.org)

**GLOBAL LINKS**

Global Links is a Pittsburgh-based international medical relief and development organization with a two-fold mission. The organization works to improve the health and lives of people in resource-poor communities throughout Latin America and the Caribbean, while providing hospitals in the region with a socially and environmentally beneficial alternative to sending hundreds of tons of still-useful surplus materials to landfills. Global Links' innovative model of recovery and reuse of medical surplus converts an environmental burden to a life-saving purpose, creating a "virtuous circle." Redirecting medical surplus saves space in landfills, which are large contributors to global greenhouse gas emissions, and helps facilities reduce their storage and disposal costs.

[www.globallinks.org](http://www.globallinks.org)

**Contact:**

Kathleen Hower, *CEO & Co-Founder*  
4809 Penn Avenue, #2  
Pittsburgh, PA 15224  
(412) 361-3424  
[info@globallinks.org](mailto:info@globallinks.org)

**GREEN BUILDING ALLIANCE (GBA)**

Green Building Alliance is a community benefits organization that inspires the creation of healthy, high performing places for everyone by providing leadership that connects knowledge, transformative ideas, and collaborative action. GBA was founded in 1993 and was one of the first U.S. Green Building Council affiliate organizations. GBA continues to be a catalyst in our region and strives to meet the ever-growing and ever-changing demands of the green building marketplace through multiple programs and initiatives.

[www.go-gba.org](http://www.go-gba.org)

**Contact:**

Mike Schiller, *CEO*  
333 East Carson Street, Suite 331  
Pittsburgh, PA 15219  
(412) 431-0709  
[info@gbapgh.org](mailto:info@gbapgh.org)

**GREEN DRINKS**

Green Drinks is an informal, monthly meet-up session for people in the environmental field. Attendees are a mix of people from nonprofit organizations, academia, government, and business; the sessions serve as a way of catching up with people in the field and also for making new contacts. The events are simple, unstructured, and meant to be a casual networking opportunity for all levels of professionals in the field.

[www.greendrinks.org/PA/Pittsburgh](http://www.greendrinks.org/PA/Pittsburgh)

**Contact:**

[pittsburghgreendrinks@gmail.com](mailto:pittsburghgreendrinks@gmail.com)

**GROUP AGAINST SMOG AND POLLUTION (GASP)**

GASP is a nonprofit organization in Southwestern Pennsylvania that works for a healthy and sustainable environment. Founded in 1969, GASP focuses on Pittsburgh-area air quality issues with education, litigation, and policy creation. Through education, encouragement, and implementation, GASP advocates for the reduction of diesel emissions from sources such as school buses and Port Authority transit.

[www.gasp-pgh.org](http://www.gasp-pgh.org)

**Contact:**

Rachel Filippini, *Executive Director*  
5135 Penn Avenue  
Pittsburgh, PA 15224  
(412) 924-0604  
[gasp@gasp-pgh.org](mailto:gasp@gasp-pgh.org)

**GROW PITTSBURGH**

Grow Pittsburgh funds and oversees a variety of urban agriculture projects, focusing on community involvement and the production of local food. With regard to climate change, urban agriculture has a major opportunity to reduce greenhouse gas emissions by using small-scale, low energy production practices and eliminating the need for long distance, carbon-emitting transportation methods. Grow Pittsburgh's urban farming programs, such as the Edible Schoolyard, use simple farming strategies that feature low gasoline and fertilizer usage and a low carbon impact. Grow Pittsburgh also incorporates green technologies like biofuel and solar power, which helps increase local awareness about these opportunities.

[www.growpittsburgh.org](http://www.growpittsburgh.org)

**Contact:**

Julie Butcher Pezzino, *Executive Director*  
5429 Penn Avenue  
Pittsburgh, PA 15206  
(412) 473-2542  
[jpezzino@growpittsburgh.org](mailto:jpezzino@growpittsburgh.org)

**GTECH STRATEGIES: GROWTH THROUGH ENERGY AND COMMUNITY HEALTH**

GTECH Strategies merges community development and principles of sustainability into a synthesized model for sustainable community development. GTECH's vision is to establish a fundamental shift in urban revitalization by bundling environmental stewardship and innovation with economic development. GTECH utilizes vacant land as a mechanism to extend the "green economy" opportunity into marginalized neighborhoods. Currently, GTECH has biofuel crop projects on 15 acres of vacant, blighted, or abandoned land in five Pittsburgh communities; these projects have the potential of producing 1,500 gallons of vegetable oil for biodiesel.

