



13 ***Energy*** ***Conservation*** ***Plan***

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The availability of energy resources is important to residents, businesses, developers, institutions, and all levels of government. Energy heats and cools our indoor environments, fuels our vehicles, and powers our computers, appliances, and equipment. Energy is critical to our modern personal, vocational and professional lifestyles and, as continuing technology advancements are made, our reliance on energy resources increases.



The Pennsylvania Municipalities Planning Code (MPC) encourages the incorporation of an energy conservation component in the comprehensive plan. Due to the increasing concern for the limits and environmental impacts of non-renewable resources, as well as interest in energy alternatives, an Energy Conservation Plan was determined to be a necessary element of the Lebanon County Comprehensive Plan.

MPC Option: *To promote energy conservation and the effective utilization of renewable energy sources, the comprehensive plan may include an energy conservation plan element which systematically analyzes the impact of each other component and element of the comprehensive plan on the present and future use of energy in the municipality, details specific measures contained in the other plan elements designed to reduce energy consumption and proposes other measures that the municipality may take to reduce energy consumption and to promote the effective utilization of renewable energy sources.*

MPC Article III, Section 301.1

The Lebanon County Energy Conservation Plan is presented in four major sections. The first presents findings from the *Energy Conservation Profile, Background Study #10*, including trends in energy use from both industry and localized perspectives. Secondly, a strategic analysis of these findings lays the foundation for a countywide energy policy. The third section discusses the interrelationships that energy and other elements of the comprehensive plan share. Finally, a vision for energy conservation in the county and an Action Plan conclude the chapter.

Overview Findings from the Energy Conservation Profile

A detailed profile of energy sources, uses and conservation practices was compiled prior to the development of the Energy Conservation Plan. Key findings from this research and analysis include the following:

- Modern society is reliant on energy for commercial, industrial, and residential uses and for travel and transportation among these uses. Energy is required for the construction and operation of most of our modern built facilities in both the public and private sectors. The vast majority of transportation modes used

today are motorized and powered by gasoline or other fuels. As the technology in our modern personal, business and community lifestyles increases, so too does our demand and reliance on energy resources.

- Sources of energy used in modern commercial, industrial and residential uses include:
 - renewable sources, such as solar, geothermal, wind, and wood;
 - non-renewable sources such as coal, propane, and various petroleum products; and
 - hybrid fuels such as biodiesel and ethanol blends.
- The selection of an energy source for a particular use depends on what types of energy is needed and what sources are available.
- Energy use and rates of consumption for any individual site or operation are influenced by a number of factors: climate, site design, building size and materials, operational costs of equipment and transportation needs.
- The cost of energy impacts both public and private sectors. Residents pay energy bills for home heating, electricity, and fuel costs for travel. Business and industry, including the farming community, pay the equipment costs of processing and production and transportation costs to import supplies and export products and service. Community institutions pay for facility heating, electricity, and business travel.
- The price of electricity in Pennsylvania has grown steadily over the past 45 years with dramatic increases during the 1970s and early 1980s; the prices of gasoline and diesel fuel have increased dramatically since 2001.
- Increasingly the cost of energy is measured by consumers in terms of its monetary cost of production and transmission as well as its environmental impacts. Under Pennsylvania's restructuring of its retail electric power markets, customers of Pennsylvania's eight largest investor-owned utilities were allowed a greater choice in the source (and impacts) of their electricity generation from their transmission service provider.
- Lebanon County residents rely heavily on non-renewable sources of fuel for home heating. Fuel oil is the most popular energy source in Lebanon County for home heating; 55.7% of all housing units rely on fuel oil, compared to 25.5% across the state. Utility or natural gas is the second highest fuel in demand for home heating, followed by electricity.



- Energy production in Lebanon County is limited to a small electric generation plant in South Lebanon Township, a methane recovery generator at the county landfill, and wind mills and solar panels serving private properties. Ethanol producers have actively pursued development of sites in the south central Pennsylvania region but none in Lebanon County.

Specific energy conservation initiatives that are occurring within the farming community in Lebanon County include installing solar panels on poultry houses and utilizing computer chips in brooders that reduce propane consumption by 30%.

- Consumption of gasoline has decreased over the last couple of years while the consumption of diesel fuel has increased.

