

Alternative Energies Ordinance Work Group



**Kick-off Meeting
DVRPC
October 20, 2009**

Overview



- Growing funding and policy commitments
 - National
 - Pennsylvania
 - New Jersey
- Example/Model Codes and Ordinances

National:

American Recovery and Reinvestment Act

- Funding
 - Innovative Technology Loan Guarantees: \$6 billion
 - Smart Grid Investment Program: \$4.5 billion
 - Energy Efficiency and Renewable Energy Research Development Demonstration and Deployment: \$2 billion for energy efficiency and renewable energy research including, \$800 million for biomass projects and \$400 million for geothermal projects
 - Clean energy tax credits and incentives

National:

American Recovery and Reinvestment Act

- Tax provisions
 - Personal tax credits
 - Residential Energy Efficiency Tax Credit
 - Residential Renewable Energy Tax Credit
 - Corporate tax credits
 - Renewable Electricity Production Tax Credit (PTC) and Business Energy Investment Tax Credit (ITC)
 - Energy Efficient Commercial Buildings Tax Deduction
 - Energy-Efficient New Homes Tax Credit for Home Builders

Pennsylvania:

Act 129

- Requires each of the seven major electric distribution companies to procure cost-effective energy efficiency and to develop energy efficiency and conservation plans
- Reduce electricity consumption by a minimum 1% by May 31, 2011, increasing to a total of 3% by May 31, 2013, and to reduce peak demand by 4.5% by May 31, 2013
- 10% of both consumption and peak demand reductions are to come from "federal, state, local government, including municipalities, school districts, institutions of higher education and nonprofit entities."



Pennsylvania:

American Recovery and Reinvestment Act

- State Energy Plan
 - \$99.6 million to PA
 - Funding intended for renewable, clean energy and conservation projects; 10% already awarded
- Energy Efficiency and Conservation Block Grants
 - \$102.5 million to PA
 - Purpose is to assist local governments in reducing fossil fuel emissions, reducing total energy use and improving energy efficiency



Pennsylvania:

New State Funding Opportunities

- \$3.5 million into the existing Keystone HELP program to reduce the interest rates on low-interest loans for energy efficiency improvements to homes
- DEP providing \$1 million for a new rebate program to cover up to \$250 (or 10 percent) of the cost of ENERGY STAR qualified improvements and up to \$500 (or 10 percent) if improvements go beyond ENERGY STAR
- Commonwealth Financing Authority (CFA): \$80 million solar energy program
- Pennsylvania Sunshine Program: \$100 million
- High Performance Building program: \$25 million

Pennsylvania:

Alternative Energy Investment Act

- Wind and geothermal funding available
- \$25 million from the Alternative Energy Investment Act for grants or loans for geothermal projects, wind projects and wind turbine manufacturing facilities
- Funding is open to businesses, economic development organizations and political subdivisions including municipalities, counties and school districts

New Jersey:

Global Warming Acts

- **Global Warning Response Act** calls for New Jersey's greenhouse gas emissions to be reduced to 1990 levels by 2020, followed by a further reduction of 80 percent below 2006 levels by 2050
- **Global Warming Solutions Act** allows the state to use proceeds from the carbon-dioxide allowance auctions to fund programs that reduce greenhouse gas emissions. New Jersey's first auctions have generated \$32 million



New Jersey: Clean Energy Program

- Rebates and Promotions
- Home Energy Audit - Home Performance with ENERGY STAR
- Renewable Energy Programs - Solar, Wind or Biomass
- Energy Audits for Local Government Owned Buildings in your Community
- Incentives for Commercial Buildings
- Green Job Training



New Jersey: Renewable Energy Programs

- Created a small wind model ordinance, currently in draft version five
- Series of Solar White Papers

New Jersey:

Regional Greenhouse Gas Initiative

- Local Government Greenhouse Gas Reduction Grant Program
- Administered by NJDEP
- Supports projects that yield a “measurable reduction in greenhouse gasses”
- \$2.5 million available in first round of funding
- Nearly 300 pre-applications received
- Quarterly RGGI auctions; ongoing funding stream

Codes and Ordinances

- Rocky Mountain Land Use Institute Sustainable Communities Development Code
- Montgomery County Planning Commission Model Ordinances
- Resources from APA

Rocky Mountain Land Use Institute
Sustainable Communities Development Code



*Support sustainable communities through
innovative land use codes*

- Google RMLUI
- <http://www.law.du.edu/index.php/rmlui/sustainable-community-development-code>

