

GreenStep Cities Best Practice # 3 **- final draft for comment through May 2010 -**

❖ *New Green Buildings*: Construct new buildings to meet or qualify for a green building standard.

Optional for all cities

Category: Buildings & Lighting

Summary

Studies in Minnesota and nationwide have shown that green buildings deliver numerous benefits, to the building owner, the building tenant, to the community, and to greater society. Benefits include first-cost savings, reduced operating costs, other economic benefits such as higher resale value, occupant health and productivity benefits, community benefits, environmental benefits – including decreased energy and water use - and social benefits. City and private investments in buildings can be maximized by building to or meeting a green building standard.

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 one public realm Action (1) or (2) and at least one private realm Action (3) through (6) if they choose to implement this best practice.
- (1) Require, by ordinance, new city-owned buildings and substantial remodels to meet or qualify for a green building standard.
 - (2) Work with the local school district to ensure that all schools are built to a green building standard.
 - (3) Customize a model sustainable building policy and adopt language governing new development projects:
 - a. Receiving city financial support, and/or
 - b. Requiring city regulatory approval (conditional use permit, rezoning, PUD).
 - (4) Provide a meaningful and significant incentive to residents, builders or developers who build to a green building standard:
 - a. Building permit fee discount
 - b. Expedited permit review
 - c. Green building design assistance
 - d. Grant, rebate or tax breaks (e.g., property tax abatement)
 - e. Density bonus
 - (5) Adopt covenant guidelines for common interest communities addressing issues such as stormwater, native vegetation, clothes lines and renewable energy.
 - (6) Work with local financial institutions to use energy-efficient mortgages for buildings seeking a green building certification.

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Implementation Resources

(tied to the relevant action by number)

- (1) through (4) These green building standards used in Minnesota are for city and school buildings:
 - The B3 (Building, Benchmarks and Beyond) State of Minnesota Sustainable Building Guidelines (B3-MSBG): <http://www.sustainabledesignguide.umn.edu/>
 - U.S. Green Building Council's (USGBC's) Leadership in Energy and Environmental Design (LEED) certification program: <http://www.usgbc.com>
 - Green Globes Building Rating System: <http://www.greenglobes.com>
- (1) through (4) These green building standards used in Minnesota are for single and multi-family residential construction:

- LEED and Green Globes
 - MN Green Communities, which uses national criteria that require minimal levels of smart growth, public health, energy conservation, operational savings and sustainable building practices in affordable housing design: <http://www.mngreencommunities.org/> See also a MN Green Affordable Housing Guide: <http://www.greenhousing.umn.edu>
 - MN GreenStar Certified Homes and Remodeling: <http://www.mngreenstar.org>
 - U.S. EPA's Energy Star New Homes (959 of which were built in MN during 2008: 11% of total homes built): <http://www.energystar.gov>
 - National Association of Home Builders' National Green Building Standard: <http://www.nahbgreen.org>
 - Passive House standards: http://www.nextstep.state.mn.us/res_detail.cfm?id=2496
- (1) through (4) These are other green building resources, comparisons of green building standards, and a green building map:
- Dovetail Partners' Eco-Affordable Housing program - <http://www.dovetailinc.org> - and an interactive map of over 100 green buildings in Minnesota, with links to each building's website and the certification press release - <http://dovetailinc.org/content/minnesota-green-building-projects>
 - Comparison of LEED, MN Green Communities and MN GreenStar: <http://www.mngreencommunities.org/publications/download/mngreenprograms.pdf>
 - Comparison of MN GreenStar and the NAHB National Green Building Standard: <http://www.dovetailinc.org/files/MNGreenStarandNAHBComparisonReport.pdf>
 - Overview of green building design guidelines, specifications and rating systems: <http://www.pca.state.mn.us/oea/greenbuilding/design.cfm>
- (2) MPCA green building (and cost-saving operations) for schools websites: <http://www.pca.state.mn.us/oea/greenbuilding/schools.cfm>
- (2) MN Dept. of Health and MN Pollution Control Agency - Minnesota Healthy Sustainable Schools: <http://www.health.state.mn.us/divs/eh/schools/index.html>
- (2) Mayors' Alliance for Green Schools: <http://www.buildgreenschools.org>
- (3) *Updated Model Ordinances for Sustainable Development: Energy Efficiency Ordinance* (MN Pollution Control Agency: 2008): <http://www.crplanning.com/susdo.htm>
- (3) 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
- (4) Over 100 short descriptions and links to city and county green building policies and ordinances from across the country: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1852#local>
- (4) *Municipal Green Building Policies: Strategies for Transforming Building Practices in the Private Sector* (Environmental Law Institute: 2008): http://www.elistore.org/reports_detail.asp?ID=11295
- (4) Oakdale, MN Generation Green program: <http://www.ci.oakdale.mn.us> (select: Building Inspection)
- (5) Common interest communities are condominium associations, homeowner associations, housing cooperatives and the like. Cities can adopt guidelines governing the content of these homeowner covenants to ensure that they allow, for example, installation of rain gardens, prairie grasses, clothes lines, and renewable energy technologies.
- (6) Energy efficient mortgages: http://www.housingpolicy.org/toolbox/index_MN.html

Benefits

- Several reports and case studies highlighting the benefits and costs of building green: <http://www.pca.state.mn.us/oea/greenbuilding/cost.cfm#highperformance>
- Building to MN Green Community standards results in a 17% internal rate of return, with green building costs typically recouped within eight years. A 2009 report of 27 Green Community housing developments nationwide (containing a total of 1,640 homes) estimates the cost of going green at 2% higher than

conventional development - an extra \$4.52 per square foot, or \$4,524 per house - but on average the lifetime energy and water savings from building to Green Community standards amounts to \$5.43 per square foot, or \$4,851 per house: <http://www.enterprisenextgen.org/blog/2009/10/16/new-report-incremental-cost-measurable-savings>

- According to the Mayors' Alliance for Green Schools' *Greening America's Schools: Costs and Benefits*, green schools:
 - Cost about 2% more than conventional schools to build: about \$3 per square foot more.
 - Provide financial benefits over the lifetime of the school that are 20 times as large as additional costs.
 - Save enough money annually to pay for an additional full-time teacher.
 - Use 30-50% less energy.
 - Use 30% less water.
 - Use the school building itself as an interactive teaching tool.
 - Improve student learning.
- Based on estimates by the University of MN Center for Sustainable Building Research, the table below shows the range of impacts that site and building development has on total US greenhouse emissions:
 - Building operating energy: 30-43.0%
 - Employee travel: 10-12.6%
 - Building materials: 3-5.0%
 - Building waste: 1.8%
 - Wastewater treatment: 1.0%
 - Water Treatment: 0.4%
 - Site Vegetation: +1.3% (but - if soil is undisturbed, trees retained, or if additional trees are planted)
 - Soils: 0.3%
 - Total: **44.5-62.3%**

Connection to State Policy

- As a condition of funding to cities, Minnesota Housing requires that new construction projects meet the Minnesota Overlay to the Green Communities Criteria: see <http://www.mngreencommunities.org/publications/index.htm>
- All building projects (new buildings and major renovations) funded with state bond money are required to follow the B3-MSBG and submit documentation both to the state and to the University of Minnesota's Center for Sustainable Building Research. 2008 amendments to B3-MSBG require that all new state-funded buildings be designed to reduce use of fossil fuel energy 60% by 2010, 70% by 2015, 80% by 2020 and 90% by 2025: see <http://www.mn2030.umn.edu>

www.MnGreenSteps.org