

NOTE: These notes were originally prepared in 2006 to guide effort to implement the US Mayors Climate Protection Agreement. I've annotated them to reflect some changes since then, but have not attempted to add other new ideas.

Notes for Implementing the U.S. Mayors Climate Protection Agreement in Bethlehem

A. We urge the federal government and state governments to enact policies and programs to meet or beat the Kyoto Protocol target of reducing global warming pollution levels to 7% below 1990 levels by 2012, including efforts to: reduce the United States' dependence on fossil fuels and accelerate the development of clean, economical energy resources and fuel-efficient technologies such as conservation, methane recovery for energy generation, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels; [No longer applicable]

B. We urge the U.S. Congress to pass the bipartisan Climate Stewardship Act sponsored by Senators McCain and Lieberman and Representatives Gilchrist and Olver, which would create a flexible, market-based system of tradable allowances among emitting industries; and [No longer applicable]

A & B Send a copy of the signed Agreement to Governor Rendell, Senator Boscola, Representatives Brennan, Freeman, and Samuelson; send a copy of the signed Agreement to Senators Casey and Specter, and to Congressman Dent. **[update — send copy of exec. summary to current elected officials]**

C. We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our own operations and communities such as: [Kyoto longer applicable, but many of the following are]

Note: The following are examples of steps that might be taken to reduce greenhouse gas (GHG) emissions. In some cases, the costs and benefits associated with these items cannot really be evaluated, or priorities set, until the City completes an inventory of GHG emissions. (Of course, there may be other reasons to implement recommendations that may not be a priority in terms of GHG reduction.)

- Designate a sustainability officer for the city — to coordinate these efforts, act as a point of contact on climate change & sustainability issues, and build awareness throughout the administration. (Either hire a new employee for this position or relieve an existing employee of some duties and give him or her this responsibility.)
- Inform all city employees about the Climate Protection Agreement and ask their participation to help meet and exceed the targets for emission reduction. **Discuss Climate Action planning process with Employees to gather ideas & input; make sure all employees are aware of the completed Climate Action Plan.**

NOTE: The 7% reduction set forth in Kyoto should be considered an *absolute minimum*; government and institutions should do everything within their power to make more substantial reductions and to encourage all individuals, institutions, and businesses to set and attain more ambitious goals that might protect us from climate calamity.

At this point, we should be looking at a target of climate neutrality and strategies for progressing to that point.

1. *Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.*

- Complete a comprehensive inventory of GHG emissions by City facilities and operations. **[GHG inventory for 2016 & plans to update]**
- Set GHG reduction targets based on GHG inventory results; create an action plan.
- Partner with businesses and educational institutions to complete a GHG inventory, set goals, and help create an action plan to reduce GHG emissions for the community as a whole.

This is an extremely important step that has never been initiated.

- ✓ Encourage city council to create an environmental advisory council (EAC) to evaluate and assist with long- and short-term environmental issues and policy. [completed]
- Develop GIS system to track all environmental assets, hot spots, and inventory results.

2. *Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities;* **[Many of these have never been implemented at all.]**

- Ensure that zoning ordinances and the new comprehensive plan include effective provisions to reduce sprawl, preserve open space, and make the City pedestrian- and bicycle-friendly.

Note: Being pedestrian-friendly or bicycle-friendly does not simply mean that it's possible to get from point A to point B safely — it means that walking or bicycling are convenient, practical, and attractive ways to get around.

- Develop a comprehensive Green infrastructure plan; require preservation of mature trees and planting additional trees to reduce carbon dioxide levels and heat absorption in both existing and new development.
- Work with community organizations to promote organic community and home gardens, urban farming; make park space available for growing food
- Adopt form-based planning and zoning.¹
 - Create one or more design review boards to establish and monitor standards for areas outside the historic districts.
 - Require a public-participation process for all proposed developments and major improvements (and reject any plans submitted without a public-participation process).

Effective public participation requires more than a 'public hearing'; it requires a process to ensure that the public is informed about the issues and involved early enough in the process to contribute to the process, rather than just commenting on a plan that has already been developed.