Rocky Mountain Land Use Institute
Sustainable Communities Development Code

- **REMOVE OBSTACLES**
 - Increase height limits (wind turbines)
- **CREATE INCENTIVES**
 - Density bonuses (green roofs)
- **REGULATE**
 - Mandatory water-conserving landscaping

Rocky Mountain Land Use Institute
Sustainable Communities Development Code

- **Energy Conservation/Production**
 - **Remove Obstacles: Permit solar collectors as by-right accessory use (including historic districts)**
 - **Create Incentives: Over-the-counter permitting and fee waivers**
 - **Regulations: Solar access at site level**

Rocky Mountain Land Use Institute

Sustainable Communities Development Code

- **Energy Production/Wind Power**
 - **Remove Obstacles:**
 - Increase height limits
 - Allow turbines in residential districts
 - **Create Incentives:**
 - Identify suitable sites in comprehensive plans
 - **Regulations:**
 - Prohibit placement in flyways
 - Preserve areas with wind potential

DRAFT Sustainable Community Development Code Framework


RENEWABLE ENERGY

KEY STATISTICS:

- About 9 percent of electricity in the U.S. is generated from renewable sources
- Most electricity in the U.S. is generated by burning nonrenewable fossil fuels
- Proper solar orientation of new homes built in the San Jose area produced total energy savings of 11 to 16.5 percent—with up to 40 percent savings from space cooling
- Placing a building's long face on an east-west axis with a large percentage of windows on the south side can reduce fuel consumption by up to 25%
- Between 200,000 and 250,000 U.S. homes and businesses have solar panels today, a number that has increased by more than 40 percent a year since Congress passed a federal tax credit for solar energy in 2005



SITE DESIGN STRATEGIES FOR SOLAR ACCESS

	Remove Obstacles	ACHIEVEMENT LEVELS			References/Commentary	Code Examples/Citations
		Bronze (Good)	Silver (Better)	Gold (Best)		
	<ul style="list-style-type: none"> • Identify limiting provisions (e.g. accessory structure limits, historic district regulations) and craft exceptions to permit solar energy devices • Prohibit solar restrictions in new private CC&Rs in subdivision regulations 	<ul style="list-style-type: none"> • Allow modest adjustments to side, front and/or rear yard setback requirements (or other conflicting regulations) that allow applicants to meet solar access requirements 	<ul style="list-style-type: none"> • Override existing private covenants restricting solar devices • Allow solar panels as a by-right accessory use except in special districts (e.g., historic districts) 	<ul style="list-style-type: none"> • In the last five years, advances in technology have resulted in photovoltaic systems that can be installed in some roofing systems to make them nearly invisible—providing an alternative to tradition panels in areas where aesthetics are of significant concern (e.g. historic districts). See US Department of Energy, Building America Best Practices for High-Performance Technologies: Solar Thermal & Photovoltaic Systems. Available online. Last accessed online 2/11/09. • The LEED ND pilot program incorporates a section on Solar Orientation intended to, “achieve enhanced energy efficiency by creating the optimum conditions for the use of passive and active solar strategies.” The section is one of twenty potential credits under the section entitled Green Construction & Technology. Available online. Last accessed online 2/11/09. 	<ul style="list-style-type: none"> • Los Angeles, Historic Preservation Overlay. Available online. Last accessed online 2/11/09. • Fort Collins, Colorado Land Use Code, Solar Access, Orientation, and Shading. Available online. Last accessed online 2/11/09. • Gresham, Oregon Development Code, Solar Access Standards. Available online. Last accessed online 2/11/09. • Multnomah County, Oregon Solar Access Provisions for New Development. Available online. Last accessed online 2/11/09. • City of Berkeley, California, Title 23 (Zoning Ordinance) Section 23D.04: Lot and Development Standards. Available online. Last accessed online 2/11/09. • Teton County, Wyoming, Solar Access Regulations. Available online. Last accessed online 2/11/09. 	