[www.gtechstrategies.org](http://www.gtechstrategies.org)

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**THE KINGSLEY ASSOCIATION**

Based in East Liberty, the Kingsley Association is a nonprofit organization focused on providing comprehensive cultural, educational, recreational, and social programming that positively impacts the lives of youth, their families, and the community. Kingsley has been actively involved in the sustainable development efforts in the Larimer neighborhood of Pittsburgh by helping integrate local, healthy food supplies, green jobs, and non-fossil fuel development in community redevelopment efforts.  
[www.kingsleyassociation.org](http://www.kingsleyassociation.org)

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**NINE MILE RUN WATERSHED ASSOCIATION**

The mission of the Nine Mile Run Watershed Association is to ensure the restoration and protection of the Nine Mile Run watershed through resident engagement, demonstration projects, and advocacy. At the core of this mission is the belief that people are inextricably linked with the natural environment. The choices people make, such as how to treat their lawns and gardens, what to buy, what to throw away, and what cars to drive, have a profound effect on the environment.  
[www.ninemilerun.org](http://www.ninemilerun.org)

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**PENNSYLVANIA ASSOCIATION FOR SUSTAINABLE AGRICULTURE (PASA)**

PASA works to increase the number of farms and the economic viability of existing farms in Pennsylvania by building markets for local and sustainably produced food, providing educational programs and opportunities for new farmers, and providing information and education on farmer-developed value-added products. PASA also increases consumer awareness about health and safe food through advocating, educating, and networking with hunger and food advocacy groups throughout the state.  
[www.pasafarming.org](http://www.pasafarming.org)

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**PENNSYLVANIA BIODIVERSITY PARTNERSHIP (PBP)**

The PBP brings together organizations and individuals with diverse interests and backgrounds to promote the conservation of native species and their habitats. PBP members represent conservation and environmental organizations, government agencies, business and industry, scientists and academic institutions, educators, sportsmen, and private landowners. PBP's mission is to conserve biodiversity statewide by fostering communication and cooperation among

everyone in Pennsylvania concerned with natural resource values. The organization educates people about the importance of biodiversity, advises state agencies and encourages them to take a leadership role in the conservation of biodiversity, promotes voluntary conservation on private lands, and advocates for both public and private biodiversity long-term conservation initiatives.

[www.pabiodiversity.org](http://www.pabiodiversity.org)

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### PENNSYLVANIA ENVIRONMENTAL COUNCIL (PEC)

Pennsylvania Environmental Council (PEC) is a statewide organization whose mission is to protect and restore the natural and built environments through innovation, collaboration, education, and advocacy. PEC believes in the value of partnerships with the private sector, government, communities and individuals to improve the quality of life for all Pennsylvanians. In June 2007, PEC released the *Pennsylvania Climate Change Roadmap*, an inventory of the state's greenhouse gas emissions and a strategy for reduction. PEC also completed the first greenhouse gas inventory and climate action plan for Allegheny County's government operations and the inventory and plan for the Community College of Allegheny County.

[www.pecpa.org](http://www.pecpa.org)

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### PHIPPS CONSERVATORY AND BOTANICAL GARDENS

Originally built in 1893, Phipps Conservatory and Botanical Gardens is a cultural Pittsburgh attraction devoted to inspiring and educating visitors on plant life while advancing sustainability and biodiversity through action and research. More recently, green building has been a core practice of Phipps as they have constructed a LEED Silver welcome center, highly efficient and innovative tropical forest conservatory production greenhouses, and an under construction Center for Sustainable Landscapes that aspires to meet or exceed the Living Building Challenge, LEED Platinum certification, and SITES Certification for landscapes.

<http://phipps.conservatory.org/>

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### PITTSBURGH DOWNTOWN PARTNERSHIP

The Pittsburgh Downtown Partnership strives to make Downtown Pittsburgh the premier location to live, work, shop, dine, play, and visit. The organization works toward this goal by cleaning public spaces, providing safety liaison assistance, supporting improvements, marketing Downtown, and by forming partnerships with businesses, nonprofits, and property owners.