Table 13-1 Gasoline and Diesel Fuel Sales and Price Increases in Pennsylvania, 1995-2004

Year	Gasoline Sales		Gasoline Price		Diesel Sales		Diesel Price	
	1000 gallons/day	% Change	\$	% Change	1000 gallons/day	% Change	\$	% Change
1995	13,988.2		\$1.23		97,145.6			
1996	13,986.0	0.0	\$1.31	6.4	102,756.6	5.8		
1997	13,977.2	-0.1	\$1.30	-0.8	105,457.9	2.6	\$1.24	
1998	13,778.0	-1.4	\$1.10	-14.9	111,178.3	5.4	\$1.13	-9.1
1999	14,017.3	1.7	\$1.19	8.1	117,448.9	5.6	\$1.19	5.1
2000	14,001.2	-0.1	\$1.56	30.9	119,326.3	1.6	\$1.60	35.2
2001	14,238.6	1.7	\$1.49	-4.6	123,612.9	3.6	\$1.48	-8.0
2002	13,921.2	-2.2	\$1.41	-5.2	120,944.5	-2.2	\$1.40	-4.9
2003	13,201.4	-5.2	\$1.64	16.1	125,026.3	3.4	\$1.63	16.4
2004	13,111.8	-0.7	\$1.93	17.9	129,277.6	3.4	\$1.90	16.6
2005			\$2.35	21.7			\$2.50	31.2

Source: Energy Information Administration, www.eia.doe.gov.

- Across the Commonwealth and the nation, biodiesel fuel production and use are rising. Biodiesel use has increased more than 50 times in the past five years, and is easier and cheaper to produce than ethanol.
- There are many programs that are available to residents to assist in making smart energy and cost saving choices. By using programs such as the Energy Star program and associated guidelines, homeowners can become more energy efficient, thus reducing long term operating costs and making household energy costs more affordable.



- Energy conservation efforts in the transportation sector are typically aimed at changing to more efficient or cleaner burning fuels, or at changing the way in which people travel. Ethanol, biodiesel, natural gas, and in the long term hydrogen are the fuel alternatives most likely to become widely available. Regional initiatives, such as the Commuter Services of South Central Pennsylvania, help commuters and employers in Adams, Cumberland, Dauphin, Lancaster, Lebanon, Perry and York Counties find a more efficient and less costly way to get to and from employment.
- In Lebanon County, several municipalities have incorporated provisions for energy conservation into their policies and regulations. The most common provisions are designed “to allow the installation of renewable energy devices and provide the opportunity for individuals to reduce energy dependence by encouraging the productive use of solar and wind energy components.”
- Energy provisions are also making their way into land development provisions. South Annville Township has adopted new zoning regulations to allow more compact development that requires fewer streets, less infrastructure and more open space that will save developers installation costs and save municipalities maintenance costs.

Analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT Analysis)

This section presents an assessment of energy use and conservation practices in Lebanon County. This assessment provides the foundation for energy conservation policies and recommendations that build upon the strengths, improve weaknesses, recognize and seize opportunities, and increase awareness and defend against threats to energy production and use.

Strengths

- **Historical Development Patterns.** Compact development, where goods, services, jobs, residences, and recreation are closer together, reduces dependency on vehicles for travel and increases opportunities for walking, bicycling, and public transportation, thereby reducing transportation fuel demand. In addition, compact development more efficiently serves development with public services and infrastructure. These energy conserving principles are evident in the communities of Annville, Cleona, Lebanon, Palmyra, Myerstown and Jonestown. The pattern of development found in these communities can serve as a model to new development.
- **Public Transportation.** Lebanon County residents have access to public transportation within the County of Lebanon Transit Authority’s (COLT) Fixed Route and paratransit service areas. Residents can also connect to the Capital Area Transit Authority (CAT) and the Red Rose Transit Authority (RRTA) transit systems in the Harrisburg and Lancaster areas, respectively.

- **Transportation Alternatives.**

Commuter Services of South Central Pennsylvania helps commuters and employers in Adams, Cumberland, Dauphin, Lancaster, Lebanon, Perry and York counties find a more efficient and less costly way to get to and from employment. The Susquehanna Regional Transportation Partnership's goal is to reduce single-occupancy vehicle (SOV) dependence in the region.



- **Lebanon County Conservation District (LCCD).** Although the LCCD focuses primarily on the conservation of land and water resources, it also promotes energy conservation. The LCCD's annual Awards Program recognizes individuals, organizations and businesses for their stewardship of natural resources; these awards may include green technology upgrades that focus on energy conservation. Programs provide incentives for businesses to incorporate energy conservation into their daily practices.