Montgomery County Planning Commission: Model Ordinances

- Suggested language with sidebars providing:
 - Definitions
 - Legislative background
 - Optional language
- Example: *Town Center District Model Ordinance*

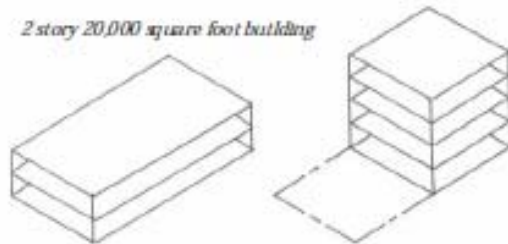


Upper level 10-foot setback



4 story 20,000 square foot building

2 story 20,000 square foot building



2.0 FAR on 10,000 square foot lot

Section 3. Development Standards

- A. Minimum Lot Size: 2,500 square feet.
- B. Minimum Lot Width: 25 feet.
- C. Build-to-Line. Buildings shall be:
 1. Built to the sidewalk; or
 2. The setback should be the average of the two closest structures on the same side of the street with a maximum setback of 20 feet; or
 3. Setback from the sidewalk 10-20 feet for purposes of a plaza, square, courtyard, recessed entrance, or outdoor dining.
- D. Side Yard Setback. There shall be no side yard setback for buildings that share a party wall. The setback between buildings shall be 10 feet (5 feet per each building) when not sharing a party wall.
- E. Maximum Impervious Coverage: 100 percent.
- F. Building Height. Buildings shall be a minimum of two stories or a maximum of 65 feet (if there is a 10 foot setback (on average) after the third story and provided the streetscape and green area standards in Section 5 are followed).
- G. Maximum Building Footprint for Nonresidential Buildings: 10,000 square feet.
- H. Floor Area Ratio (FAR): 2.0.
See Section 6, Bonus Provisions, for conditions when a 2.5 FAR is permitted.

Development Standards:

These regulations are model community standards. Individual municipalities may modify these development standards to meet their needs.

Build-to-lines contributes to the street life of an area by ensuring that building fronts are built to the street.

Floor Area Ratio (FAR) is the ratio of gross building floor area to the total lot area. The advantage of using FAR is that it is more effective in regulating the intensity of a site than building coverage.

For example, if a 10,000 square foot lot has a FAR of 2.0 then a developer can construct a building that has a total floor area of 20,000 square feet.

APA: Planning and Zoning for Renewable Energy

- **Wind Power – Reports and Model Ordinances**
 - American Wind Energy Association. n.d. “Small Wind Factsheets.”
 - Asmus, Peter et al. 2003. *Permitting Small Wind Turbines: A Handbook – Learning from the California Experience*. American Wind Energy Association, September.
 - Daniels, Katherine. 2005. *Wind Energy Model Ordinance Options*. Albany, NY: New York State Energy Research and Development Authority.
 - Gruder, Sherrie. 2006. *Small Wind Energy System Model Ordinance*. University of Wisconsin Extension, Solid and Hazardous Waste Education Center.
 - Heller, Erica. 2008. “Urban Wind Turbines.” *Zoning Practice*, July.
 - Kilpatrick, Erin, and Mark Wyckoff. 2003. “Planning and Zoning for Wind Power Facilities.” *PAS Memo*, February.
 - Michigan, State of, Department of Labor and Economic Growth, Energy Office. 2007. *Michigan Siting Guidelines for Wind Energy Systems*. Lansing: Michigan Department of Labor and Economic Growth.

APA: Planning and Zoning for Renewable Energy

- **Wind Power – Sample Ordinances**

- Chicago (Illinois), City of. 2007. *Zoning Ordinance*. Section 17-17-0311-B(4). Limitations on Rooftop Features in R Districts.
- Duluth (Minnesota), City of. 2007. *Zoning Code*. Sections 50-1.75, 50-21(a), 50-35(ee), 50-52(o), 50-55.1(j), 50-80(o)(1), 50-123(c), 50-196(c).
- Henderson (New York), Town of. 2007. *Zoning Ordinance*. Article IX. Wind Generation Facilities.
- Laketon (Michigan), Township of. 2006. *Zoning Ordinance*. Sections 2.24, 5.03(O), 6.03(N), and 17.05 (EE).
- Lincoln (Nebraska), City of . N.d. *Zoning Code*. Section 27.63.420. Permitted Special Use: Wind Energy Conversion Systems.
- Minneapolis (Minnesota), City of. 2007. *Zoning Code*. Article X. Wind Energy Conversion Systems.
- San Diego (California), County of. 2007. *Zoning Ordinance*. Sections 6156(z), 6950, and 6951.
- Schaumburg (Illinois), Village of. 2007. *Village Code*. Section 154.90. Wind Energy Conversion Systems (WECS).
- Scott (Minnesota), County of. 2006. *Zoning Ordinance*. Chapter 12. Energy Systems.
- Wautaga (North Carolina), County of. 2006. *Ordinance to Regulate Wind Energy Systems*.