[www.downtownpittsburgh.com](http://www.downtownpittsburgh.com)

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### PENNSYLVANIA RESOURCES COUNCIL (PRC)

Established in 1939, PRC is one of oldest local resident action environmental organizations. PRC focuses on waste reduction and recycling, in addition to litter and visual blight prevention, watershed awareness, and composting. PRC has offices in Pittsburgh and Delaware County.  
[www.prc.org](http://www.prc.org)

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### PENNSYLVANIA STATE UNIVERSITY COOPERATIVE EXTENSION

The Pennsylvania State University Cooperative Extension is an educational network that gives people in Pennsylvania's 67 counties (including Allegheny County) access to Pennsylvania State University's resources and expertise. Through this county-based partnership, Pennsylvania State University extension agents, faculty, and local volunteers work together to share unbiased, research-based information with local residents. PSCE helps individuals, families, businesses, and communities with information and a broad range of educational programs that build caring, safe, and healthy communities by ensuring the long-term vitality of Pennsylvania's natural resources and enabling people to better understand and deal with complex public issues.  
<http://allegheny.extension.psu.edu>

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### PITTSBURGH GARDEN EXPERIMENT

The Pittsburgh Garden Experiment (PGE) is a nonprofit educational and outreach project that works to create a forum for organic growing in Pittsburgh where gardeners can connect, interact, and pool resources. Regular educational programming is offered for both experienced gardeners and newcomers.  
[www.pittsburghgardenexperiment.com](http://www.pittsburghgardenexperiment.com)

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### PITTSBURGH HISTORY AND LANDMARKS FOUNDATION (PHLF)

PHLF is a grassroots, nonprofit, historic preservation organization, which has shown that architectural landmarks and historic neighborhoods are community assets and that historic preservation can be a catalyst for urban renewal. By exploring and discovering local history and architecture, people are more likely to preserve older buildings and thoughtfully consider the impact of new building proposals. Through student/teacher workshops, tours, exhibits, and a variety of educational programs, PHLF encourages people to notice and appreciate historic buildings, parks, public spaces, bridges, and streets that make up the City of Pittsburgh and its neighborhoods, composing the special character of the Pittsburgh region.  
[www.phlf.org](http://www.phlf.org)

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### PITTSBURGH PARKS CONSERVANCY

The Pittsburgh Parks Conservancy, in partnership with the City of Pittsburgh, works to restore, renew, revitalize, and preserve Pittsburgh's four large parks: Frick, Highland, Riverview and Schenley. Restoration efforts are conducted with environmental sensitivity and respect for the parks' historic landscape design and the recreational needs of modern users.

[www.pittsburghparks.org](http://www.pittsburghparks.org)

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### PITTSBURGH PERMACULTURE

Pittsburgh Permaculture promotes environmentally sound food production in intentional ecosystems in Southwestern Pennsylvania. The organization serves as a repository for permaculture information by offering details on various aspects of landscape design to the public. Additionally, the organization tracks experiments, follows projects, and publicizes upcoming events. Pittsburgh Permaculture is also home to Pittsburgh Food Forests, a community-based project that implemented a community permaculture design project in 2010, Hazelwood Food Forest. The group is currently performing design and installation on the Borland Green Ecological Garden in East Liberty.

[www.pittsburghpermaculture.org](http://www.pittsburghpermaculture.org)

**Contact:**

[info@pittsburghpermaculture.org](mailto:info@pittsburghpermaculture.org)

### THE PITTSBURGH PROJECT

The Pittsburgh Project has served Pittsburgh's most vulnerable residents for 23 years. The organization operates a progressive series of

after-school programs for young urban students; deploys over 2,500 people annually to perform free home repairs for Pittsburgh's in-need elderly homeowners; outfits college students for urban service and leadership; and spearheads economic development and anti-violence efforts in Pittsburgh.

