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Enterprise Green Communities

Enterprise Green Communities provides funds and expertise to enable developers to build and rehabilitate homes that are healthier, more energy efficient and better for the environment – without compromising affordability. Enterprise Green Communities also assists state and local governments to ensure their housing and economic development policies are smart and sustainable. Enterprise Green Communities homes are built according to the Enterprise Green Communities Criteria, the first national framework for healthy, efficient, environmentally smart affordable homes. The next generation of Enterprise Green Communities launched on Oct. 21, 2009, with a national call to action and a $4 billion commitment to green affordable housing. Learn more at www.greencommunitiesonline.org.

Enterprise

Enterprise is a leading provider of the development capital and expertise it takes to create decent, affordable homes and rebuild communities. For more than 25 years, Enterprise has introduced neighborhood solutions through public-private partnerships with financial institutions, governments, community organizations and others that share our vision. Enterprise has raised and invested more than $10.6 billion in equity, grants and loans to help build or preserve more than 270,000 affordable rental and for-sale homes to create vital communities. Enterprise is currently investing in communities at a rate of $1 billion a year. Visit www.enterprisecommunity.org and www.enterprisecommunity.com to learn more about Enterprise’s efforts to build communities and opportunity.

Cover Photo: Silver Gardens, Albuquerque, NM. Developed by Romero Rose. Photo credit: © Patrick Coulie

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Introduction
The Green Affordable Housing Policy Toolkit highlights public policy efforts that are striving to make green and affordable housing one and the same.

The Green Affordable Housing Policy Toolkit grows out of Enterprise’s experience implementing its Green Communities initiative. Enterprise launched Green Communities in 2004 to transform the way we locate, design, build and rehab affordable housing. Enterprise’s goal was to enable developers in all climatic regions of the United States to develop and rehabilitate homes to be healthier, resource efficient, and better for the environment – without compromising affordability.

Enterprise developed the Green Communities Criteria in collaboration with leading national environmental, health, smart growth, and green building organizations. The Criteria provide a specific, comprehensive, holistic, and cost-effective framework for green affordable housing. They apply to all building and construction typologies including new construction and rehabilitation, single-family and multifamily buildings. The Criteria detail more than 60 measures that promote environmentally sustainable materials, resource efficiency, healthy indoor living environments, and locations that provide easy access to community amenities and public transportation. For the last five years, Enterprise has engaged technical experts, affordable housing developers, communities and state and local leaders to promote green building concepts, practices and tools. The Enterprise Green Communities Criteria offer a clear road map for achieving significant health, economic, and environmental benefits for residents through proven and cost-effective green methods and materials. The Criteria result in:

- High-quality, healthy living environments
- Lower utility bills for low-income families
- Energy and water conservation
- Enhanced access to open space and the natural environment
- Healthier local and regional ecosystems

From the start, Enterprise reached out to public and private sector partners to make green and affordable housing one and the same. Enterprise worked with state agencies to incorporate the Enterprise Green Communities Criteria within their Qualified Allocation Plans for Low-Income Housing Tax Credits. Enterprise also engaged state and local governments in shaping developer incentives to build affordable housing which meets the Criteria. This toolkit provides several examples of how public policies can transform the affordable housing sector and improve green building practices.

Opposite: Chuska Apartments, Gallup, N.M., developed by the Supportive Housing Coalition of New Mexico, Photo Credit: Kathy Roberts
Policy Environment

Today, green building measures are widespread in affordable housing construction and rehabilitation across the country. After several years of focused policy engagement, locally crafted green building initiatives have taken root. As the number of successful projects grows, green housing is increasingly seen as a proven, cost-effective approach to creating healthy, vibrant communities. These significant advances in green building are due in large part to public sector leadership.

From Washington State to New York City, green development principles and practices are deliberately coupled with a public sector commitment to provide affordable, healthy housing for low-income families. Together, these trends signal an emerging transformation in affordable housing policy.

At the same time, a renewed federal commitment is bringing unprecedented policy focus and targeted resources to integrate green practices into affordable housing. Federal agencies from the U.S. Department of Housing and Urban Development (HUD), U.S. Department of Agriculture (USDA), Department of Energy (DOE), Environmental Protection Agency (EPA), and Department of Transportation (DOT) are engaging in substantive inter-agency collaboration, shaping bold initiatives to promote energy efficiency, reduce carbon emissions, and transition to a new green economy.