Weaknesses

- **Recent Development Patterns.** The majority of new residential development is occurring in the suburban and rural areas of the county. Located farther from community and employment destinations, these residences place high demands on the use of the automobile for personal, business, leisure and recreational travel.

- **Few Rail-Served Sites.** Rail freight services exist in a narrow corridor of the county. Rail-served sites can import raw materials and supplies and export pre-finished and finished products with minimal impact to the highway system. The expansion of rail-served sites could help to manage increasing traffic volumes.



- **Municipal Regulations.** Although several municipalities in the county have adopted energy conservation provisions or regulations, 12 of the county's 26 municipalities lack regulations that promote energy conservation in the ongoing development of local communities.

Opportunities

- **Pennsylvania's Energy Independence Strategy and the creation of the Energy Independence Fund.** This initiative represents a commitment by the state to invest in energy conservation. It aims to reduce costs for consumers, reduce reliance on foreign fuels and increase Pennsylvania's clean energy production capacity. It also hopes to expand Pennsylvania's energy production and energy technology sectors to create more jobs. To ensure that Pennsylvania's economy and jobs are benefiting from the national growth in the clean energy sector, the Energy Independence Fund will accelerate the role that Pennsylvania companies play in the production of clean energy components and systems through venture capital, loans, and grants that require at least matching funds from the private sector. The Fund will also initiate clean energy economic development projects and keep energy jobs close to home by requiring that renewable energy projects be constructed in a place that directly supports the grid that serves Pennsylvanians. This initiative represents an opportunity for residents, businesses and the public sector to invest in the rapidly expanding clean energy industry.
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- **Branding an Energy Conscience.** Some communities have taken energy policies to new heights. For example, Oakland, California has set a goal to become oil free by 2020. Such policies distinguish these communities from others by conveying the community's commitment to energy conservation, environmental stewardship and economic stability.
 - **Corridor Two.** Plans for the Corridor Two Regional Rail may result in passenger rail service to Harrisburg via the Norfolk Southern Harrisburg Line and throughout south central Pennsylvania as the system expands. Although these improvements may be at least 20-25 years away, express bus service may provide an alternative for commuters in the near term.
 - **Innovative Development and Site Design.** Innovative subdivision and site design practices offer energy conscious development patterns. A mix of compatible uses in a subdivision can provide real travel options for residents, business employees, students and recreationists. Use of these techniques may require some education and case study presentations to encourage developers to propose such patterns and encourage local government to permit them.
 - **Alternative Fuels.** Although Lebanon County relies heavily on fuel oil for residential heating, and on gasoline and diesel for automotive fuel, several alternative fuels are available to Lebanon County residents. Such alternatives

include geothermal heating and wind power. Additionally, service stations offering ethanol and biodiesel are increasing across south central Pennsylvania.

Threats

- **Projected Community and Economic Growth.** Population projections for Lebanon County municipalities suggest that additional residential development should be expected; regional employment projections suggest additional non-residential growth as well. As a result, traffic volumes are expected to rise. Congestion will continue to increase unless substantial portions of new residential, commercial and industrial development are located within or adjacent to existing transit service areas, non-motorized travel options are expanded or travel to work using single occupancy vehicles (SOV) is changed. Incorporating energy conservation practices into local land use, development and transportation planning programs can help to minimize congestion increases.
- **Demand for Biodiesel and Ethanol.** Although ethanol and biodiesel have received widespread attention as viable alternative sources of fuel, their increased demand will have an impact on other areas of the economy. The United States Department of Agriculture (USDA) has predicted that the price of corn will increase due to the demand from ethanol producers. Such increases may inhibit the production of beef, pork, and chicken as farmers face the higher costs of feeding their livestock.
- **Aging Structures.** The aging building stock of Lebanon County poses challenges to energy conservation. Significant advances in energy conservation technology have occurred since the construction of many of these buildings, and without adequate maintenance or upgrades, may lead to higher than necessary operational costs. Reinvestment and rehabilitation of older structures can help to improve energy efficiency and offer cost savings opportunities to owners and occupants.

Programs for Energy Conservation Education and Support

Green Schools Program

The Green Schools Program begins with an introductory workshop that helps teams of teachers, custodial staff, administrators and students promote school-wide energy awareness, and develop a plan to save energy in the school and the community. Green Schools tracks energy usage within the school, encourages student learning and leadership development, and provides resources for integration into the curriculum.

