

VISIONTEAMS

Imagining Allegheny County's Tomorrow



Executive Summary

The Energy and Environment Vision Team found that County government can improve its operations while encouraging economic development and energy conservation by implementing certain changes in its management structure, and modifying its focus to acknowledge the development opportunities arising from shale gas development. At the same time, the county must continue to wield its power to maintain and improve environmental protection and public health, safety and welfare.

Additionally, the County should seize the opportunity to be at the forefront of energy efficiency and sustainability by reducing energy use, reusing and repurposing public buildings, reducing maintenance costs by centralizing management of facilities and systematically incentivizing sustainability and energy conservation.

Most importantly, by simultaneously serving as a leader in energy conservation and renewable energy technology, financial savings can be realized for County taxpayers.

With this, the following recommendations are submitted:

- **Encourage Environmentally and Fiscally Responsible Shale Gas Development and Practices**
 - Support and encourage environmentally responsible shale gas development and production and, where economical, support new gas-powered electricity generation initiatives, encouraging the development and ongoing refinement of 'best practices' and minimizing negative impacts on the public and the community.
 - Work closely with other government entities, and private or public organizations to coordinate and encourage economic development relating to shale gas and its derivatives, while protecting the safety of county environment and County residents.
 - Evaluate, develop, and encourage uses for natural gas for example, in vehicles and factories, because of the increase in demand will encourage more production, and thus more employment and opportunity in our region.
 - Encourage the use of natural gas powered vehicles, and the installation of CNG fueling stations. To that end, the county should consider entering into public-private partnerships with companies that are already performing vehicle retrofits and developing CNG fueling stations.
 - Engage in an ongoing dialogue with industry and work to make companies more inclined to move development and operations to Allegheny County.
 - Identify and evaluate developable sites in the County, including those that are currently underutilized or undervalued, as attractive for use as industrial sites, particularly for industries that will find the affordability and abundance of natural gas an advantage or will easily be able to use the byproducts of natural gas.
 - Highlight the availability of natural gas and its potential to help keep gas and electricity services affordable and to act as a draw attract new business to Allegheny County.
- **Promote Comprehensive Planning and Multi-government Cooperation**
 - Evaluate Allegheny Places, Allegheny County's comprehensive plan, to determine whether any amendment is appropriate in light of the desirability for alternative energy development, including shale gas development.
 - Endeavor to work with local municipalities to do the following: ensure the proper planning for alternative energy production/development such as natural gas pipelines and other high-impact and/or large-scale issues;

encourage coordinated and multi-municipal planning where appropriate; provide assistance in updating and coordinating municipal ordinances in light of applicable law, and in consideration of the comprehensive plan, Allegheny Places; support efforts for Fleet Vehicle grants and provide grant writing support for local municipalities, authorities and non-profits with fleets so that they can apply for these grants; coordinate regulatory review to aid pipeline installers with permitting and planning; and advocate for and support changes to local permitting requirements for all renewable energy projects to standardize and streamline those requirements across municipalities.

- **Ensure Health and Public Safety**

- Monitor all reports on public safety and health and specifically track the development of data from the new Washington County air monitoring system established by the Pennsylvania Department of Environmental Protection. Utilizing the first responder approach and recommendations in Act 13, train EMS, fire, and police to respond to potential health issues and supplement funding so that first responders will be able to appropriately respond to emergency conditions that arise at Marcellus Shale gas drilling sites.
- Designate some portion of Act 13 revenue derived from drilling for natural gas to support health, safety review and training

- **Support Environmentally Appropriate Development on County Property**

- Identify all county owned property, and property owned by county related entities, and explores development opportunities with respect to the County's natural resources.
- Endeavor to refrain from allowing surface disturbance of County parks.

- **Encourage Production and Efficient Use of Electricity**

- Encourage practices that minimize electricity use and cost for its own facilities and for the residents and businesses of the County, and should encourage the production of electricity via alternative resources including natural gas, solar and wind power.
- Create incentives for County employees to proactively engage in and support appropriate energy conservation practices.
- Designate and empower one County employee as responsible for decisions on a variety of energy-related issues to increase efficiencies.
- Encourage wider participation among municipalities in the bulk purchases of energy programs.

- **Manage Facilities and Operations as Valuable Assets**

- Manage all County properties and facilities in a standard, comprehensive, cost-effective manner, as these properties and facilities are valuable and substantial tangible asset.
- Create a director-level position responsible for management of all County properties and facilities and empower them to make and enforce decisions regarding standards and increased energy efficiency; the Green Action Team should serve in an advisory role.