- Develop an expedited review process for projects that meet design and Green building goals, especially those that reuse existing structures and emphasize local materials and labor.
- Provide density bonuses or expedited approval for development that creates or preserves substantial open space and features increased floor-to-area ratios.
- Set and enforce appropriate standards for sidewalks to improve walkability: **[very important to get these done]**
 - Require adequate width and buffering with trees and other plantings where appropriate;
 - Require or provide incentives to encourage sidewalk seating and sidewalk vendors where appropriate;
 - Require or provide incentives to encourage use of permeable pavement and unpaved buffers to reduce stormwater runoff;
 - Require proper maintenance, including keeping sidewalks in good repair and free from obstructions and changes in level;
 - Enforce requirements to keep trash containers off the sidewalks;
 - Explore ways to close Main Street to vehicle traffic during the day;
 - Require property owners to promptly remove snow and ice in winter.
- Require *all uses* to encourage appropriate transportation and reduced dependence on / use of automobiles.
- Facilitate use of community land trusts and co-housing projects that preserve open space.
- To enhance community atmosphere **and encourage walking**, enact a moratorium on billboards and off-premises signs; develop a program to phase out existing billboards & off-premises signs as leases expire / are up for renewal

¹ Some recommendations for land use and planning are adapted from the work of the Smart Growth Network, whose principles tend to create more walkable and bicycle- and transit-friendly communities and to preserve green space.

- Use GIS system to allow zoning maps to be overlaid with Green infrastructure plan, as well as existing development that does not meet updated criteria for energy use, transportation, appropriate design.

3. *Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit; [Many of these have never been implemented at all.]*

- Develop a comprehensive non-auto transportation infrastructure plan to promote and facilitate walking, bicycling, and transit use; incorporate it in the new comprehensive plan.
- Ensure that any new zoning ordinances and the new comprehensive plan promote development that is transit-, bicycle-, and pedestrian-friendly.
- Make clear to LANTA board members that convenient and attractive public transit, including rail, is a priority for The City.
- Work with CAT to develop incentive programs for ride-sharing, walking, bicycling, and use of public transit by City employees; encourage employers and businesses throughout the city to do the same.
- Consider implementing a 4-40 week in all departments.
- Require or provide incentives for sidewalks to be maintained in good condition and free of obstructions (including overgrown hedges, low-hanging branches, and poison ivy).
- Make sure sidewalk standards provide for adequate width, buffering with trees and other plantings where appropriate, sidewalk seating and sidewalk vendors where appropriate; encourage pedestrian malls; require use of permeable pavement and/or unpaved buffers to reduce stormwater runoff.
- Use GIS system to map greenways, bicycle trails and lanes, public transit, and other transportation features, as well as transportation infrastructure plans.
- Provide free parking for high-efficiency vehicles (≥ 50 mpg); encourage PennDOT to issue special tags or license plates to identify such vehicles.
- Add secure, sheltered bicycle parking requirements to zoning ordinances.
- Review and check traffic signal timing/phasing to minimize idle time
- Vigorously oppose any plans to expand the number of lanes of Route 22.
- Insist that the Lehigh Valley Planning Commission give serious consideration and priority to reducing automobile traffic, including studies of the best ways to increase utilization of public transit (including light rail) and to encourage ride-sharing, walking, and bicycling.

4. *Increase the use of clean, alternative energy by, for example, investing in green tags, advocating for the development of renewable energy resources, and recovering landfill methane for energy production;*

- Purchase renewable energy credits (RECs) for all or part of the city's electrical energy usage.
- Support creation of a sustainable energy center here in the Lehigh Valley to develop, demonstrate, and promote energy efficiency, conservation, and use of sustainable energy, preferably in the City.

5. *Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money;*

- Emphasize to all city officers, managers, supervisors, and employees that reducing energy consumption and greenhouse gas emissions is a top priority.
- Set all thermostat controls in city buildings to maintain temperatures of no less than 78°F (25°C) for cooling and no more than 68°F (20°C) for heating.
- Replace any T12 fluorescent lamps and magnetic ballasts with T8 or T5 lamps and electronic ballasts; make sure lighting is off when daylight provides enough illumination. [probably already done]
- Replace any existing incandescent lamps with LEDs GFLs; replace any incandescent EXIT lights with LEDs, and other lights that are continuously on.