In this context, the American Recovery and Reinvestment Act (ARRA) provides three new sources of funding for energy-related capital improvements to public housing and energy-efficiency retrofits for HUD-assisted multifamily housing. First, in fall 2009, HUD awarded $600 million in competitive grants to allow public housing authorities across the country to develop or renovate affordable rental apartments. HUD requires that these projects meet the Enterprise Green Communities Criteria. Second, ARRA provided $250 million in funding for green retrofits to increase energy efficiency in privately owned, federally assisted housing serving seniors, persons with disabilities, and low-income families. Third, ARRA provided a $5 billion commitment for the weatherization of single-family and multifamily housing. This massive injection of federal resources creates enormous opportunities for states and localities to boldly advance green affordable housing policies and practices.

The federal government’s recovery.gov website tracks state and local progress in spending “stimulus” funding to spur economic activity. (See ARRA Resources in this document for links to detailed information.)
Introduction

How to Use this Toolkit

This toolkit describes methods to promote green affordable housing policy, processes for shaping and adopting new policies, and detailed guidance on green affordable housing programs. It offers a road map for establishing holistic green affordable housing policies. The toolkit’s case studies identify local jurisdictions and the decisions innovative policy leaders have made to chart a path toward equitable and sustainable development in their communities.

We recommend using this toolkit as a guide to adopting and implementing a process that will work best in a particular locality. One of the most critical steps in green building is establishing and implementing an integrated design process. This is also true for public policy. Taking an integrated and multi-departmental approach avoids common pitfalls such as creating a program that exists in isolation or at odds with other public policies and programs.

Green measures and policies need to be embedded throughout the housing delivery system. Successful green affordable housing programs are those which have learned from other efforts, customized best practices to fit the local environment, and thoroughly examined relevant housing policies and programs so as to integrate green requirements and incentives into the existing housing infrastructure. These efforts require dedicated staff resources and are best done in collaboration with the local development community and in coordination with the green building practitioners. This toolkit highlights leading examples from around the country to offer readers a platform on which to begin crafting, implementing or improving upon green housing policy. Case studies of state and local green affordable housing efforts are included as attachments to this toolkit. The brief summaries in the following pages are provided to help readers identify which cases might be most relevant to their work.
Denver, Colorado: A Greenprint for Development

The City of Denver has emerged as a leader in green affordable housing, from its commitment to transit-oriented development to Greenprint Denver, an ambitious local initiative to promote green development. In January 2008, the Mayor of Denver announced that by 2010 all city-subsidized affordable rental and for-sale housing would meet standards based on the Enterprise Green Communities Criteria. Denver’s Housing Plan Task Force expanded on that goal to identify land use and other regulatory and funding changes necessary to support a broad green agenda within a comprehensive housing and economic development strategy.

Top: Blue Vista, Longmont, Colo., developed by Thistle Community Housing. Bottom: Central Park at Stapleton, Denver, Colo. developed by the Northeast Denver Housing Center
Introduction

Washington, DC, adopted one of the nation’s most comprehensive green building standards for residential and commercial real estate. The D.C. Green Building Act of 2006 resulted from a multi-disciplinary Green Building Task Force coupled with strong political leadership. The legislation includes a sequence of green initiatives with requirements for publicly owned and leased buildings and publicly financed affordable housing. Phased in over six years, the green building requirement applies to residential projects over 10,000 square feet with at least 15 percent public financing and commercial developments over 50,000 square feet in the District. This gradual implementation schedule allows sufficient time for agency staff, architects, engineers, and developers to build the capacity required to adopt green design and construction practices.

Iowa developed a statewide green building program modeled on the Enterprise Green Communities Criteria. Iowa Green Streets emerged as a comprehensive green building standard that applies to publicly funded affordable housing projects and community facilities across the state. In the wake of the devastating floods in 2008, Iowa’s public officials set an ambitious agenda for transforming the way community development projects are designed, located and built across the state. Its Green Streets Criteria establish threshold criteria for all HOME, CDBG Community Facility, and Main Street Iowa Challenge Grant projects. Housing agency staff provided design assistance to a set of previously funded housing and community facility projects to “field test” the new criteria and build capacity among developers.

Above: Iowa Green Streets Program Training
Minnesota: Successful Partnerships to Advance Green Housing

In Minnesota, historic collaboration between public agencies and private foundations led to the adoption of new green policies. Since 1999, the Greater Minnesota Housing Fund and Family Housing Fund have participated in a Consolidated RFP process with Minnesota Housing, the state housing finance agency and other partners to streamline project funding. The two housing funds partnered with Enterprise Community Partners to launch the Minnesota Green Communities initiative in early 2005. This collaborative effort facilitated support for green demonstration projects, and later led to the inclusion of green criteria into Minnesota Housing’s threshold funding requirements. The statewide Minnesota Green Communities program excels at offering one stop for green building resources, training, and expertise.