- **Ensure Safety and Exploit the Availability of Cleaner, Low-Cost Natural Gas for Vehicles**
 - Acquire, maintain and utilize all vehicles that it owns or operates in a safe and cost-effective manner.
 - Use natural gas vehicles.

- **Create a Culture that Promotes the Highest Standards of Health and Safety**
 - Adopt a “Safety at All Times” culture for County facilities and employees, and develop and implement a Safety Plan to improve safety metrics and the overall safety culture within the County workforce.
 - Advocate that portions of public funds be allocated to the Pennsylvania Department of Health to allow it to work with appropriate local resources to conduct research and develop background databases on the public health impacts of local issues.

- **Promote Sustainability in Private/Municipal Energy Programs**
 - Advocate for a region of energy conservation.
 - Encourage municipalities to use Energy Star portfolio management to track and assess energy and water consumption.
 - Maintain a clearinghouse for information on cost-savings opportunities and energy efficiency programs for municipal governments and authorities.
 - Assist municipalities in updating municipal ordinances to include requiring green infrastructure.
 - Provide assistance to help municipalities update their ordinances or implement projects consistent with a municipalities adopted green infrastructure ordinance.
 - Develop or encourage the development of a model storm water ordinance that integrates the use of green infrastructure to the maximum extent practical and/or provide example language and have it available online.
 - Develop or encourage the development of a model municipal ordinance relating to zoning and permitting for renewable energy products.
 - Coordinate programs offering subsidized home energy audits/weatherization programs for county residents to ensure widespread access to a program.
 - Create and implement an Allegheny Sunshine Program to help county businesses and households to install solar technology, to advance solar businesses, and stimulate the local solar market.
 - Coordinate programs offering energy conservation programs and resources for Commercial and Industrial properties and publicize to encourage non-residential county citizen participation.

- **Prepare Students to Meet the Demands of Industry Jobs**

- Encourage the use of local training programs and unions to prepare students for careers that can be used in the shale gas industry and connect the students to industry contractors.
- Evaluate all energy-related jobs in the County and determine if there is training available in the County, either through a formal institution or through an organization such as a union, for residents who want to be employed by those jobs. If no training is available for a particular job, explore options for making the training available, such as creating a certificate program at Allegheny County Community College. Then confirm that employees on job sites owned by Allegheny County meet applicable training requirements.
- Establish a program to direct displaced workers to energy-related job training programs offered by formal institutions and organizations, including the Allegheny County Community College Marcellus Shale Initiative; and
- Consider methods to encourage local employment on energy-related projects, including the feasibility of including such requirements in County contracts, or in contracts with any County financial support.
- Explore the potential for incentivizing local employment.

Vision Team Charge

The Energy and Environment Vision Team was charged with looking at energy and the environment and the opportunities that oil, natural gas, electricity and renewable energy sources, including solar and wind power, provide for economic growth and job creation in our region. The Vision Team was also directed to give equal attention to County efforts to protect the environment, including water and air quality, and ensure that development of energy is minimally invasive to our communities.

Scope of Work/Summary of Methodology

The Energy and Environment Vision Team has found that County government can improve its operations while encouraging economic development and energy conservations by implementing certain changes in its management structure and modifying its focus to acknowledge the development opportunities arising from the identification of shale gas in the County and the region.

Allegheny County should support a safe and viable natural gas industry in the County and in the Commonwealth, while wielding its power to maintain and improve environmental protection and public health, safety and welfare. This will increase employment, reduce energy costs, and build our local and regional economy.

The County can reduce its energy use, reuse and repurpose public buildings, reduce maintenance costs by centralizing management of property and facilities, and systematically incentivizing sustainability and energy conservation

At the same time, the County can encourage the use of new technology and lower cost natural gas, support the growing industry and serve as a leader in energy conservation and renewable energy technology, increasing financial savings and thus reducing expense to all County taxpayers.

Scope of Work

The Vision Team segmented its approach to the broad topics covered by its charge, endeavoring to address the administrative functions and the financial interests of the County as well as those issues on which the County might properly take an advocacy position. In its work, the Vision Team additionally accounted for issues of sustainability, intergovernmental cooperation, environmental protection, employment opportunities, and diversity.

In the arena of Shale Gas, the Vision Team considered drilling and gathering of natural gas, land use planning and local regulatory approvals, emergency management issues, Act 13 impact fees, and the potential for development on County owned and controlled property

The Vision Team delved into issues surrounding the production and use of electricity. It investigated viable sources of power generation, including solar, wind, water, coal and natural gas, the desirability of certain generation resources, the County's electricity use and the possibility of incentives to encourage use of renewable resources.