[www.pittsburghproject.org](http://www.pittsburghproject.org)

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### PITTSBURGH REGION CLEAN CITIES

Clean Cities is a U.S. Department of Energy program that aims to advance the energy, economic, and environmental security of the United States by supporting local decisions that adopt practices to reduce the use of petroleum in the transportation sector. The goal of this national program is to reduce petroleum consumption by 2.5 billion gallons by 2020 through greater use of mass transit, replacement of petroleum for transportation with alternative fuels, and the use of fuel efficient vehicles.

[www.pgh-cleancities.org](http://www.pgh-cleancities.org)

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[coordinator@pgh-cleancities.org](mailto:coordinator@pgh-cleancities.org)

### RACHEL CARSON HOMESTEAD

The Rachel Carson Homestead Association preserves, restores, and interprets Rachel Carson's birthplace and childhood home to the public. The organization also designs and implements education programs and resources

in keeping with Carson’s environmental ethic, particularly to live in harmony with nature, preserve and learn from natural places, minimize the effect of manmade chemicals on the natural systems of the world, and consider the implications of human actions on the global web of life.

[www.rachelcarsonhomestead.org](http://www.rachelcarsonhomestead.org)

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**RIVERQUEST**

RiverQuest is a nonprofit educational organization that operates a river learning center for students, teachers, and the Southwestern Pennsylvania community. Formal education programs for students and teachers provide innovative river-based experiential education programs that motivate students to learn, enhance school curricula by linking classroom theory to real world applications, improve critical thinking and cooperative learning, and instill a new understanding and appreciation for the region’s waterways. Public programs and summer camps present educational and interpretive opportunities for the public to learn about and experience the natural beauty and rich history of Pittsburgh’s waterways.

[www.riverquest.org](http://www.riverquest.org)

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**SIERRA CLUB**

The mission of the Sierra Club is to explore, enjoy, and protect the wild places of the earth; practice and promote the responsible use of the earth’s ecosystems and resources; educate and enlist humanity to protect and restore the quality of the natural and human environment; and use all lawful means to carry out these objectives. The Allegheny County Sierra Club office focuses on educating and engaging community members in local environmental issues. As part of the Cool Communities campaign, Sierra Club works with cities, counties, boroughs, and townships to decrease their global warming emissions.

[www.alleghenysc.org](http://www.alleghenysc.org)

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**SLOW FOOD**

Pittsburgh Slow Food is an international educational organization dedicated to the revival of the kitchen and the table as centers of pleasure, culture, and community. Slow Food is dedicated to the invigoration and proliferation of regional, seasonal culinary traditions; to the stewardship of the land and ecologically sound food production; and to leading a slower and more harmonious life. Slow Food Pittsburgh offers a variety of events from simple tastings to restaurant dinners to community support events; all have an educational component.

[www.slowfoodpgh.com](http://www.slowfoodpgh.com)

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[sfpinfo@slowfoodpgh.com](mailto:sfpinfo@slowfoodpgh.com)

### **SOUTHWESTERN PENNSYLVANIA COMMISSION (SPC)**

The Southwestern Pennsylvania Commission is the region's forum for collaboration, planning, and public decision-making. As the official Metropolitan Planning Organization (MPO) for the ten-county Southwestern Pennsylvania region, SPC is responsible for planning and prioritizing the use of all state and federal transportation funds allocated to the region, establishing regional economic development priorities, and providing a wide range of public services. SPC operates an Energy Savings Program to help local organizations reduce energy costs through energy efficiency and demand side energy management, as well as the CommuteInfo program that provides commuters and employers resources on how to make work and school-based commuting trips using transit, vanpool, carpool, biking, or walking. [www.spcregion.org](http://www.spcregion.org)

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### **STUDENT CONSERVATION ASSOCIATION (SCA)**

SCA is a national conservation force of college and high school volunteers who protect parks and restore the environment. In an effort to connect young people to the land, SCA members work every day as rangers, researchers, and educators. SCA has three Pittsburgh region programs: the Conservation Leadership Corps, Summer Commuter Crews, and Green Cities Sustainability Corps. The Green Cities Sustainability Corps seeks place trained and experienced college graduates with local agencies looking to mitigate climate change, develop and/or implement policies and

actions that address sustainability, and provide meaningful opportunities to its corps members while expanding the capacity of the partnering agencies.