Energy Conservation in ELCO

The ELCO School District has undertaken several energy conservation initiatives including energy efficient lighting in schools, temperature-controlled rooms, and equipment that enables the district to track periods of high energy usage. The district has also applied for a grant for a windmill that would power their facilities.

Clean Cities Program

The Clean Cities Program aims to advance the nation’s economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities Coalitions represent public/private partnerships that promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.

International Council for Local Environmental Initiatives

The International Council for Local Environmental Initiatives (ICLEI) is an association of local governments for sustainability. ICLEI provides technical consulting, training, and information services to build capacity, share knowledge, and support local government in the implementation of sustainable development practices at the local level.

Cities for Climate Protection (CCP) Campaign is a program in which ICLEI communities can participate to take measures to reduce greenhouse gas emissions. Benefits include financial savings, improved air quality, and economic development through investments in locally produced energy products and services.

Model Ordinances for Energy Production and Conservation

Table 13-2 highlights the source and value of several model ordinances for energy production and conservation presented in *Appendix III*.

Table 13-2 Model Ordinances for Energy Production and Conservation

Ordinance	Reference	Comment
(Construction and Operation of) Wind Energy Facilities	PA DEP	As a result of increased interest in wind energy production in the energy industry and local government’s lack of experience in addressing the development and operation of such facilities in Pennsylvania, the PA DEP prepared this model ordinance to provide for the construction and operation of Wind Energy Facilities subject to reasonable conditions that will protect the public health, safety and welfare.
Small Wind Energy System Ordinance	Wisconsin Division of Energy and Wisconsin Towns Association	The Small Wind Energy System Ordinance was developed as a permitted use ordinance. The ordinance can be adapted to conditional use for a small wind turbine by inserting additional sections for standards, permit requirements and abandonment into the ordinance.

Table 13-2 Model Ordinances for Energy Production and Conservation
(continued)

Ordinance	Reference	Comment
Wind Energy Ordinance Options	New York State Energy Research and Development Authority	This publication provides model language for the purpose, definitions, plan submittal requirements and approval standards for safety, siting and installation, setbacks, nuisance, environmental and visual
Green Fleet Policy Ordinance	Clean Air County Initiative, Chicago, IL	This ordinance recognizes current costs for fleet operation and establishes policy and goals for improving fleet fuel efficiency.

Interrelationship of Energy Conservation to other Elements of the Comprehensive Plan

Because energy is a private utility in Pennsylvania, its production and use is finely integrated throughout community life. This integration is reflected in the *Energy Conservation Profile* and the earlier sections of this chapter. A few concluding examples are summarized here.

Land Use and Transportation

The amount and type of energy used to move people and goods in a community is determined in part by patterns of development and the transportation system. The spatial relationships of individual buildings, neighborhoods, communities and regions determine how far and by what means people find it convenient to travel to work, recreational facilities, schools, religious centers, stores, and entertainment venues and will send and receive their supplies and products. Zoning practices from the mid to late 20th century increasingly separated residential neighborhoods from other destinations, resulting in increased vehicular travel and more expansive public infrastructure. Land use policies that promote a mix of compatible uses and transportation policies that promote multi-modal travel options, such as bike racks on transit busses, can reduce the energy demands of residents, businesses and community facilities and services.



The Land Use Plan promotes mixed uses throughout its nine land use designations and associates transportation modes appropriate to each designation. The Long Range Transportation Plan (LRTP) of the Lebanon County Metropolitan Planning Organization (LEBCO MPO) recommends several non-motorized transportation projects, including short-term and long-term Lebanon Valley Rail Trail extensions, the South Lebanon Township Trail Project, and Safe Routes to School projects in the Northern Lebanon School District and Jonestown Borough. Once completed, these projects will offer real alternatives for school- and recreation-related travel. Additionally, the plan recommends continued involvement in the Susquehanna Regional Transportation Partnership as a means of reducing single-occupancy vehicle (SOV) dependence in the region.

Furthermore, a COLT business plan will be developed by June of 2008 to address transit operations over the next five to seven years.

Community Facilities and Services

The location and design of various community facilities and services has an impact on energy use. Encouraging schools and recreational facilities, religious centers, and other community facilities and services to locate near residential neighborhoods encourages people to walk or bike to these destinations. Compact forms of development also limit the distance that public safety and emergency personnel have to travel to reach someone in need.



In addition, the condition of water and sewer infrastructure also influences energy demand for these utilities. Inefficiencies in treatment equipment and transmission lines can lead to higher operational costs for authorities, companies and ultimately consumers.