Considering County facilities and operations allowed the Vision Team to address the use of energy resources and available conservation opportunities in the operation and maintenance of properties and

The County also has the ability – either directly or indirectly – to address Energy and Environment issues in public programs addressing health, employment, energy conservation, and air and water quality. The Vision Team explored these areas in developing its recommendations.

Summary of Methodology

The entire Vision Team met seven times, including March 22, April 26, May 24, June 6, June 20, July 11, and July 25. During the course of these meetings, the entire Team discussed a variety of issues surrounding shale gas development, facilities and operations, and various sources of electricity. The Vision Team also broke into two separate subcommittees: Facilities and Operations, which held three separate meetings on May 29, June 12, and June 26; and Electricity Production, which held its three meetings on May 30, June 13, and June 28.

The Facilities and Operations Subcommittee focused on providing recommendations involving Allegheny County properties, vehicles, and the Port Authority of Allegheny County. The Electricity Production Subcommittee focused on providing recommendations involving all potentially viable source of electricity, County uses of electricity, and County

incentives to reduce electricity use. The Energy and Environment Vision Team as a whole was charged with providing recommendations regarding shale gas development and public programs as well as considering, editing, and approving subcommittee recommendations.

External resources utilized to develop recommendations included websites, reports, and invited topic experts from various organizations and companies. Certain guests were invited to address the Vision Team and its subcommittees including representatives from P.C. McKenzie Company, Green Action Team, PennFuture, Steamfitters Local Union, and Dr. Bernard D. Goldstein. The Vision Team members – many of whom are experts in their own fields – were encouraged to review and consider a variety of other available resources, including, but not limited to the documents and reference materials made available to the members, as is set forth at the conclusion of this report. Documents were uploaded and shared with Team members using the Concert-oh file sharing and meeting website.

Public Input

The Vision Team held a Listening Session on May 24. Members of the public who were unable to attend the Listening Session to voice their questions and concerns were encouraged to submit comments to the Team via www.richfitzgerald.com, and all comments submitted after the Session were distributed to members of the Vision Team.

Subjects of public comment, question, and concern offered at the Listening Session and via email comment regarding energy and the environment in Allegheny County included the following:

- Will the natural gas extracted in Allegheny County be used in Allegheny County or be transported for use elsewhere?
- Will natural gas drilling in Pennsylvania create only temporary jobs or will long-term jobs for Western Pennsylvanians exist?
- Will property values be decreased as a result of nearby shale drilling?
- What are the exact constituents (chemical species) of hydro fracturing fluid?
- Do best practices exist and is technology available that will ensure public and environmental health and welfare? If not, then what can be done to develop and require the use of best practices at all times?
- If unconventional gas economics are not sustainable, what can be done to prevent a future collapse of the industry?
- What will be the legacy left from shale drilling?

The Listening Session also resulted in some specific recommendations regarding energy and the environment in Allegheny County include the following:

- Clean Energy Funds (CEFs) or renewable energy fund (REFs) should be used to provide investments for renewable energy, clean energy, or energy efficiency projects;
- Public promotion or development of projects to increase conservation and energy efficiency, especially through culture change, should begin or be coordinated throughout the County to provide maximum public access to the programs;
- Explore using the American Recovery and Reinvestment Act (ARRA) to provide money for green jobs and energy efficiency in Allegheny County;
- Develop and improve reliable and comprehensive mass transit, especially electric and/or natural gas public and County transportation and electric and/or natural gas vehicle recharging and refueling stations;
- Advocate for the development of CNG fueling facilities throughout the County;
- A viable and sustainable natural gas industry must be created in Allegheny County to ensure the local use of extracted natural gas and long-term job creation for local workers; and

- Collaborate with conservation organizations to reclaim land impacted by extraction to minimize the negative legacy left from shale drilling.

Findings & Recommendations

Findings

The presence of Marcellus Shale gas in Pennsylvania and Allegheny County presents a unique opportunity for the County to exploit, manage, and protect all that surrounds the resource and industry, all to the benefit of Allegheny County citizens and citizens of the entire region. Allegheny County should exert its efforts to improve environmental and public protection and support a safe and viable natural gas industry in the County and in the Commonwealth. We recognize that the authority of local government may be limited by the Pennsylvania's Oil and Gas Law, as recently amended by Act 13 of 2012. There are, however, many opportunities for the influence of County government to enhance the protections of our environment and public health and the ongoing economic development of our County and our region. Since natural gas is a low-cost, cleaner burning fuel that is being extracted locally, we should encourage the use of natural gas within the County at current and future industrial sites and in vehicles. Allegheny County should work closely with the shale gas industry to manage the planning of shale gas drilling and transportation within the County so as to minimize impacts and have comprehensive and consistent planning for future work.

