How can PA Communities Plan for a Sustainable Future?

American Planning Association PA Chapter Annual Conference October 4, 2009





pennsylvania DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT



Agenda

- **1. Dimensions of Sustainable Communities**
- 2. Emerging Trends and Legislation
- 3. Pennsylvania Case Studies
 - DVRPC Sustainability Initiatives
 - Union County Comprehensive Plan
 - Vandergift Borough Natural Step Initiative
 - Cranberry Township Sustainability Initiative

4. Discussion: How can Pennsylvania's communities plan for a sustainable future?

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Dimensions of Sustainable Communities: Two Perspectives

Sustainability Issues

- Critical Environmental Stresses (Lester Brown)¹
 - Deteriorating oil and food security
 - Climate change: rising temperatures and sea levels
 - Emerging water shortages
 - Natural systems under stress
 - Growing divides between rich and poor
- Two Great Oversights of Our Time (Rob Hopkins)²
 - Peak oil
 - Climate change
- ¹ Plan B 3.0, 2008
- ² The Transition Handbook, 2008

Global Warming's "Six Americas"

- A survey found that Americans lack consensus on global warming, falling into six distinct groups regarding their climate change beliefs, attitudes, and behaviors.
 - The Alarmed (18 percent of American adults)
 - The Concerned (33 percent)
 - The Cautious (19 percent)

- The Disengaged (12 percent)
- The Doubtful (11 percent)
- The Dismissive (7 percent)



Source: 2009 study by the Yale F&ES Project on Climate Change and the George Mason University Center for Climate Change Communication.

What is Sustainability?

• Definitions

... Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission, 1987)

... Development that improves the long-term health of human and ecological systems (Stephen M. Wheeler, Planning for Sustainability, 2004)



The Three "Es"

Scales of Planning for Sustainability

- International
- National
- State and Provincial
- Regional
- Local Government
- Neighborhood
- Site Planning and Architecture



Source: Stephen M. Wheeler, Planning for Sustainability, 2004

Principles for Creating Sustainable Communities

• Energy

Reduce fossil fuel usage and carbon emissions through the planning and design of communities, sites, and buildings.

• Resiliency

Reduce vulnerability to external environmental and economic threats through planning, design, and increased reliance on local resources, goods, and services.

• Mobility

Locate and design transportation systems to reduce automobile dependency and promote alternative modes.

Stewardship

Preserve and restore natural, cultural, and built resources and integrate natural and human ecological systems in the planning and design of communities.

• Equity

Provide housing, transportation, and employment opportunities for persons of all socioeconomic backgrounds and abilities.

A Model Systems Framework for Sustainable Communities





Partnership of Westmoreland County

Improved growth strategies for Westmoreland County



A PROGRAM OF PENN STATE COOPERATIVE EXTENSION

Sustainability: A Process for Continuous Improvement

Partnership of Westmoreland County











<u>smart growth</u> *noun* sensible growth: economic growth that consciously seeks to avoid wastefulness and damage to the environment and communities

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1 Mixed land uses











2 Take advantage of compact building design









3 Create a range of housing opportunities and choices







PENNSTATE

4 Create walkable neighborhoods













5 Foster distinctive,
 attractive communities
 with a strong sense of
 place











6 Preserve open space, farmland, natural beauty, and critical environmental areas









7 Strengthen and direct development towards existing communities









8 **Provide a variety of transportation choices**













9 Make development decisions predictable, fair and cost effective



Smart Growth Costs Less







10 Encourage community and stakeholder collaboration in development decisions







Emerging Trends and Legislation

Emerging Trends

- Natural Step Framework
 - Eco-Municipalities (Sweden)
 - Santa Monica, CA Sustainable City Program
- Transition Initiatives
 - 64 adopted Transition Initiatives as of 6/08*
 - 54 in UK, 4 in New Zealand, 2 in US, 1 in Ireland
 - US communities: Boulder, CO and Sandpoint, ID