Berks County gets behind Energy Conservation

Berks County has an energy tour of green buildings that helps to increase awareness of energy conservation techniques. The County also helps with the annual Pennsylvania Renewable Energy and Sustainable Living Festival that is held in Kempton by offering workshops on wind power and other alternative energy sources.

Housing

The location and design of housing can contribute to the amount of energy that is required for home heating and general operation. Homes sited or screened from winter winds and shaded from summer sun tend to reduce energy costs for seasonal heating and cooling. Detached and single story homes tend to use more energy than attached and multi-story homes.



Building design and construction materials also contribute to energy efficiency. Buildings that are oriented to the south will absorb more thermal energy and be warmer in the winter because of the angle of the sun.

The Action Plan

The Energy Conservation Action Plan identifies a variety of actions for the county and its partners to undertake or to support in order to encourage energy conservation throughout community development and community life. They promote awareness for energy alternatives, encourage the use of conservation practices, and recommend model provisions for the siting and operation of energy production facilities. For each action, an intended outcome, a proposed time horizon, lead and support partners, and funding sources are identified.



Vision, Goal and Objectives

Before a plan is set forth, it is important to have a clear and concise vision of how energy conservation is viewed in relation to community development. This vision should reflect all aspects of energy use from generation to consumption. The plan's goal must then set the direction for change and present associated objectives to encourage energy conservation and the promotion of renewable sources of energy.

Vision

Lebanon County is recognized for its implementation of modern energy policies. The county strives to reduce energy demand and achieve energy efficiency in the design, maintenance, and operation of public facilities. In the private sector, it promotes alternatives to conventional subdivision and land development that reduce energy demands for heating and cooling, as well as encourage convenient, energy efficient travel and transportation options. It recognizes energy sources that provide alternatives to fossil fuels and guides the siting of power generation facilities to maximize benefits and minimize impacts on the community and environment.

Goal

Promote energy efficiency and conservation throughout the community development and community revitalization processes.

Objectives

- A. Promote the energy efficient design of homes, sites, and communities.
- B. Reduce energy consumption in construction design, materials, and processes.
- C. Reduce energy consumption in community facilities and service operations.
- D. Administer and enforce energy codes.
- E. Promote the use of alternative energy sources.
- F. Expand the non-vehicular transportation system.

Recommendations

Goal 1:	Promote energy efficiency and conservation throughout the community development and community revitalization processes.
Objective 1A:	Promote the energy efficient design of homes, sites, and communities.
Action 1A1:	Establish model energy conservation ordinance provisions and encourage their review and incorporation into municipal regulations.
Intended Outcome:	Consistent energy conservation standards throughout the county.
Time Horizon:	2010-2011 for incorporation into county subdivision and land development ordinance and distribution as model a ordinance to municipalities with their own ordinance administration
Lead Partners:	Lebanon County Planning Department
Support Partners:	Municipalities; Lebanon County Conservation District
Funding Sources:	Municipalities; Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance Program (LUPTAP); United States Department of Energy (DOE)
Action 1A2:	Work with developers, architects, and local municipal officials to permit and encourage energy efficient building design.
Intended Outcome:	Energy efficient new construction.
Time Horizon:	2008-2009 for initial educational outreach, e.g. workshops
Lead Partners:	Lebanon County Planning Department; Municipalities; Developers
Support Partners:	Lebanon County Builders Association; Lebanon County Conservation District; State and Federal Government agencies
Funding Sources:	Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; United States Environmental Protection Agency (EPA) Sustainable Development Challenge Grants; Pennsylvania Energy Development Authority Grants (PEDA)

Action 1A3: Promote best practices for energy efficiency in rehabilitation and redevelopment projects.	
Intended Outcome:	Energy efficient rehabilitated structures or redevelopment projects that result in decreased costs for inhabitants.
Time Horizon:	2010-2011 for subsequent and ongoing outreach
Lead Partners:	Lebanon County Planning Department; Municipalities
Support Partners:	Lebanon County Builders Association
Funding Sources:	Pennsylvania Department of Community and Economic Development (DCED) Community Revitalization Program; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; United States Environmental Protection Agency (EPA) Sustainable Development Challenge Grants; Low Rate Energy Star Loans; Keystone Home Energy Loan Program (HELP); Pennsylvania Energy Development Authority Grants (PEDA)
Action 1A4: Encourage new public buildings (e.g. public housing, municipal buildings, schools) to be designed as green buildings or designed in an energy efficient manner.	
Intended Outcome:	Increased awareness of the need to evaluate short-term construction cost versus long-term operational cost savings when evaluating building and site design options. Slightly more expensive construction costs can be offset by decreased operational costs due to decreased energy usage.
Time Horizon:	2010-2011 for subsequent and ongoing outreach
Lead Partners:	Lebanon County Commissioners; Municipalities; School Districts
Support Partners:	Lebanon County Planning Department
Funding Sources:	Pennsylvania Department of Community and Economic Development (DCED) Community Development Block Grant (CDBG); Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; United States Department of Energy (DOE) Rebuild America Program DCED Weatherization Program; Keystone Home Energy Loan Program (HELP); Pennsylvania Energy Development Authority Grants (PEDA)