County owned and controlled property should be operated with an eye toward energy efficiency, conservation and maximization of resources. Management and scheduling of repair and maintenance duties will enable cost effective utilization of employees and equipment, bulk purchases and advanced planning for future space needs. Facility matters are currently addressed intra-departmentally with no universal system of allocation or inventory. By centralizing property management in one department, the County can identify all County owned property and to manage it more effectively.

The Green Action Team, created in 2008, provided goals for 2010 to 2015 to decrease water usage, decrease the carbon footprint, increase fuel efficiency, decrease energy usage, and obtain LEED certification for certain buildings in Allegheny County. Since the County is on track to meet the goals, these goals should be increased to challenge facilities to continue improving resource uses and provide a central framework for reporting resource use and then manage facilities more appropriately.

Water conservation efforts should include implementation of green infrastructure to minimize the impacts of stormwater runoff. To provide funds for conservation projects, a policy should be implemented to return and invest a portion of sustainable measures implementation cost savings back into the projects related to resource conservation. Cost savings quantified and recorded, and returned to the property where savings are recognized can provide incentives for additional conservation efforts.

The County would similarly benefit from an established framework to evaluate the number and quality of fleet vehicles and other energy consuming equipment and determine the best alternatives for assignment, cost, and carbon footprint of the vehicles.

Centralized review and management of electricity use would tend to focus County staff on reducing electricity consumption and developing and completing projects with an eye toward conservation. The County, through an agreement with NORESO, completed an energy audit of several of its facilities that has resulted in implementation of practices that reduced energy consumption and resulted in utility savings to the County. Programs are currently in place to perform home audits and weatherization projects for Allegheny County residents. Coordinating conservation projects for both private property and public buildings and facilities can lower their energy usage and cost and can develop employment opportunities for the trained individuals performing the work. Central control would also encourage the evaluation of available electricity generation technology, as well as programs and grants to support and fund improved technology. The County will be able to supervise completion of projects, gather data on use and cost savings, and coordinate evaluation of prospective projects.

The County can expand its current participation in the program for the bulk purchase of electricity and identify appropriate partners, perhaps including municipal governments, authorities, schools and other public and private entities, to continue to reduce electricity costs. In this way, the County can take a leadership role in energy conservation and renewable energy technology while leading the way to further financial savings, thus reducing the expense to all County taxpayers.

Recommendations

Shale Gas Development

Allegheny County should support and encourage environmentally responsible shale gas development and production and, where economical, support new gas-powered electricity generation initiatives, encouraging the development and ongoing refinement of ‘best practices’ and minimizing negative impacts on the public, the environment and the community. With that in mind, the county should encourage green well completions in advance of EPA’s 2015 deadline.

The County should work closely with other government entities and private or public organizations to coordinate and encourage economic development relating to shale gas and its derivatives, while protecting the safety of County environment and County residents. These would include the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Community and Economic Development, the Allegheny Conference, local foundations, colleges and universities, and any other entities that have interests in this area.

The County should evaluate, develop, and encourage uses for natural gas – for example, in vehicles and factories – as the increase in demand will encourage more production, and thus more employment and opportunity in our region. Encouraging multiple uses of natural gas such as alternative fuel for vehicles, manufacturing, and power generation facilities will spur economic development.

The County should encourage the use of natural gas powered vehicles and the installation of CNG fueling stations. To that end, the County should consider entering into public-private partnerships with companies that are already performing vehicle retrofits and developing CNG fueling stations.

Allegheny County is the “geographic center” of the shale industry in this region and the most advantageous location for establishing business offices and corporate headquarters. It should engage in an ongoing dialogue with industry and work to make companies more inclined to move development and operations to Allegheny County.

Developable sites in the County, including those that are currently underutilized or undervalued, should be identified and evaluated as attractive for use as industrial sites, particularly for industries that will find the affordability and abundance of natural gas an advantage or will use the byproducts of natural gas. In this identification and evaluation process, the County should specifically consider areas that are near established transport routes using pipelines or shipping containers and should be prepared to promote the development or redevelopment of those sites.

The County should highlight the availability of natural gas and its potential to help keep gas and electricity services affordable for consumers as a draw to attract new business to Allegheny County.

Comprehensive Planning and Multi-government Cooperation

Allegheny Places, Allegheny County’s comprehensive plan, should be evaluated to determine whether any amendment is appropriate in light of the desirability for alternative energy development, including shale gas development.