APA: Planning and Zoning for Renewable Energy

- **Solar Access Ordinances**

- Ashland (Oregon), City of. 2007. *Municipal Code*. Section 18.70. Solar Access.
- Boulder (Colorado), City of. 2007. *Boulder Revised Code*. Section 9-9-17. Solar Access.
- Boulder (Colorado), City of, Building Services Center. 2006. Solar Access Guide.
- Clackamas (Oregon), County of. 2005. *Zoning and Development Ordinance*. Section 1017. Solar Access Ordinance for New Development. Section 1018. Solar Balance Point/Infill Ordinance. Section 1019. Solar Access Permit Ordinance.
- Eugene (Oregon), City of. 2007. *Land Use Code*. Sections 9.2780-.2795. Solar Standards.
- Prairie du Sac (Wisconsin), Village of. 2003. *Land Use Regulations*. Chapter 8. Solar Access.
- San Luis Obispo (California), City of. 2007. *Municipal Code*. Section 16.18.170. Easements for Solar Access.
- Santa Barbara (California), City of. N.d. *Solar Access Packet*.

APA: Planning and Zoning for Renewable Energy

- **Solar Energy Systems**

- Black, Karen. 2006. City Planner. “First Reading of an Ordinance Amending Chapter 17 Regarding Solar Panels, and Resolution to waive Building Permit Fees for Certain Solar Energy Systems.” Council Agenda Report, September 5.
- Dixon (California), City of. 2007. *Zoning Ordinance*. Section 12.19.21. Single Family Residential and Secondary Living Units Design Standards. Section 12.27. Energy and Water Conservation Regulations.
- Fillmore (Minnesota), County of. 2007. *Zoning Ordinance*. Section 709. Solar Energy Systems and Solar and Earth Sheltered Structures. Section 710. Wind Energy Conversion Systems.
- Houston (Texas), County of. 2006. *Zoning Ordinance*. Section 0110.2808. Solar Energy Systems and Solar Structures.
- Ithaca (New York), Town of. 2006. *A Local Law Regarding Solar Collectors and Installations*. October 26.
- Ithaca (New York), Town of. 2007. *Freestanding Photovoltaic Systems: Building Permit Application Checklist*.
- Mansfield (New Jersey), Township of. 2007. *An Ordinance to Define Solar Energy Systems*. Ordinance 2007-10.
- Roseville (California), City of. 2006. *Zoning Code*. Article II. Use Type Classifications. Article IV, Chapter 19.55. Power Generating Facilities.
- Santa Barbara (California), City of, Building and Safety Division. N.d. *Solar Energy System Submittal Requirements*.
- Seattle (Washington), City of. 2007. *Municipal Code*. Section 23.44.046. Solar Collectors. Section 23.42.130. Nonconforming Solar Collectors. Section 23.45.146. Solar Collectors.

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- **Renewable Energy Incentives**

- Chelan (Washington), County of. 2007. *Zoning Regulations*. Section 12.28.040. Cluster Subdivisions – Application of Zoning Regulations.
- Gorham (Maine), Town of. 2004. *Land Use Ordinances*. Chapter 1A. Planned Unit Development. Section IV. Density Bonus Provisions and Standards.
- Morgan Hill (California), City of. 2007. *Zoning Code*. Section 18.18.110. RPD Residential Planned Development Overlay District – Density Bonus Conditions.
- Pullman (Washington), City of. 2007. *Zoning Code*. Section 17.107.040. Planned Residential Development – Development Standards.

APA: Planning and Zoning for Renewable Energy

- **Renewable Energy Online Resources**
- American Bar Association, Section of Environment, Energy, and Resources. “Renewable Energy Resources Committee: Links.” <http://www.abanet.org/environ/committees/renewableenergy/links.html> .
- American Wind Energy Association. www.awea.org .
- Database of State Incentives for Renewables and Efficiency. <http://www.dsireusa.org/>
- Interstate Renewable Energy Coalition. <http://www.irecusa.org/> .
- New York State Energy Research and Development Authority. “Power Naturally.” <http://www.powernaturally.org> .
- Renewable Energy Policy Project. <http://www.repp.org> .



Alternative Energies Ordinance Work Group: DVRPC Resources

- Web page
 - Meeting minutes
 - Presentations
 - Sample ordinances/references
 - Spreadsheet of alternative energy ordinances in region
- Municipal outreach, MIT brochures
- Coordination
 - Evangeline Linkous
 - (215) 238-2865
 - elinkous@dvrpc.org