Action 1A5: Encourage the use of innovative development techniques by right as appropriate to downtown, suburban and rural area, e.g. Traditional Neighborhood Development (TND) and Transit Oriented Development (TOD) in downtown and suburban areas, and Conservation by Design, Planned Residential Developments (PRD). (same as Housing Plan Action 1A4)

Intended Outcome: Increased range of housing opportunities that support walkable neighborhoods and public transit.

Time Horizon: 2012-2013 as an implementation of up-to-date municipal comprehensive plans

Lead Partners: Municipalities; Lebanon County Planning Department

Support Partners: Lebanon County Builders Association; Developers

Funding Sources: Municipalities; Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance Program (LUPTAP); PA DCED Local Municipal Resources and Development Program (LMRDP); PA DCED Community Revitalization Program (CRP) PA DCED Urban Development Program (UDP); Natural Lands Trust; Ben Franklin Partnership

Objective 1B: Reduce energy consumption in construction design, materials, and processes.

Action 1B1: Develop a factsheet or brochure to educate residents, businesses and industry leaders, developers and builders of energy conservation techniques that can be applied to design, materials, and processes.

Intended Outcome: Increased awareness of alternative energy conservation techniques.

Time Horizon: 2010-2011 for ongoing outreach

Lead Partners: Lebanon County Conservation District

Support Partners: Lebanon County Planning Department; Municipalities; Lebanon County Builders Association; Local business and industry; Utility companies

Funding Sources: United States Environmental Protection Agency (EPA) Environmental Education Grants Program; United States Department of Agriculture (USDA) Rural Business – Cooperative Service; Pennsylvania Department of Community and Economic Development (DCED) Pollution Prevention Assistance Program; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Grants

Action 1B2:	Develop a factsheet or brochure to educate residents and businesses and industry leaders about energy conservation programs, such as the Energy Star program.
Intended Outcome:	Decrease energy consumption and decreased costs for residents, businesses and industries in the county.
Time Horizon:	2010-2011 for ongoing outreach
Lead Partners:	Lebanon County Conservation District
Support Partners:	Lebanon County Planning Department; Municipalities; School Districts; Utility companies
Funding Sources:	United States Environmental Protection Agency (EPA) Environmental Education Grants Program; the Sustainable Energy Fund of Central Eastern Pennsylvania; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Grants
Action 1B3:	Continue and expand energy conservation programs and awards, such as the County Conservation District's Business Steward of the Year award.
Intended Outcome:	Additional incentives, beyond cost savings, to support energy conservation.
Time Horizon:	2008-2009 and ongoing
Lead Partners:	Lebanon County Conservation District
Support Partners:	Lebanon County Planning Department
Funding Sources:	Local funds; Energy Star Program; Penn Future Green Power Awards

Objective 1C:	Reduce energy consumption in community facilities and service operations.
Action 1C1:	Promote and encourage energy conservation education and the use of alternative energy sources in public schools.
Intended Outcome:	Increased awareness of the importance of energy conservation among school students, teachers, and administration and use of alternative energy sources.
Time Horizon:	2008-2009 to develop the initiative and mini-curriculum; ongoing implementation
Lead Partners:	School Districts
Support Partners:	Lebanon County Conservation District; Lebanon County Planning Department; Municipalities; Utility companies
Funding Sources:	United States Environmental Protection Agency (EPA) Environmental Education Grants Program; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; Pennsylvania Energy Development Authority (PEDA)
Action 1C2:	Host a summit for school district officials on the Green Schools Program; support their efforts to implement operational improvements to reduce energy consumption.
Intended Outcome:	Create energy efficient schools and increased awareness among school students, teachers, staff, and administration of energy conservation programs such as Green Schools.
Time Horizon:	2008-2009 for summit; ongoing support for improvements
Lead Partners:	School Districts
Support Partners:	Lebanon County Conservation District; Lebanon County Planning Department; Utility companies
Funding Sources:	State Public School Building Authority High Performance Green Schools Planning Grants; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Grants

Action 1C3: Support energy conservation initiatives at county and local government institutions through educational seminars, materials purchases, e.g. office supplies, building maintenance and janitorial products, road crew and road maintenance materials, etc., and the design of green buildings for new municipal construction.