The County should endeavor to work with local municipalities to do the following:

- Ensure the proper planning for alternative energy production/development such as natural gas pipelines and other high-impact and/or large-scale issues;

- Encourage coordinated and multi-municipal planning where appropriate;
- Provide assistance in updating and coordinating municipal ordinances in light of applicable law, and in consideration of the comprehensive plan, Allegheny Places;
- Support efforts for Fleet Vehicle grants and provide grant writing support for local municipalities, authorities and non-profits with fleets so that they can apply for these grants; and
- Coordinate regulatory review to aid pipeline installers with permitting and planning.

Health and Public Safety

The County should monitor all reports on public safety and health and specifically track the development of data from the new Washington County air monitoring system established by the Pennsylvania Department of Environmental Protection.

- Utilizing the first responder approach and recommendation in Act 13, the County should train EMS, fire, and police to respond to potential health issues and supplement funding so that first responders will be able to appropriately respond to emergency conditions that arise at Marcellus Shale gas drilling sites; and
- The County should consider designating some portion of Act 13 revenue derived from drilling for natural gas to support health, safety review and training.

Development on County Property

The County should identify all County owned property, and property owned by County related entities and should explore opportunities with respect to the County's natural resources.

As part of the identification process, the County should be evaluating the properties for suitability for drilling, considering, among other things, the impact on communities, both residential and commercial, traffic access, available water sources, and anticipated location of any drill site.

Communication with industry and use of the Allegheny Places Comprehensive Plan (Allegheny Places) will allow for determination of ideal development locations and placement of pipelines within applicable regulations.

Recognizing that parks are special and important places that should be preserved for the benefit and use of all, the Vision Team recommends that the County should endeavor to refrain from allowing the disturbance of surfaces of County parks. If any disturbance is necessary, the disturbance should be very limited in both extent and duration. Further, a portion of any income to the County derived from natural gas production in the parks should be returned to the parks for restoration and improvement.

For any County properties determined to be appropriate for the development of energy resources, especially shale gas drilling, effort should be made to limit the impact to the property, the adjacent community, and to public uses of the property.

- Any RFP soliciting proposals for drilling on County property should direct that proposers to consider any potential negative impacts on local communities, both residential and commercial, including traffic, noise, and access issues and require that any proposers should use established 'best practices';

- On drilling sites owned by the County, employees should have certain specific levels of training, and if possible, Allegheny County residents should be preferred for employment;
- The County should emphasize meeting applicable federal, state, and County air and water quality requirements and regulations;
- Before any drilling occurring on Allegheny County owned property or for Allegheny County owned natural gas rights, a public forum should be conducted to obtain input from residents who live in or near the municipality where the activity is to occur; and
- Consideration should be given to available scientific data related to air and water quality to make appropriate recommendations as to conditions for future leasing of County property.

Production of Electricity

Allegheny County should encourage practices that minimize electricity use and cost for its own facilities and for the residents and businesses of the County and should encourage the production of electricity via alternative resources including natural gas, solar, and wind power.

For improving direct County performance, the Vision Team recommends that the County:

- Create a director level position empowered to make and enforce decisions on a variety of energy-related issues, including pursuing grants for energy projects, identifying new electrical generating technology for County facilities, selecting alternate energy suppliers for the County's purchase of electricity, and collaborating with other entities to make bulk purchases of electricity. All County policy and personnel should be mandated to comply with such decisions and to direct County resources so as to ensure compliance;
- Evaluate, using industry expertise, Pittsburgh Allegheny County Thermal, Ltd. (PACT) to determine potential strategies to increase efficiency for energy production for downtown Allegheny County facilities;
- Regularly evaluate alternate electrical generating technology, including any that uses natural gas as a fuel source, to determine if any new technology would result in cost-savings and/or minimize the County's carbon footprint. Make appropriate recommendations based on these evaluations;
- Regularly evaluate the availability of grants for funding new energy technology applications, particularly renewable energy projects, and apply for appropriate grants;
- Regularly evaluate the energy conservation and energy efficiency practices used by the County to determine if any new practices would be appropriate for the County to implement. Make appropriate recommendations based on these evaluations;
- Regularly evaluate prices of alternate electricity suppliers to obtain the lowest possible price with minimal environmental impact for County electricity purchases;
- Track developments on Act 129 Energy and Conservation Program for the purpose of identifying any funds that may be available for County energy projects; and

- Continue to collaborate with other governmental entities to make bulk purchases of electricity and encourage the expansion of participation.