* Rob Hopkins, The Transition Handbook





Federal Policy Trends

- Obama Administration Priorities
 - Energy
 - Green Jobs
 - "Smart" Funding



- Recommended Reading
 - Thomas L. Friedman: *Hot, Flat, and Crowded*
 - Code Green: clean electrons, energy efficiency, and conservation
 - Van Jones: *The Green Collar Economy*
 - A Green New Deal: transition to an just, inclusive green economy
 - Storm Cunningham: The Restoration Economy; ReWealth
 - Community revitalization based on restoration of natural, built, and socio-economic assets









Federal Legislative Trends

- American Recovery and Reinvestment Act of 2009
 - Energy Efficiency and Conservation Block Grant Program
 - Community Prevention and Wellness Initiative
- Upcoming Initiatives
 - Sustainable Communities Initiative (HUD / DOT coordination on affordable housing and transportation)
 - Transportation (SAFETEA-LU) Reauthorization



State Legislative Trends

- Some Examples
 - Massachusetts
 - California
 - Florida
- What's Going on in Pennsylvania?



Massachusetts

• S. 2768 – Green Communities Act of 2007

- Primarily, a Commonwealth-wide Energy Efficiency Plan
- Secondarily, it promotes Renewables, Green Communities, and Cleaner Cars

• What It Does

- Establishes Commonwealth's Energy Goals
- Establishes Energy Efficiency and Green Communities Program
- Establishes Least Cost Energy Planning
- Implements Long Term Contracts for the Purchase of Renewable Energy
- Creates New Department of Clean Energy
- Amends the Renewable Energy Portfolio Standard (RPS)
- Establishes an Alternative Energy Portfolio Standard

Massachusetts

• What the Green Communities Act of 2007 does (cont.)

- Improves Utility Safety
- Establishes Office of Ratepayer Advocacy
- Promotes Fuel Efficient State-Owned Vehicles
- Provides Alternative Vehicles Tax Deduction
- Extends Business Tax Credit for Installation of Solar Water Heating Units
- Establishes Smart Grid Pilot Program
- Establishes Demand Response Pilot Program
- Establishes Energy Pay and Save Pilot Program
- Increases Incentives for Installing Renewable Generation
- Extends Low Interest Loans for Energy Efficient Home Improvements
- Provides \$3 Million Annually to Hydroelectric Facilities for Upgrades

California

- SB 375 (2008) The Sustainable Communities and Climate Protection Act
 - Intent: to reduce greenhouse gas emissions by fostering development patterns that will reduce the need to drive
 - How It Works
 - The State will determine the level of emissions produced by vehicles in each of California's 17 metropolitan planning areas.
 - Local governments will devise strategies for housing development, other land uses, and transportation to meet 2030 and 2035 emission-reduction targets assigned to each area.
- This was the nation's first bill to link transportation and land use planning with global warming!

California

- SB 375 (2008) changes California planning and transportation law in four basic ways:
 - It adds new state content to the Regional Transportation Plan (RTP) a sustainable communities strategy – linking climate policy with transportation/land use planning.
 - 2. It aligns the program for the regional distribution of housing to be consistent with the sustainable communities strategy.
 - 3. It adds new provisions to the California Environmental Quality Act to assist land use decisions that implement the sustainable communities strategy.
 - 4. It adds new modeling provisions to accurately account for the transportation impacts of land use decisions.

Florida

• S. 2768 – Green Communities Act of 2007

HB 697 establishes new local planning requirements relating to energy efficient land use patterns, transportation strategies to address greenhouse gas reductions, energy conservation, and energy efficient housing.

• What it Does

- Revises requirements for the future land use element of a local comprehensive plan to include energy-efficient land use patterns and greenhouse gas reduction strategies
- Requires that the traffic-circulation element of a local comprehensive plan incorporate transportation strategies to reduce greenhouse gas emissions
- Requires that the land use map or map series contained in the future land use element of a local comprehensive plan identify and depict energy conservation

Florida

• What It Does (cont.)

- Requires that the home element of a local comprehensive plan include energy efficiency in the design and construction of new housing and use of renewable energy resources
- Requires each unit of local government within an urbanized area to amend the transportation element of a local comprehensive plan to incorporate transportation strategies addressing reduction in greenhouse gas emissions

"The future land use plan shall be based upon the discouragement of urban sprawl; energy-efficient land use patterns accounting for existing and future electric power generation and transmission systems; greenhouse gas reduction strategies..."