- Develop an incentive program to encourage City employees to reduce GHG emissions. ← could make a big difference – right now, many city vehicles are left idling, lights left on, etc.
- Incorporate Green building and development standards into to encourage renovation and re-use, reduce energy use and greenhouse gas emissions, and use local materials when possible City planning and zoning requirements.
A very important step – this can be done by providing incentives for those who do, adding steps to the planning process for those who don't
- Require building owners to reduce stormwater runoff, improve retention and absorption; use permeable pavement and surfaces when possible.
- Adopt Green building standards to encourage renovation and re-use, reduce energy use and greenhouse gas emissions, and use local materials when possible. [incorporated above]
- Adopt and promote the use of permaculture concepts to reduce GHG from landscape & grounds maintenance.
- Retrofit city buildings to improve energy efficiency (all extensive renovations should meet applicable LEED or comparable standards.²)
- Review all existing purchasing practices and purchase from local businesses whenever possible, to reduce energy consumption and greenhouse gas emissions from transportation.
- Purchase locally-grown food for City use to reduce energy consumption and greenhouse gas emissions from transportation and to encourage local agriculture.³
- Encourage employees to see *An Inconvenient Truth*; consider purchasing a copy on DVD to loan to employees.

6. *Purchase only Energy Star [or equivalent] equipment and appliances for City use;*

- Consider eliminating or replacing low-efficiency units as soon as practical.

7. *Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system;*

- Commit to LEED Silver or comparable standards for all new city facilities & major renovations.
- Explore possibilities for installing Green roofs and roof gardens on City buildings to reduce energy demand and stormwater runoff; encourage other property owners to do the same.
- Adopt Green building standards that encourage renovation and re-use, reduce energy use and greenhouse gas emissions, and encourage use of local materials when possible.
- Explore technologies and practices to reduce the use of water.
- Require all uses to reduce stormwater runoff, improve retention and absorption (groundwater recharge); use permeable pavement and surfaces when possible.
- Use GIS system to map Green features and 'hot spots'.

8. *Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel;*

- To the extent possible, reduce the number of City vehicles; explore possibilities for greater use of bicycles and walking on City business.
- Purchase smaller & high-efficiency hybrid vehicles for City use (including Police).
[There is no reason for police to be driving full-size cars or SUVs we pay for these in fuel cost — and GHG!]

² Depending on scope and funds available, such work can be done by city employees, on a normal contracting basis, or by a performance-based contract that compensates the contractor via savings on energy.

³ See Woodbury County Iowa for sample language <www.woodburyiowa.com/departments/economicdevelopment>.

- Launch an employee education program to reduce the number of trips, discourage trips with only one or two occupants, and eliminate unnecessary idling; explore ways to reduce reliance on vehicles, including police patrols. **[still a major issue]**
- Develop and promote trip/mileage reduction campaigns for commuting; encourage city employees to share rides, walk, or bicycle to work.
- Evaluate possibilities for switching City vehicles to biofuels that are sustainably produced.⁴

NOTE: Lower Saucon Township switched diesel vehicles and equipment to B-20 biodiesel years ago.

9. *Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production; **[There has been real progress in methane capture, but more can be done.]***

- Evaluate potential for further energy savings and energy production.

10. *Increase recycling rates in City operations and in the community;*

- Encourage City employees to **Reduce consumption**, Reuse, and increase Recycling; set specific goals for reducing the amount of solid waste and increasing the percentage that is recycled; encourage businesses, individuals, and institutions to do the same.
- Purchase and specify 100% post-consumer-recycled paper for city needs whenever practical; encourage City businesses, institutions, and consumers to do the same. **Use duplex printing as the norm.**
- Strengthen or enforce ordinances requiring landlords to promote recycling.
- Provide recycling in areas where city maintains street trash collection bins (including Main, Broad, Third, and Fourth Streets). **[this point has been raised many times, including a report by a grad student at Lehigh, but nothing has ever been done]**
- Explore ways to reduce individual trips to the recycling center, including ways to provide curbside recycling of newspaper, office paper, cardboard, and telephone books.
- Require businesses and institution (including Lehigh University and Moravian College) to improve recycling rates and minimize solid waste. **[this point has been raised many times, but much more could be done]**
- Establish 'Pay As You Throw' (PAYT) programs for all waste generated in the City; explore ways to encourage composting of food waste. **[this point has been raised many times, but nothing has been done]**
- Require all festivals and events on city property to fully implement waste-reduction, recycling, and composting programs. **[this point has been raised many times, but much more could be done]**
- Develop educational and recycling programs for fluorescent tubes, compact fluorescent lamps, and batteries to prevent mercury pollution. **[partner with colleges, who often have programs for these?]**