In its work with other governmental agencies and residential and commercial citizens, the Vision Team urges the County to do the following:

- Encourage County municipalities to fully evaluate the option of selecting an alternate energy supplier as a means for lowering their electricity bills;
- Support County municipalities in exploring ways to use more renewable energy, employ more energy efficiency/energy conservation practices, and offer the assistance of any knowledgeable County employees;
- Advocate for and support changes to local permitting requirements for all renewable energy projects so as to standardize and streamline those requirements across municipalities and otherwise remove impediments to the development of renewable energy facilities throughout the County. Consider advocating for a model municipal ordinance relating to zoning and permitting for renewable energy projects;
- Educate the public about the significance of shale gas development to electricity generation and pricing, including that: a.) the emergence of shale gas has resulted in a surge of regional gas production that has led to lower natural gas prices, which, in turn, has led to lower electricity prices for residents and businesses in Allegheny County; and b.) the continued availability of shale gas will significantly affect the prices of both electricity and natural gas for residents and businesses in Allegheny County;
- Provide information to enable residents and businesses to make appropriate choices of cost-effective electricity providers as a means for lowering their electricity bills. Track plans for default residential providers and advocate for the appropriate lowest possible default rate;
- Investigate potential incentives to foster better energy choices, such as purchasing more energy-efficient appliances and employing energy conservation practices such as painting building roofs white or creating green roofs;
- Promote the evaluation of all available electrical generating technology, including that fueled by natural gas to increase available cost-effective and efficient production; and
- Encourage both residents and businesses to use more renewable energy technology so as to lessen their carbon footprint.

Facilities and Operations

The County should endeavor to manage all County properties and facilities in a standard, comprehensive, cost-effective manner, as these properties and facilities are the most valuable and substantial tangible asset and offer a ready opportunity for cost savings and sustainability.

The Vision Team recommends that Allegheny County designate or form a director-level department to be responsible for management of all County properties and facilities. By doing so, the County can establish systems that do the following:

- Give authority, responsibility, and necessary budget to one Department with the knowledge and skill best suited to make decisions regarding the management of all aspects of properties and facilities, from

strategic facility planning (space compression, allocation, procurement/leasing, etc.) to daily preventative maintenance, capital budgeting, maintenance and operations, janitorial and mechanical systems and programs;

- Globally prioritize work to be performed;
- Develop conservation and sustainability goals, and measure progress toward achieving those goals; and
- Apply industry best practices and standard measurements of cost savings – operating cost/square foot in evaluating utilization and performance of facilities and properties.

The director of this department should have skills and experience in building systems, construction, accounting and budgeting, and should be or become familiar with the following:

- Building Owners and Managers Association (BOMA) 360 Program is a total management program that covers everything from Security to Sustainability to occupant satisfaction and everything in between;
- BOMA Stars in BOMA's Energy Star benchmarking program; and
- BOMA BEEP Program (BOMA's Energy and Efficiency Program) is a 6-course educational program on building operating efficiency methods geared for building engineering and managers.

This department should implement a comprehensive plan of energy efficiency and energy conservation practices throughout the County's facilities, including weatherization practices, creating green roofs, or other practices especially those that are low-cost and easy to perform such as the following:

- Enter into Green leases for all facilities, as new leases come due;
- Utilize Green Cleaning products, nontoxic building materials, and Integrated Pest Management (IPM) for all County facilities and advocate the same for all County Authorities – to reduce toxic chemicals from interior facilities, enhancing indoor environmental health;
- Require Energy Star standards in equipment procurement for County and all Authorities;
- Commit the County to the U.S. Department of Energy's (DOE) Better Building Challenge of 20% higher efficiency of buildings by 2020;
- Provide a feedback mechanism to each County facility to give employees the opportunity to voice opinions on energy and water resource usage to give ownership to individuals and change the conservation culture within a facility;
- Create incentives for County employees to proactively engage in/support appropriate energy conservation practices. Monitor the energy savings and cost savings achieved by these activities and publicize the data (i.e. the County saved "x" dollars by following these practices). One possible incentive is to direct the savings resulting from the conservation practices back to the facility or Department where the practices were implemented to fund infrastructure, other improvements, enhancements, or further conservation practices;
- Conduct research on available County leaseholds and explore opportunities with respect to the County's natural resources. The County may then leverage this asset towards reducing natural gas costs; and

- Develop a policy that returns and invests at least 40% of any cost savings resulting from conservation or sustainable measures implementation back into conservation projects or deferred maintenance projects that are related to energy conservation. By providing that the policy cost savings is quantified and a fund is created by the money saved that could potentially fund the department as well.