Pennsylvania

Governor's Green Government Council (1998 under Gov Ridge)

- To help state government embed environmental sustainability throughout its policymaking and operational processes.
- Works in partnership with Commonwealth agencies to stimulate the development and continuous improvement of environmentally sustainable practices in planning, policymaking and regulatory operations

• Energy

- Sustainable Generation Sources
- Green Electricity in PA
- PA Sustainable Energy Funds
- Green Buildings
- Green Schools
- PA Land Recycling



http://www.gggc.state.pa.us

Pennsylvania

Governor Rendell's Independence Strategy (2007)

- Alternative Energy Investment Fund (SS Act 1 of 2007)
- Biofuel Development and In-State Production Incentive Act (Act 78 of 2007)
- Alternative Fuels Incentive Fund (SS Act 2 of 2007)
- Act 129 (Amendment to Title 66 Public Utilities)

http://www.depweb.state.pa.us/energindependent/site/



Pennsylvania

• DEP Climate Change Action Plan

- Spearheaded by Climate Change Advisory Committee
- Includes a Land Use and Transportation Chapter
- 30-day public comment period (Oct 10 Nov 9)
- December 18, 2009 Final Action Plan to be delivered to Governor's Office



http://www.depweb.state.pa.us/energy/cwp/view.asp?a=1532&q=539829

Pennsylvania: State Agency Initiatives

• DEP

PA DEP Advanced Energy Toolkit

• PennDOT

- Smart Transportation

• DCED

- Alternative and Clean Energy Program
- PA Green Energy Works
- Geothermal, Wind, and Solar Program

Pennsylvania Case Studies

DVRPC Sustainability Initiatives

- Connections 2035: The Regional Plan for a Sustainable Future
 - Establishes a collective vision across municipal, county, and state boundaries to optimize how the metropolitan area develops and prepares for the future, linking environment, economy, and infrastructure systems



- Manage Growth and Protect Natural Resources
- Create Livable Communities
- Build an Energy Efficient Economy
- Establish a Modern
 Transportation System that
 Serves All Modes



DVRPC Sustainability Initiatives

Regional Greenhouse Gas Inventory

- Calculated greenhouse gas emissions by source (land use, transportation, etc.)
- Allocated emissions to the region's 9 counties and 352 municipalities

Energy Outreach to Municipalities (emerging initiatives)

- Municipal Energy Efficiency "Toolkit" (facility operations and management)
- Model energy ordinances (wind, solar, geothermal, wood stoves)







DVRPC Sustainability Initiatives

• Regional Food System Planning

- Greater Philadelphia Food System Study (2009)
- Plan for a More Sustainable Food System



the FOOD and FARMING ALMANAC

Union County Comprehensive Plan

Home Advisory Teams Consultants Meetings + Announcements Comments Public Input Maps Contact



January 2008 Municipal Officials Meeting

Listen to the WKOK Roundtable discussion on Cultivating Community



Union County has embarked on a new planning process that will shape its future. The process will result in a new comprehensive plan for the County and multi-municipal plans for three regions within the County, intended to guide decision-makers in managing future growth, promoting sustainable economic development, and preserving its rural landscape.

However, the success of the project depends on you. Meaningful public input will increase the effectiveness of the plan and the probability of its success. We invite you to share your passion for Union County by getting involved and voicing your opinion.

For more information about the comprehensive plan and the planning process, click here.

This is your future. What do you want it to look like?