Intended Outcome: Increased awareness of the importance of energy conservation throughout community facilities and institutions, and decreased energy consumption.

Time Horizon: 2012-2013 highlighting achievements of public school energy conservation efforts

Lead Partners: Lebanon County Conservation District

Support Partners: Lebanon County Planning Department; Municipalities; Utility companies

Funding Sources: Local municipalities; United States Environmental Protection Agency (EPA) Environmental Education Grants Program; the Sustainable Energy Fund of Central Eastern Pennsylvania; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; Pennsylvania Energy Development Authority (PEDA) Grants

Action 1C4: Explore benefits of membership in a group or program that promotes energy conservation such as Clean Cities Coalition, the International Council for Local Environmental Initiatives (ICLEI), or Cities for Climate Protection (CCP) Campaign.

Intended Outcome: Provide membership resources for the county to improve knowledge of energy conservation initiatives and funding.

Time Horizon: 2008-2009

Lead Partners: Lebanon County Planning Department

Support Partners: Lebanon County Conservation District; Municipalities

Funding Sources: Municipalities

Objective 1D: Enforce energy codes.

Action 1D1: Explore the standards established by the International Energy Conservation Code (IECC); if the code is appropriate to current development practices in the county, encourage adoption of the IECC and any subsequent updates.

Intended Outcome: Consistency in energy conservation requirements.

Time Horizon: 2014-2015

Lead Partners: Lebanon County Planning Department

Support Partners: Municipalities

Funding Sources: Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance (LUPTAP); PA DCED Local Municipal. Resources and Development Program (LMRDP)

Action 1D2: Explore interest in county administration and enforcement of the IECC.

Intended Outcome: Proper energy conservation and consistency in code enforcement.

Time Horizon: 2014-2015

Lead Partners: Lebanon County Planning Department

Support Partners: Municipalities; Lebanon County Conservation District

Funding Sources: County budget for Planning Department staff; Municipal funds for contract services

Objective 1E:	Promote the general conservation of energy and the use of renewable energy sources.
Action 1E1:	Strengthen and expand energy conservation awareness activities such as Earth Day education in schools.
Intended Outcome:	Increased awareness of the need to conserve energy, for school students, teachers, and administration.
Time Horizon:	2008-2009 and ongoing
Lead Partners:	School Districts
Support Partners:	Lebanon County Conservation District; Lebanon County Planning Department
Funding Sources:	United States Environmental Protection Agency (EPA) Environmental Education Grants Program
Action 1E2:	Review and tailor model ordinance provisions for the siting of alternative power generation facilities (e.g. biofuels plants, wind turbines, etc.), and encourage review, revision, and adoption by local municipalities.
Intended Outcome:	Consistent provisions for alternative energy sources to encourage energy efficiency and renewable sources of energy.
Time Horizon:	2012-2013 as an implementation of up-to-date municipal comprehensive plans
Lead Partners:	Lebanon County Planning Department
Support Partners:	Municipalities; Lebanon County Conservation District
Funding Sources:	Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance (LUPTAP); PA DCED Local Municipal. Resources and Development Program (LMRD)

Action 1E3: Support public school initiatives to explore and use alternative energy sources.	
Intended Outcome:	Increased awareness of the importance of energy conservation among school students, teachers, and administration and use of alternative energy sources.
Time Horizon:	2012-2013
Lead Partners:	School Districts
Support Partners:	Lebanon County Conservation District; Lebanon County Planning Department; Municipalities; Utility companies
Funding Sources:	United States Environmental Protection Agency (EPA) Environmental Education Grants Program; Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; Pennsylvania Energy Development Authority (PEDA)
Action 1E4: Investigate opportunities for biofuels production.	
Intended Outcome:	Increased awareness of alternative fuel sources, production of alternative fuel sources, alternative fuel sources as a part of the local economy.
Time Horizon:	2008-2009
Lead Partners:	Local Farmers; Lebanon County Conservation District
Support Partners:	Lebanon County Planning Department; Municipalities
Funding Sources:	Pennsylvania Department of Environmental Protection (DEP) Energy Harvest Program; Alternative Fuels Incentive Grant Program; United States Department of Agriculture (USDA) Value-Added Agricultural Product Market Development Grants; USDA Rural Business – Cooperative Service

Objective 1F: Expand the non-motorized transportation system.

