GreenStep Cities Best Practice # 26
- final draft for comment through May 2010 –

❖ ***Renewable Energy:*** Remove barriers to and encourage installation of renewable energy generation capacity.

Optional

Category: Economic and Community Development

Summary

Minnesota is currently almost completely dependent on energy generated from sources outside state borders: we import coal, natural gas, uranium, petroleum, and electricity produced from a variety of these non-renewable (and a small proportion of renewable) sources from outside our borders. Adding renewable energy generation capacity that is owned by local government, businesses and educational institutions:

- Keeps dollars available for respending in the community.
- Increases a community's resilience to energy supply and price shocks.
- Cuts greenhouse gas emissions in support of the state's Next Generation Energy goals.

Local renewable energy sources include power from wind, the sun, biomass and water.

Best Practice Actions

- Category A cities must complete at least one Action if they choose to implement this best practice.
- Category B and C cities must complete two or more Actions if they choose to implement this best practice.

(1) Adopt, with modifications as necessary, at least one of the following from Minnesota's 2009 *Model Ordinances for Sustainable Development*:
   a. Solar energy standards.
   b. Model wind energy ordinance.

(2) Consistently promote at least one of the following:
   a. A local utility's green power purchasing program for homes and businesses.
   b. Local, state and federal financial incentives for property owners to install renewable energy systems.

(3) Create a renewable energy financing program for property owners to install generation capacity.

(4) Promote firms that contract with property owners (in groups or individually) to install/finance renewable installations, some at little or no upfront cost.

(5) Install a public sector renewable energy technology, such as solar electric (PV), solar hot water or hot air, micro-hydro or wind.

(6) Work with private/public partners to create renewable energy generation capacity with one or more of the following attributes:
   a. Fueled by flowing water, wind, or biogas0-.
   b. Fueled in part or whole by woody biomass, optimized for minimal air and other environmental impacts and for energy efficiency and water conservation.
   c. Distributing heating/cooling services in a district energy system.
   d. Producing combined heat and power.

See related *Local Air Quality* best practice for wood burning actions.

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Implementation Resources

(tied to the relevant Action by number)

(1a and b) Minnesota's 2009 *Model Ordinances for Sustainable Development*: http://www.crplanning.com/susdo.htm

(2a) Buy green power information: http://www.pca.state.mn.us/oea/energy/greenpower.cfm
(2b) Local, state and federal financial resources and incentives: the Minnesota Office of Energy Security at http://www.energy.mn.gov and http://wwwdsireusa.org and as appropriate the Minnesota Municipal Power Agency at http://www.mmpa.org

(3) Cities can create a property assessed clean energy (PACE) program, where property owners take out loans secured with property liens and paid off via property taxes, or they can promote options via city-financed and privately financed home improvement loans. See details on PACE at _____ and the pros and cons of PACE at _____
(3) *Guide to Energy Efficiency & Renewable Energy Financing Districts for Local Governments* (University of California, Berkeley: 2009): http://rael.berkeley.edu/files/berkeleysolar/HowTo.pdf
(3) Background on property assessed clean energy: http://www.pacenow.org

(4) Interactive map of solar energy installers in Minnesota, and planning, financing and technology resources: http://installermap.mncerts.org
(4) See freEner-g , a Minnesota company offering solar electricity leasing, and One Block Off the Grid, a national solar bulk-buyer/financing organization: http://www.freener-g.com and http://1bog.org

(5) Renewable energy cast studies in *Best Practices Review: Reducing Energy Costs in Local Government* (Office of the State Auditor: 2008); look under Reports & Data at: www.auditor.state.mn.us/default.aspx
(5) Elk River renewable energy demonstrations: http://www.elkriverenergycity.org
(5) *Template for Estimating County Level Energy Use and Renewable Energy Potential* (AURI: 2009): http://www.auri.org/research/TemplateEstimatingEnergy/TemplateEstimator.htm
(5) *Solar Powering Your Community: A Guide for Local Governments* (U.S. DOE: 2009): http://www.solaramericacities.energy.gov/GuideForLocalGovernments

(6) Assistance available from the MN Renewable Energy Society: http://www.mnrenewables.org
(6a) Low Impact Hydropower Certification Program and hydrokinetic water turbines (installed at Hastings, MN): http://www.nextstep.state.mn.us/res_detail.cfm?id=136
(6a) Assistance available from the Minnesota-based non-profit Windustry : http://www.windustry.org
(6a) The Rural Energy Development Initiative (REDI) is a statewide program administered by the Southwest Initiative Foundation and sponsored by the State of Minnesota, the Center for Rural Policy and Development, and the McKnight Foundation. The goal of REDI is to maximize rural economic development and stabilize rural economies by building renewable energy capacity, expertise and leadership throughout Minnesota. Resources, currently focused on wind power, connect you with companies that can help plan, implement, and manage clean energy projects: http://www.rediresources.org
(6a) Advanced manure digesters that produce biogas: http://www.nextstep.state.mn.us/res_detail.cfm?id=2007
(6a) *Source Separated Organic Materials Anaerobic Digestion Feasibility Study (*Ramsey and Washington Counties, St. Paul Port Authority: 2009): http://tinyurl.com/y2y9e7t
(6b & c) District Energy St. Paul, one of several combined heat and power (CHP) plants in Minnesota, runs North America's largest hot water district heating system, in addition to distributing chilled water, and is fueled in part by wood waste: http://www.districtenergy.com
(6b & c) *Community-Based Bioenergy and District Heating: Benefits, Challenges, Opportunities and Recommendations for Woody Biomass* (Minneapolis-based Dovetail Partners: 2009): http://www.dovetailinc.org/files/DovetailDistHeat0409.pdf
(6d) Combined heat and power tools from the U.S. EPA: http://www.epa.gov/chp/

Benefits

- CERTS produce technical resources and case studies posted at: http://www.cleanenergyresourceteams.org/

Connection to State Policy

- Minnesota's Next Generation Act of 2007 sets the following statewide goals:
  (1) greenhouse gas emissions reduction goals of cutting emissions to 15 percent below 2005 levels by 2015, 30 percent below 2005 levels by 2025, and 80 percent below 2005 levels by 2050;
  (2) a state energy conservation goal of achieving annual energy savings equal to 1.5 percent of annual retail energy sales of electricity and natural gas;
  (3) an energy policy goal that the per capita use of fossil fuel as an energy input be reduced by 15 percent by the year 2015, through increased reliance on energy efficiency and renewable energy alternatives;
  (4) an energy policy goal that 25 percent of the total energy used in the state be derived from renewable energy resources by the year 2025.
- Minnesota Governor Tim Pawlenty approved legislation that includes provisions creating a Property Assessed Clean Energy (PACE) program, on April 5, 2010. PACE enables local governments to create voluntary programs that will allow property owners to finance solar, other renewable energy, energy efficiency, and electric vehicle plug-in improvements to their homes or businesses through voluntary property assessments: http://www.enn.com/press_releases/3302