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Union County Background

- Attractive rural quality of life with strong agricultural heritage and small towns / villages
- Forests and agriculture represents 60% and 30% of total land use, respectively
- Access to major urban areas via I-80 and other routes
- Historic downtown districts in Lewisburg and Mifflinburg
- Bucknell University is located in Lewisburg





Citizen Survey Results

Q2. Importance of Various Issues Facing Union County

Energy conservation	56%						<mark>9% 3%</mark>				
Manage future growth	55%					31%			11% <mark>4%</mark>		
ays and transportation	41%					44%	<mark>10% 5%</mark>				
Maintain low tax rate	60%						10	10% <mark>6%</mark>			
loyment opportunities				32%	11%	8%					
uniqueness & quality				34%	14%	<mark>6%</mark>					
ricultural preser∨ation	49%					30%	/ 0	<mark>_ 14%</mark>	7%		
Increase public safety	41%					38%			7%		
en∨ironmental impacts					35%		17%	<mark>。 5%</mark>			
er of new de∨elopment			35%				<mark>21%</mark>	6%			
ousiness de∨elopment	35%			34%			17%		15%		
alking and biking trails	32%			34%			16%		8%		
ecreation, open space	30%		36%			17%		1	17%		
d Village re∨italization	25%		40%			24%		%	12%		
d historic preser∨ation	20%		41%			21%		18%			
nmercial de∨elopment	24%		33%			19%		23%			
∢pand school ser∨ices	23%		31%			25%		21%			
ore affordable housing	25%	25%		29%		22%		24	%		
⁄ater/sewer a∨ailability	15%	_ 1	31%		30%			24	%		
ation of housing types	17%	2	22%		31%			30%			
ote population growth	9%	21%		27%			4:	3%			
0'	%	20%	2	10%		60%	8	0%	1009		

by percentage of respondents

■Very Important ■Somewhat Important ■Not Sure ■Not Important

Improved roadwa More emp Maintain community identity, More ag Limit e Stronger controls for characte Greater b Expand wa Expand parks, re Greater Town an Increase Increase cor E Mc More w Greater diversific Prom



Sustainability Principles

1. Focus new development in and around established communities

- Promote reinvestment in existing towns and villages
- Develop in close proximity to existing infrastructure

2. Preserve rural resources

- Maintain agriculture and prime farmland soils
- Preserve sensitive natural features and scenic views

3. Conserve energy

- Decrease fossil fuel consumption
- Reduce automobile use / promote transportation alternatives

4. **Conserve fiscal resources**

- Limit the negative impacts of new development on municipal budgets
- Limit the negative impacts of new development on community services

Sustainability Keys

- 1. Natural and Agricultural Resources System Integrity
- 2. Land Use Mixed Use
- **3. Housing** Diversity
- 4. **Economic Development** Building Local Assets
- **5. Transportation** Multi-Modal Choices
- 6. Cultural, Historic, and Recreational Resources Adaptive Reuse
- 7. Community Facilities, Utilities, and Energy Conservation Energy Conservation

Sustainability Key: Community Facilities, Utilities, & Energy Conservation

Energy Conservation

 Minimizing energy usage conserves resources, reduces emissions, and yields economic returns by lowering costs.

Sample Sustainability Indicators

- Compactness of infrastructure systems
- Renewable energy installations
- Green buildings
- Reduction in VMT

Sample Actions

Community Facilities, Utilities, and Energy Conservation

- Reduce energy demand through conservation and increase use of renewable sources
- Support energy production on farms (e.g., power from methane, regional manure digester)
- Upgrade high school facilities as model "green" facilities
 - Sustainable building systems
 - Stormwater best management practices
 - Multi-modal transportation access





Sustainability and Main Street









Vandergrift citizens were first exposed to sustainability concepts via a workshop on May 15, 2004. The session was conducted by Sarah James of Cambridge, MA and Torbjorn Lahti of Sweden, co-authors of *The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices.*





Sustainability and Main Street





http://www.thenaturalstep.org/en

The Framework Adopted by the VIP: The Natural Step Guiding Objectives for Sustainability:





the NATU	Applying the Natural St Objectives 1-4 i	ep(T n Var	'NS) F ndergi	rame rift	work	NDERGRI
	TNS Sustainability Objectives >	1	2	3	4	
	Hydrokinetic Project	Х		Х	Х	
	Sustainable Building Initiative	Х	X	Х	Х	
	Landscape Restoration Initiative			Х	Х	
	Farmers' Market	Х	Х		Х	
	Plans for Organic Fair Trade Coffee Shop		Х	Х	Х	
	Sustainability Education Initiative	Х	Х	Х	Х	
	Plans for a Tree Commission		Х	Х		