[www.thesca.org](http://www.thesca.org)

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### **SUSTAINABLE PITTSBURGH**

Sustainable Pittsburgh advocates for clean and sustainable communities and businesses in the Pittsburgh region. The organization aims to integrate economic prosperity, social equity, and environmental quality by bringing sustainable solutions to local communities and businesses. In order to advance these goals in the region, the organization has focused smart growth, natural amenities, regional equitable development, public transportation, sustainable business solutions, sustainable community solutions, and civic engagement and education. By educating and engaging decision-makers on these issues, Sustainable Pittsburgh elevates expectations for integration of environment, economy, and equity across the geography of government and institutions.

[www.sustainablepittsburgh.org](http://www.sustainablepittsburgh.org)

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### **THREE RIVERS RAIN GARDEN ALLIANCE**

Three Rivers Rain Garden Alliance is a collaborative effort of businesses, nonprofits, educational institutions, and governmental

agencies that help to advocate for and facilitate the installation of rain gardens in the Pittsburgh region. The Alliance has three main components of education and outreach, rain garden installation, and promotion of the Alliance. Any organization can elect to participate at different levels with the Alliance by becoming Members, Partners, or Steering Committee Members.

[www.raingardenalliance.org](http://www.raingardenalliance.org)

**Contact:**

[info@raingardenalliance.org](mailto:info@raingardenalliance.org)

### TRANSITION PITTSBURGH

Transition Pittsburgh is a local chapter of global movement that supports community-led responses to climate change and shrinking supplies of cheap energy, while “building resilience and happiness.” Billed as a “network hub for low-energy living,” its members collaborate to share ideas and work towards building a movement for sustainable change.

[www.transitionpgh.org](http://www.transitionpgh.org)

### TREE PITTSBURGH

Tree Pittsburgh is a nonprofit organization that works with the City, community groups, and residents to plant, maintain, and protect urban trees. The organization carries out fundraising, outreach, and education and aims to enhance city vitality by restoring and protecting the urban forest. One of Tree Pittsburgh’s signature programs is Tree Tenders, which provides training courses that educate community members on how to care for young street trees to help ensure their survival and health.

[www.treepittsburgh.org](http://www.treepittsburgh.org)

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### TREEVITALIZE

TreeVitalize Pittsburgh is a joint project of Allegheny County, the City of Pittsburgh, the Pennsylvania Department of Conservation & Natural Resources, and the Western Pennsylvania Conservancy. Working in partnership with community groups, nonprofit organizations, and municipal agencies, TreeVitalize will plant 20,000 trees throughout the Pittsburgh region by 2012. As of November 2011, 10,300 trees had been planted in Allegheny County. In addition to street tree plantings, TreeVitalize Pittsburgh also enables Tree Pittsburgh to train tree tenders and provide ongoing community support.

[www.treevitalizepgh.org](http://www.treevitalizepgh.org)

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### THE UNION PROJECT

Through the restoration and reuse of the abandoned former Union Baptist Church, the Union Project provides a neighborhood space for artists, community builders, and people of faiths to connect, create, and celebrate. Key to meeting its mission and focusing on sustainability, the Union Project houses enterprises dedicated to place-based efforts to transform communities and their residents through economic and community development opportunities, hands-on service to cultivate investment and leadership, and the formation of constructive relationships among neighbors.

[www.unionproject.org](http://www.unionproject.org)

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### VENTURE OUTDOORS

By increasing participation in outdoor recreational activity, Venture Outdoors seeks to create a sense of community among participants and foster a better understanding of and a deeper appreciation for the environment and wilderness among Western Pennsylvania residents and visitors. As this region works hard to maintain and/or grow its population base while stimulating economic development, Western Pennsylvania's many outdoor attractions can provide a focal point of activities and pride for residents and visitors alike.

[www.ventureoutdoors.org](http://www.ventureoutdoors.org)

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### WESTERN PENNSYLVANIA CONSERVANCY (WPC)

The Western Pennsylvania Conservancy protects, conserves, and restores land, water, and wildlife for the benefit of the region's diverse plants, animals, and ecosystems. Through science-based strategies, collaboration, leadership, and recognition of the relationship between humankind and nature, WPC achieves tangible conservation outcomes for present and future generations. WPC operates facilities across Western Pennsylvania.

[www.paconserve.org](http://www.paconserve.org)

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