*Above: The Wellstone, Minneapolis, Minn., developed by Hope Community, Inc.*
Washington: A Regional Approach to Green Design and Implementation

In 2005, Washington State mandated that green measures be integrated into all state-funded affordable housing developments. It charged the Department of Community, Trades, and Economic Development with the task of identifying and implementing a uniform green residential building standard. Technical experts winnowed down the field of possible standards and then selected the Enterprise Green Communities Criteria, while modifying elements to advance rural development goals and accommodate a state alternative to the national Energy Star® standard. The state's “Evergreen Standard” demonstrates how early outreach and planning efforts can produce a tailored, workable statewide green standard.
Tools for Promoting Green Affordable Housing
Real estate development and land use policies shape our environment, impact public health, and provide opportunities for investing in the green economy.

State and local policy makers control important levers to promote green affordable housing strategies that strengthen local community development programs and provide direct benefits to the most vulnerable populations. Green involves a holistic approach to development that provides integrated solutions to housing, health and environmental challenges. The process for changing policy at the state and local level begins with analyzing existing rules, regulations and practices to determine how they support or inhibit desired green building outcomes.

Cities and states across the country have taken a variety of approaches to implementing green policies and programs. Each of these efforts expose the fundamental choices that must be made regarding the role of a legislative authority or administrative body, the scope and purpose of a green building framework and the specific tools needed to achieve and verify results. This section describes those choices.

### Green Building Frameworks

Green building is a holistic concept, encompassing more than a single building feature or system. It is grounded in the building science principles of maximizing durability, systems design and home performance, while also mitigating negative environmental and health impacts associated with the built environment. Yet, green building also extends beyond the house or building to include site and location characteristics, such as compact development, smart growth, walkability and access to public transportation. It also provides a platform for innovation in design, construction and rehabilitation, from building envelope improvements to active renewable energy systems.

When designing a green housing policy, stakeholders must begin with a clear set of objectives or performance targets, often codified in an existing third-party green residential building standard or criteria. There are several national programs and dozens more at the local level that offer a framework for green residential construction and rehabilitation. Among those widely utilized by developers and state and local jurisdictions are the Enterprise Green Communities Criteria, the U.S Green Building Council’s LEED rating systems, GreenPoint Rated, and Southface’s EarthCraft programs. (See table on Leading Green Residential Programs). These green residential building programs share many of the same goals to deliver energy, health, and economic savings to owners and occupants. Ultimately, going green is not about simply following a checklist of green measures; it involves taking an integrated design approach. Integrated design addresses a spectrum of green goals resulting in site and building improvements that respond to the environment and resident needs.
Enterprise Green Communities is the first national green building program designed specifically for affordable housing. Enterprise Green Communities Criteria can be applied to all types of affordable housing, including new construction and rehabilitation; single-family and multi-family; and developments located in urban, suburban and rural areas. The program puts special emphasis on healthy living environments. www.greencommunitiesonline.org

LEED for Homes is a national third-party certification system for green homebuilding. The LEED for Homes rating system is tailored for the new construction or gut rehabilitation of single family or low-to-mid-rise multifamily buildings. The mandatory verification component of LEED for Homes includes Energy Star compliance. www.usgbc.org/LEED/Homes

Energy Star for New Homes certification requires a home to meet energy efficiency guidelines set by the U.S. Environmental Protection Agency. Independent Home Energy Raters conduct onsite testing and inspections to verify the energy efficiency measures, as well as insulation, air tightness, and duct sealing details. This program currently does not extend to other environmental performance areas beyond energy; EPA has separate programs that target residential water efficiency and indoor air quality. www.energystar.gov/index.cfm?c=new_homes.hm_index

LEED-ND is a national third-party certification system for green neighborhood development. LEED-ND integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design. It provides verification that a development’s location and design meet accepted high levels of environmentally responsible, sustainable development. www.usgbc.org/LEED/ND
Leading Regional Green Residential Programs

There are also a number of strong regional green building programs around the country that have customized criteria to the local climate and environmental priorities:

Southface EarthCraft House program is a regional green building program available in the following parts of the Southeast: Georgia, South Carolina, Alabama and Virginia. EarthCraft criteria have been developed for new construction and renovation of single and multi-family housing.

