

GreenStep Cities Best Practice #2 - final draft for comment through May 2010 -

Efficient Existing Private Buildings: Work with utilities and others to assess and finance energy and sustainability improvements for existing structures.

Category: Buildings & Lighting

Optional for all cities

Summary

In virtually every city the number of existing buildings dwarfs the number of new buildings being built every year. This huge stock of existing buildings, most of which were not designed for resource efficiency, offer many opportunities to make sustainability improvements. Even buildings that are relatively new frequently present a number of economically beneficial opportunities for efficiency upgrades, which help meet greenhouse reduction goals and also pay for themselves in reduced operating costs. Moreover, buildings with high energy efficiency and whole-building optimization improve occupant quality of life, employee productivity, and have a higher resale value.

Best Practice Actions

- Category A and B cities must complete at least one Action if they choose to implement this best practice.
 - Category C cities must complete at least two Actions if they choose to implement this best practice.
- (1) Create a marketing and outreach program with the local utility or the local Community Action Program to promote residential energy use reduction and energy efficiency.
 - (2) Integrate green building information into the building permit process.
 - (3) Develop a (or modify an existing) truth-in-housing inspection program for homes being sold, to include a blower-door test and energy use rating.
 - (4) Partner with an assistance provider such as a utility, EnergySmart, MNTAP or ReTAP and document building energy improvements in businesses.
 - (5) Take action to conserve drinking water resources through at least one the following:
 - a. Implement a robust watering ordinance.
 - b. Implement a conservation rate structure.
 - c. Adopt, with modifications as necessary, a model landscaping ordinance to allow for low water-use landscaping.
 - d. Create a rebate or feebate program to promote purchases of WaterSense- and Energy Star-rated appliances.
 - (6) Provide a meaningful and significant incentive to builders, homeowners, businesses or institutions who renovate to a green building standard:
 - a. Building permit fee discount
 - b. Grant, rebate or tax breaks (e.g., property tax abatement)
 - c. Expedited permit review
 - d. Green building design assistance
 - e. Density bonus
 - (7) Customize a model sustainable building policy and adopt language governing commercial renovation projects:
 - a. Receiving city financial support, and/or
 - b. Requiring city regulatory approval (conditional use permit, rezoning, PUD).
 - (8) Arrange for on-bill financing, using either utility or property tax bills, to make home/building sustainability improvements easier and more affordable.

GreenStep Advisor

- Carl Nelson, Program and Policy Manager, Center for Energy and Environment, 612-335-5871, cnelson@mncee.org

Implementation Resources

(tied to the relevant action by number)

- (1) The City of Apple Valley's Better Energy initiative works with local utilities and others and aims for a 10% reduction in community-wide energy use: http://www.ci.apple-valley.mn.us/Departments/BE_Program/main.html
- (1) Minnesota Power's hierarchy of energy efficiency/renewable energy actions for homes: http://www.mnpower.com/powerofone/one_home/
- (1) The EPA's Rapid Deployment Energy Efficiency (RDEE) Toolkit provides program design and implementation guides for 3 energy efficiency programs applicable for residential and small commercial structures: http://www.epa.gov/cleanenergy/energy-resources/ee_toolkit.html
- (2) At various steps leading up to when a resident or builder secures a building permit, cities can provide green building information sheets, building tips, checklists, case studies, lists of contractors who have built certified green buildings, information on financing programs, or green building plan review.
- (2) First Suburbs Coalition (of Kansas City) *2008 Green Remodeling Idea Book*: <http://www.marc.org/assets/green-idea-book.pdf>
- (2) MPCA green building program resources: <http://www.pca.state.mn.us/greenbuilding>
- (2) See a calculator to measure cost effectiveness and energy savings of cool roofs in both residential and commercial applications: http://apps1.eere.energy.gov/buildings/tools_directory
- (3) Some cities in MN require by ordinance a Truth in Housing or Time of Sale inspection when a building is sold. The intent is to provide accurate information to buyers on the condition of the real property for sale and to help the city keep up the quality of buildings available. Every city determines the required inspection elements, such as blower door testing, inspection with an infrared camera, and ranking or certification of energy performance (using programs such as Energy Star Home Energy Yardstick: http://www.energystar.gov/index.cfm?c=home_improvement.hm_improvement_index
- (4) Local utility programs include building energy reports, rebate programs for purchasing/upgrading to more efficient appliances, bonus rebates for using qualified installers, and commercial design assistance. See, for example, Austin Energy, the nation's 9th largest community-owned electric utility: <http://www.austinenergy.com>
- (4) The EnergySmart program from the MN Chamber of Commerce, the Retired Engineers Technical Assistance Program (ReTAP) of the MN Pollution Control Agency and the MN Technical Assistance Program all provide energy efficiency assistance for business at no cost: <http://www.mnenergysmart.com> and <http://www.pca.state.mn.us/oea/p2/retap.cfm> and <http://www.mntap.umn.edu>
- (5a) *Water Conservation Best Management Practices Guide* (Texas Water Development Board: 2004): <http://www.twdb.state.tx.us/assistance/conservation/taskforcedocs/wcitfbmpguide.pdf>
- (5b) Elk River Municipal Utilities robust water conservation rates are: \$1.50/thousand gallons for the first 9,000 gal. per month; \$3.50/thousand gal. for next 6,000 gal. per month; \$4.00/thousand gal. for use above 15,000 gal./month.
- (5c) Landscaping and Maintenance of Vegetation from Minnesota's *Updated Model Ordinances for Sustainable Development*: <http://www.crplanning.com/susdo.htm>
- (5d) WaterSense and EnergyStar appliances: <http://www.epa.gov/watersense> and EnergyStar: <http://www.energystar.gov>