The Green Action Team should serve in an advisory role to the director of this department. And furthermore, since the Goals for 2015 of the Green Action Team, as part of Allegheny Green, were on track to be met, those goals should be increased as follows:

- From 20% to 35% water usage reduction;
- From 20% to 35% carbon footprint reduction;
- 5% to 10% increase in fuel efficiency of fleet vehicles;
- From 20% to 35% energy use (gas & electricity) reduction;
- Meet LEED Existing Building Standards for facilities larger than 20,000 sq. ft. by 2018, although certification is not necessary; and
- Link performance measurement of all departments to achieving these objectives.

Water usage and control are also a focus of facilities management, thus the Vision Team suggests the County do the following:

- Prioritize facility plumbing system repairs and periodic maintenance and consider instituting a “fast response” team and process as part of the work order system, to effectively address small leaks in a timely manner. Any major leaks or ruptured water lines should be immediately reported and repaired as soon as possible;
- Initiate an aggressive leak detection and repair program at the County Parks, which are a major consumer of water for the County;
- Practice water conservation in County buildings, including but not limited to: turning off faucets when not in use. Where financially possible upgrade to low flow or waterless equipment;
- Ensure that all water-based chilling equipment that qualifies for a sewage-deduct meter receives the appropriate financial credit and that all water-consuming recreational systems (golf course irrigation, snow-making, etc.) are equipped with a deduct-meter, to avoid sewage charges for these water uses;
- Review all installations of once-through water-cooled chilling systems at County facilities to assess impact on water usage and associate costs, along with opportunities and costs for replacement to air-cooled systems or conversion to closed loop water-chilled systems;
- Review proposed parks landscape additions and projects; limit hours for non-recirculating water fountains and water play features; research technologies with the potential of providing water savings such as faucet aerators and automatic irrigation rain shut-off devices that monitor according to the moisture content of the air and the soil;
- Limit County vehicle washing to appropriate levels considering for health, sanitation, and safety reasons;

- Use green infrastructure on County owned property while promoting the same for County authorities. Develop incentives and requirements for all new developments or areas of re-development and in all County-funded projects;
 - Analyze and implement where possible infiltration-based storm water best management practices such as rain gardens, bioswales, and bioretention.
 - Utilize green roofs whenever possible to mitigate stormwater, enhance energy efficiency, enhance bio-diversity, and provide aesthetic qualities for properties in proximity of the structure. Roofs are typically wasted real estate that could serve as storm water management facilities, alternatives to potable water use for irrigation and toilet flush water and photovoltaic (PV) generation facilities.
 - New construction and re-roofing projects should require engineering and architectural evaluation of opportunities to reduce storm water discharges through the use of green roofs, rainwater capture and reuse or combinations of both.
 - Consider life-cycle benefits of the likely doubling of roof life when installed in combination with green roofs in cost decisions. Target designs to reduce roof runoff on average 60% during the recreational boating season and at least 25% in the off-season.
 - Utilize pervious paving options whenever possible for sidewalks and in low speed traffic areas such as parking lots and moderately used roads to mitigate stormwater for all new developments or areas of re-development.
 - Evaluate opportunities to convert impermeable paving to pervious and/or grass paving systems. Grass parking would be especially appropriate where winter snow removal is not an issue such as swimming pool parking lots. Provide escrow funding for design-life maintenance in the cost of any purchases of alternative paving systems.
- Research and evaluate the current Allegheny County Act 167 Stormwater Management Plan and identify, or create an appropriate institution/entity(ies) capable of addressing stormwater management on a comprehensive, equitable, hydrology (watershed) basis, which would also consider regulatory compliance, costs, and incentives to promote effective and efficient stormwater management best practices; and
- Implement and advocate for institutional changes at the Allegheny County Conservation District and Penn State Extension to take a more active role in sustainable stormwater management and education.

Vehicles

The County should endeavor to acquire, maintain and utilize all vehicles that it owns or operates in a safe and cost-effective manner, recognizing and endeavoring to exploit the availability of cleaner, low-cost natural gas. The Vision Team has learned that approximately 700 fleet vehicles and 500 additional pieces of motorized equipment (lawnmowers, etc.) are used within the County. Increasing the use of natural gas as a vehicle fuel also serves to increase demand for natural gas, thus favorably impacting economic development and employment in our region.