EarthAdvantage.org/certification.php

Earth Advantage is a nonprofit green building resource and think tank that certifies green building construction. It operates in several Oregon cities, as well as a few other locales around the country. The program is applicable to both new construction and renovation projects.

www.earthadvantage.org/certification.php

Austin Energy’s Residential Green Building program rates new and remodeled homes using green building guidelines on a scale of 1 to 5 stars. Projects must be located in Austin Energy’s service area, as the program is administered by the local utility.

www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/index.htm

Build It Green’s Green Point Rated program is available in California markets for both new construction and rehabilitations. GreenPoint Rated Existing Home is unique in that it includes certification tracks for both whole home renovations as well as remodeling elements.

www.builditgreen.org/greenpoint-rated/guidelines

Local home energy consulting organizations and/or local utility companies offer additional sources of information for other green homebuilding programs.
Existing residential green building programs cover a wide range of strategies for improving indoor air quality, energy efficiency, water conservation, and building performance. However, those same programs can be tailored to meet the needs of the state or city, its climate, building typologies, population density, and environment by prioritizing certain measures or creating an additional overlay.

Many affordable housing policy makers have chosen the Enterprise Green Communities Criteria as a starting point for their programs. The criteria were developed specifically to address cost-effective green design, construction, rehabilitation and operation of affordable housing. This framework provides a comprehensive road map for greening all types of housing - single-family and multifamily housing, new construction and rehabilitation.

Green Solutions in Action: Executive Mandate

Beginning January 1, 2009, the Mayor of Cleveland required all projects seeking public funding and incentives to meet the **Cleveland Green Building Standard**, which is based on the Enterprise Green Communities Criteria. A project receiving assistance must both meet all the mandatory requirements of the Enterprise Green Communities Criteria and provide evidence that it achieves 35 optional points. As of January 1, 2010, all new construction and rehabilitation projects seeking residential tax abatement under Cleveland’s Community Reinvestment Area (CRA) tax abatement program are also required to meet or exceed the standard.

*Above: Tremont Pointe, Cleveland, Ohio, developed by McCormack Baron Salazar and Cuyahoga Metropolitan Housing Authority*
Policy Tools

In addition to selecting a green building standard, state and local policy makers have four basic tools for promoting green affordable housing: legislative and administrative mandates, financial incentives, development incentives, and the provision of training and technical assistance.

Legislative and Administrative Mandates

Green affordable housing is often driven by a public commitment from a Mayor or Governor to advance a clear set of policy outcomes, such as reduction in greenhouse gas emissions or a commitment to improving the energy efficiency, health and environmental benefits of affordable housing developments. Policy change can occur through Executive Order or policy directive. Executive Orders have a direct and immediate effect on public construction projects, municipal buildings, and publicly funded affordable housing or community facilities projects. They provide opportunities to shape public investment and create high-profile demonstration projects that focus attention on green building concepts and practices. An Executive Order or policy directive issued by a Mayor or Governor also offers a streamlined approach to implementing green housing policy, including specific schedules for local agency adoption and implementation.

As an alternative to advancing policy change through Executive Order or policy directive, political leaders may pursue legislation at the state or local level. States have broad powers to shape incentives and impose regulations that affect the development process. At the local level, municipalities have the authority to enact ordinances that protect the health, safety, and public welfare, provided they are not in conflict with state or federal law. The scope and purpose may encompass such broad areas as public works and land use. By enacting comprehensive green building laws or amendments, changes to building codes, or even wholesale building code reform, legislation can promote systemic change in affordable housing policy. A first step when considering this approach may be to review examples from cities and states that have recently adopted legislation referencing uniform green building standards for residential construction. Often, mandatory requirements are coupled with dedicated project funding, streamlined permit processes and tax incentives to encourage green affordable housing at scale.

State and local funding agencies often have the administrative authority to mandate particular green building practices or performance targets on publicly owned and publicly financed development projects. In some cases, threshold green requirements affect all residential affordable housing construction and rehabilitation projects. Mandatory green criteria may be imposed on a stand-alone basis or as a prerequisite for public financing. These requirements are often coupled with green technical assistance or funding to engage green building experts early in schematic design.