(5d) The City of Roseville's commercial high efficiency toilet rebate program:

<http://roseville.ca.us/civica/filebank/blobload.asp?BlobID=15793>

(6a) The City of Falcon Heights provides building permit rebates for home improvements that meet Energy Star guidelines: <http://www.ci.falcon-heights.mn.us> [select City Departments, then Permits]

(6a) Oakdale's Generation Green program awards participating businesses a 15% reduction in building permit fees: http://www.nextstep.state.mn.us/res_detail.cfm?id=482

(6d) The City of St. Louis Park uses the Minneapolis-based Center for Energy and Environment to provide free remodeling advice for residents: http://www.stlouispark.org/home_improvement.htm

(6b, c, e) **Examples in MN or a guide to doing these?**

(7) The St. Paul sustainable building policy, adopted in 2009, was developed to serve as a model for other cities:

http://www.nextstep.state.mn.us/res_detail.cfm?id=4221

(8) **An example in MN or a guide to doing this?**

Benefits

- Four of the five most cost-effective ways to cut emissions — improving insulation, lighting, air-conditioning and water heating — are building retrofit measures, according to the consultant McKinsey & Company.
- Green retrofitting not only can help cities achieve real and meaningful reductions in greenhouse gas emissions, it will also create new, “green” jobs for blue-collar workers.
- Investments in retrofits can produce immediate economic impact, as most of the money is spent on labor costs for workers who tend to spend this money locally and increase its multiplier effect: \$1 million spent on retrofits creates between 8 and 11 jobs and generates about \$300,000 in taxes, according to estimates.
- According to *Energy Efficiency: Engine of Economic Growth - A Macroeconomic Modeling Assessment* Environment Northeast : 2009), all the money that government agencies, utility companies, and others are spending on efficiency programs not only saves energy, it pumps cash back into the economy - from \$6 to \$8.50 for every \$1 spent: http://www.env-ne.org/public/resources/pdf/ENE_ExecSum_EnergyEfficiencyEngineofEconomicGrowth_FINAL.pdf
- A mass retrofit of single-family homes could make a huge dent in greenhouse gas emissions: These homes are responsible for 38 percent of all building energy use and 73 percent of all residential use.
- Even simple changes to routine building maintenance can have significant impact. For example, painting 1,000 sq. feet of roof white has been estimated to reflect enough sunlight to counteract the warming effects of 10 tons of carbon dioxide. Light-colored pavement also reflects sunlight.

Connection to State Regulations

- Energy utilities are required to demonstrate annual efficiency or conservation reductions under the 2007 Legislature's Next Generation Energy Act.
- Every water utility serving more than 1,000 people must adopt a conservation rate structure by January 2010 in the Twin Cities metro area and by January 2013 outside the metro (with exceptions for those without proper measuring devices in place by July 2008).
- Every water utility must create a capacity use plan and verify that there is enough water to meet projected needs out 25 years in the metro area and out 10 years beyond the metro.

www.MnGreenSteps.org