In its effort to improve utilization and maintenance of its vehicles and equipment, the Vision Team recommends that the County do the following:

- Analyze the County fleet for best alternative fuel options regarding operations and implementation, carbon and criteria pollutant reduction, return-on-investment, and initial cost. Retire high emissions mowers, etc. via the scrap market, not resale, to permanently reduce this source of volatile organic compound (VOC) emissions;
- Enact policies that require full staff compliance with fuel measurement and tracking systems. Presently available consumption, use, and vehicle history data offer a somewhat skewed analysis because of varied use of vehicles;
- Benchmark against other Counties and review the internal budgeting structure involved with fleet vehicles to establish policies to drive selection of fuel-efficient vehicles by departments;
- Review and reconsider limitations on purchase of used or refurbished heavy machinery that are likely to be less efficient;
- Consider ending the practice of “remaindering” 6-cylinder police vehicles to become fleet vehicles, as these vehicles are high fuel consumers;
- Conduct County-wide review of vehicles and assess the feasibility of converting vehicles to run on alternative fuels. Explore all avenues of funding including federal, state, and other private foundations for support to convert or acquire natural gas powered vehicles;
- Consider the use of compressed natural gas (CNG) fueled or dual fueled vehicles, including the potential to retrofit vehicles;
- Consider the practicality of supplementing fuel sources with alternative fuels such as biofuels;
- Advocate and provide leadership in the effort to analyze CNG fleet conversion and illustrate the potential benefits to the City of Pittsburgh, local municipalities, and other County authorities; and
- Advocate for the use of clean vehicles by County contractors and support a County procurement policy that provides preference for contractors using clean alternative fuel vehicles.
- Encourage the Port Authority of Allegheny County to evaluate the conversion of Port Authority vehicles to run on alternative fuels and explore all avenues of funding including private/public partnerships. Share with Port Authority management the results of the County’s evaluation of its own fleet.

Public Programs

- **Health and Safety**

- Adopt a “Safety at All Times” culture for County facilities and employees, and develop and implement a Safety Plan to improve safety metrics and the overall safety culture within the County workforce;
- Advocate that portions of public funds be allocated to the Pennsylvania Department of Health to allow it to work with appropriate local resources to conduct research and develop background databases on the public health impacts of local issues;

- Emphasize meeting applicable federal and state air quality requirements and regulations; and
- Ensure that air quality monitoring stations and emission control systems are working appropriately. The County should track developments of air monitoring systems to ensure accurate data collection and analysis.

- **Private/Municipal Energy Programs**

- Advocate for a region of energy conservation;
- Encourage municipalities to use Energy Star portfolio management to track and assess energy and water consumption;
- Maintain a clearinghouse for information on cost-savings opportunities and energy efficiency programs for municipal governments and authorities;
- Assist municipalities in updating municipal ordinances to include requiring green infrastructure;
- Develop or encourage the development of a model stormwater ordinance that integrates the use of green infrastructure to the maximum extent practical and/or provide example language and have it available online;
- Provide assistance to help municipalities update their ordinances or implement projects consistent with a municipality's adopted green infrastructure ordinance;
- Coordinate programs offering subsidized home energy audits/weatherization programs for County residents to ensure widespread access to a program. Evaluate the need for development of additional energy conservation programs and develop it if necessary;
- Create and implement an Allegheny Sunshine Program to help County businesses and households to install solar technology, to advance solar businesses, and stimulate the local solar market. Initial recommendations of the Clean Energy Finance Center, through the DOE Rooftop Challenge, include five possible finance scenarios for solar in the Allegheny County region. (The Clean Energy Finance Center report should be finalized September 1, 2012); and
- Coordinate programs offering energy conservation programs and resources for Commercial and Industrial properties and publicize to encourage non-residential County citizen participation.

- **Jobs**

The County should encourage the use of local training programs and unions to prepare people for careers that can be used in the shale gas industry and connect them to industry contractors. Standard training and knowledge could be taught so that there is a common minimum knowledge level. Appropriate training should be developed and coordinated with trade unions, community colleges, and local trade or technical school. Education on drug free requirements and drug testing should be considered and implemented to promote a drug-free workplace and industry.

- Evaluate all energy-related jobs in the County and determine if there is training available in the County, either through a formal institution or through an organization such as a union, for residents who want to be employed by those jobs. If no training is available for a particular job, explore options

for making the training available, such as creating a certificate program at Allegheny County Community College. Then confirm that employees on job sites owned by Allegheny County meet applicable training requirements;

- Establish a program to direct displaced workers to energy-related job training programs offered by formal institutions and organizations, including the Allegheny County Community College Marcellus Shale Initiative; and
- Consider methods to encourage local employment on energy-related projects, including the feasibility of including such requirements in County contracts, or in contracts with any County financial support. Explore the potential for incentivizing local employment.

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