 $UNIVERSITIES \leftrightarrow BUSINESSES \leftrightarrow COMMUNITY \leftrightarrow GOVERNMENT \leftrightarrow NON-PROFITS$







Cranberry Township Sustainability Assessment









Cranberry Principles



- Be Distinctive
- Be Prosperous
- Be Healthy
- Be Engaged
- Be Committed

The next step: put the principles into practice









Multidimensional, **Multidisciplinary Scope / Team**

PHYSICAL PLANT

- **Energy Efficiency & Conservation** • G. A. Wozniak & Associates
- **Municipal Center Parking** Clear View Strategies
- Stormwater & Sewer & Water planning/budgeting Collective Ffforts, 11C
- Waste & Recycling • Pennsylvania Resources Council
- **Environmentally Preferable Purchasing** Pennsylvania Resources Council
- **Renewable Energy** • Strategic Energy, Inc.
- **Communications** • Sustainable Pittsburgh
- **Systems Integration** Sustainable Pittsburgh
- **Carbon Dioxide Mitigation Strategies** • G. A. Wozniak & Associates & Sustainable Pittsburgh
- Certifications and Evaluation Systems (ISO 14001, LEED, • and Audubon International Certifications)

Sustainable Pittsburgh



SUSTAINABLE PITTSBURGH

MUNICIPAL PROGRAMS, POLICY, & PLANNING

- Municipal Fiscal Health & Operating Budget & Preferred Scenario Fiscal Considerations Local Government Academy
- Human Resources PGHR Consulting, Inc.
- Land Use Management Program • Reaves & Associates
- **Affordable Housing** Reaves & Associates
- **Capital Improvement Program** • Reaves & Associates
- **Sustainability Goals & Measures** • Reaves & Associates & Sustainable Pittsburgh
- **Evaluate Comp Plan Alternate Scenarios** • Reaves & Associates & Sustainable Pittsburgh
- **Public Education** Sustainable Pittsburgh





Recommendations



Payback (Years)











Sample Tier-1 Recommendations: Energy

- 1. Turn unneeded electrical appliances OFF.
- 2. Increase employee awareness.
- 3. Provide Facilities Manager with a copy of utility bills.
- 4. Read your own natural gas meters.
- 5. Turn off coffee makers at the power source.
- 6. Turn off computers when not in use at night.
- 7. Reduce number of dorm style refrigerators.
- 8. Deter over illumination of combined fixed/dimmable lighted spaces.
- 9. Eliminate incandescent lighting where possible.
- 10. Continue locking out electric baseboard heaters and radiant panels during the cooling season.









Savings from Energy Recommendations

Tier 1

- \$3600/yr
- 100,000 pounds of CO2
- Tier 1 + Tier 2
- \$8500/yr
- 202,000 pounds of CO2









Sample Tier-1 Recommendations: Waste

- 1. Hauler: single stream recycling.
- 2. Provide recycling containers for all co-mingled, paper, and corrugated cardboard materials.
- 3. Provide waste reduction training to staff and employees.
- 4. Establish an internal recycling policy for Township employees and promote it.
- 5. Establish a "Green" team to review waste reduction, monitor proper separation of the waste stream from recyclables, and encourage employee recycling.









Cranberry Positioned to be a Recognized Leader

- Sustainability Investment Fund
- Sustainability Coordinator
- Sustainability Education
- Sustainability Task Force
- Sustainability Indicators
- Taking Credit, Inspiring Action, Leading by Example





Discussion: How Can PA Communities Plan for a Sustainable Future?

Discussion Questions

- 1. What are your experiences in planning for sustainable communities in PA?
- 2. What are the opportunities to create more sustainable communities through planning and implementation?
- 3. What are the challenges?
- 4. What can state government do to help PA's communities plan for a more sustainable future?

How can PA Communities Plan for a **Sustainable Future?**

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For a copy of the presentation, please visit: wrtdesign.com/headlines.html

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