11. *Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO₂; and*

- Preserve mature trees on all City properties and plant more trees where appropriate; require and/or provide incentives for residents and businesses to do the same.
- Actively promote preservation of mature trees and tree planting throughout the City. **[many sidewalk trees have been cut down and never replaced]**
- Use a GIS system to map wooded areas and significant individual trees.

⁴ The Department of Environmental Protection has incentive programs for institutional use of biodiesel.

12. *Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution. [this is a very important part of any effective CAP]*

- Empower the city's sustainability officer to work with City staff and with residents, businesses, institutions, and organizations to reduce GHG emissions.
- Urge the Environmental Advisory Council (EAC), to grapple with long- and short-term approaches to GHG reduction. [no longer applicable]
- Encourage residents, businesses, and non-profits (including Bethlehem Area School District, Lehigh University, Moravian College, St. Luke's and Muhlenberg hospitals, and other institutional users) to make reducing energy consumption and greenhouse gas emissions an urgent priority. [Much has been done, but only a fraction of what is possible.]
- Urge local school districts to participate actively in attaining goals of the Climate Protection Agreement. [Not only in their facilities, but in every classroom & throughout the curriculum. BASD adopted a Climate and Sustainability Commitment in 2014, but could do much more on the curriculum side.]
- Explore possibility of working with school district to develop ways to increase walkability of schools. [very important for long-term progress]
- Explore ways to encourage the school district to improve recycling and help students and families to be aware of climate-change and sustainability issues. [recycling in schools is not adequate, and the amount of food wasted is mind-boggling!]
- Encourage and facilitate community and school gardens as a way to reduce GHG from transportation, while contributing to better health. [there has been quite a bit of progress in this area]
- Develop educational and/or incentive programs for residents, businesses, and non-profits to reduce energy consumption and greenhouse gas emissions based on inventory results and ~~C1-C11~~. these points.
- Encourage residents, businesses, and non-profits to purchase products from local businesses to reduce GHG from transportation. [This should be active & ongoing; current mayor has not kept this up]
- Encourage residents, businesses, and non-profits to purchase locally-grown food to reduce energy consumption and GHG emissions from transportation and encourage local agriculture. [progress, but no thanks to city]
- **Explore new and innovative ways** to educate the public, schools, professional groups, nonprofit organizations, and businesses about reducing energy consumption and GHG emissions.
- Develop a format and require annual climate protection/environmental impact reports from businesses, institutions, and multi-unit residential buildings throughout the city. (Must focus on *meaningful goals and impacts*.)
- Provide community organizations with the ability to use GIS to create specialized maps to analyze resources, development, and problem areas.
- Vigorously oppose any plans to expand the number of lanes of Route 22; have **representatives insist that** Lehigh Valley Planning Commission give serious consideration and priority *finding ways* to reduce automobile traffic, including studies of the best ways to increase utilization of public transit (including light rail) and to encourage ride-sharing, walking, and bicycling.

The U.S. Mayors Climate Protection Agreement

[This is what the Mayors signed in 2006.]

A. We urge the federal government and state governments to enact policies and programs to meet or beat the Kyoto Protocol target of reducing global warming pollution levels to 7% below 1990 levels by 2012, including efforts to: reduce the United States' dependence on fossil fuels and accelerate the development of clean, economical energy resources and fuel-efficient technologies such as conservation, methane recovery for energy generation, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels;

B. We urge the U.S. Congress to pass the bipartisan Climate Stewardship Act sponsored by Senators McCain and Lieberman and Representatives Gilchrist and Olver, which would create a flexible, market-based system of tradable allowances among emitting industries; and

C. We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our own operations and communities such as:

- 1. Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.*
 - 2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities;*
 - 3. Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit;*
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 - 7. Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system;*
 - 8. Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel;*
 - 9. Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production;*
 - 10. Increase recycling rates in City operations and in the community;*
 - 11. Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO₂; and*
 - 12. Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.*
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