Action 1F1: Revise regulations to encourage and require neighborhood amenities such as sidewalks, walking and biking trails, and streetscapes appropriate to urban, suburban, and rural areas. (Same as Housing Plan Action 1C3)

Intended Outcome: Reduce the dependency on the single occupant automobile by promoting, encouraging, and incorporating the use of public transit, connecting parks and developments with sidewalks and trails, and creating walkable developments.

Time Horizon: 2012-2013 as an implementation of up-to-date municipal comprehensive plans

Lead Partners: Municipalities; Lebanon County Planning Department

Support Partners: LEBCO MPO

Funding Sources: Local municipalities; Pennsylvania Department of Community and Economic Development (DCED) Land Use Planning and Technical Assistance Program (LUPTAP); PA DCED Main Street Program; PA DCED Elm Street Program; PA DCED Local Municipal Resources and Development Program (LMRDP); PA DCED Community Revitalization Program (CRP) PA DCED Urban Development Program; Community Development Block grants; PennDOT's Transportation Enhancement Program and Safe Routes to School Program (for projects); Penna. Advocates for Nutrition & Activity (PANA); Safe Routes to School Program

Action 1F2: Promote public transit in the county as a reliable, safe, and cost effective form of transportation that all residents can utilize.

Intended Outcome: The County of Lebanon Transit (COLT) Business Plan, with funding assistance from the LEBCO MPO, is one example of county efforts to improve system service and efficiency.
Increased ridership and decreased dependence on the personal automobile.

Time Horizon: 2008-2009 and ongoing as an implementation to the COLT business plan

Lead Partners: County of Lebanon Transit Authority (COLT); LEBCO MPO

Support Partners: Lebanon County Planning Department; Lebanon Valley Chamber of Commerce; Susquehanna Regional Transportation Partnership

Funding Sources: COLT; LEBCO MPO; PennDOT; Susquehanna Regional Transportation Partnership

Action 1F3:	Promote ridesharing and carpooling programs and resources for residents and businesses.
Intended Outcome:	Increased ridesharing and decreased one-person automobile traffic.
Time Horizon:	2008-2009 and ongoing
Lead Partners:	Commuter Services of South Central Pennsylvania; Susquehanna Regional Transportation Partnership; Lebanon Valley Chamber of Commerce
Support Partners:	Lebanon County Planning Department; LEBCO MPO
Funding Sources:	Susquehanna Regional Transportation Partnership; LEBCO MPO Congestion Mitigation Air Quality funds
Action 1F4:	Support public transit companies that use or want to acquire vehicle fleets that operate on renewable or alternative fuels. For example, BARTA in Reading has converted its fleet to compressed natural gas (CNG). It has also established CNG fueling facilities for the fleet in cooperation with gas companies.
Intended Outcome:	Decreased consumption of gasoline or diesel fuel.
Time Horizon:	2008-2009 and ongoing
Lead Partners:	County of Lebanon Transit Authority
Support Partners:	Lebanon County Planning Department; LEBCO MPO
Funding Sources:	Pennsylvania Department of Environmental Protection (DEP) Alternative Fuels Incentive Grant Fund; DEP Energy Harvest Grants; Pennsylvania Energy Development Authority (PEDA) Grants; PennDOT and Federal Transit Administration Public Transportation Assistance Funds (typically allocated to County of Lebanon Transit)

Action 1F5:

Develop a best practice tipsheet for fleet management for local governments that includes guidelines for the purchase of hybrid or alternative fuel cars, increased preventative maintenance, and consolidation or elimination of use for certain trips.

Intended Outcome:

Allow the county's use of fleet vehicles to serve as an example for decreased gasoline and diesel fuel consumption for automobile use.

Time Horizon:

2010-2012

Lead Partners:

Lebanon County Conservation District; Lebanon County Commissioners

Support Partners:

Lebanon County Planning Department; LEBCO MPO

Funding Sources:

Pennsylvania Department of Environmental Protection (DEP) Alternative Fuels Incentive Grant Program; DEP Energy Harvest Grants; Pennsylvania Energy Development Authority Grants (PEDA)