Several cities have succeeded in adopting comprehensive green building requirements through local ordinances. Atlanta, New York City, Portland, and Santa Monica were early leaders in this area. Washington State and Illinois have enacted similar legislation to provide comprehensive, permanent requirements regarding green building design, construction and rehabilitation. The State and Local Policy Resources section at the end of this chapter includes templates from local green building ordinances.
Over the past six years, New York City’s Department of Housing, Preservation and Development (HPD) and sister agency the New York City Housing Development Corporation (HDC) have carried out the Mayor’s New Housing Marketplace Plan (NHMP). With a goal to build and preserve 165,000 units of affordable housing by 2014, it is the most ambitious municipal housing plan in the nation. On track to achieve this goal, the Plan was recast in 2010 to maintain momentum while confronting today’s economic challenges and harnessing new initiatives to strengthen and expand the city’s affordable housing stock. A key change included requiring new construction projects to participate in the Enterprise Green Communities certification process, and making Green Communities certification a threshold requirement in its Qualified Allocation Plan (QAP) for Low-Income Housing Tax Credits (LIHTC). By promoting an integrated design approach, energy efficiency, smart growth practices, and a healthy living environment within the context of cost-effective building, the Green Communities Criteria furthers HPD’s mission of creating a more affordable and sustainable city for all New Yorkers.

At the state level, the New York Division of Housing and Community Renewal (DHCR) launched an innovative policy effort to promote environmentally responsive and healthy building principles and practices. In November 2007, DHCR introduced a Green Building Initiative (GBI) under the Low-Income Housing Trust Fund Program and HOME Program to encourage the development of green, sustainable affordable housing by including incentives in the DHCR funding process. Information on the GBI is outlined in DHCR’s annual Request for Proposals for Capital Programs. Green building incentives have also been included in the state’s Qualified Allocation Plan.

Above: Dinkins Garden, Harlem, New York, developed by Jonathan Rose Companies
Financial Incentives

Financial incentives can play a powerful role in the transition from conventional to green affordable housing development. Competitive selection processes in the award of scarce subsidy resources - the Low Income Housing Tax Credit (LIHTC), CDBG, HOME, and state housing capital funds - increasingly favor green building methods and materials. Direct public funding can also offset incremental costs of green design and construction practices. Additional financial incentives include reduced permit, inspection or impact fees as well as green building tax incentive programs.

Many state, county and local affordable housing trust funds in the United States include green building elements in project selection criteria. Criteria for awarding housing trust funds often incorporate smart growth goals: reducing vehicle miles traveled, promoting water and energy conservation, preserving natural resources, and promoting infill development. In addition, state loan funds, CDBG and HOME allocations are increasingly attaching third-party standards, such as Enterprise Green Communities Criteria, Energy Star, and LEED rating systems, as a prerequisite for public financing of affordable housing.

Policy makers in state agencies exercise substantial influence over housing design and development through competitive funding processes. For instance, the LIHTC program, has become a powerful driver of greening affordable housing. LIHTC Qualified Allocation Plans encourage developers to meet specific energy and green housing goals and compete based on the strength of their green elements.

Allocation Plans act as a tool for state agencies to encourage specific building practices through their project review and allocation award process. Steps include establishing green building threshold requirements, creating green building set-asides, and awarding bonus points in the competitive scoring process for specified green elements.

Agencies should review existing policy statements and competitive scoring criteria in LIHTC Qualified Allocation Plans or housing capital funding programs to identify synergies with statewide green incentives as well as potential barriers. In some instances, state or federal funding guidelines might include overly restrictive total development cost limits, scoring that favors lowest per-unit construction cost, caps on architectural costs, ineligible cost items, or fixed utility allowances that conflict with green building goals.
This map highlights states that currently have third party green building programs as part of their Low Income Housing Tax Credit (LIHTC) allocation plans. This information is derived from state housing finance agencies’ 2009-2010 Qualified Allocation Plans (QAPs) and accompanying documents referenced in the QAPs. A “third party green certification program” is a set of comprehensive, coherent design principles developed to ensure quality, standard green building that meets certification requirements by the body that developed the standards (i.e. the Enterprise Green Communities Criteria, LEED). For most states, third party green certification is not required of all projects, but rather its inclusion may increase a proposed project application’s overall score—thus raising the possibility of its selection.
As a complement or alternative to financial incentives, cities can offer fast-track permitting or zoning incentives such as density bonuses, increased Floor Area Ratios (FAR), and additional height allowances in exchange for compliance with green building criteria. Fast-track permitting and review may reduce development time and associated fees by expediting development approvals. In California, the cities of Los Angeles, Oakland, and San Diego all offer some form of expedited permit review for qualifying projects. In one of the most ambitious efforts, Chicago allows both density bonus and an expedited permitting process for green projects. In other parts of the country, Seattle, Portland, Chicago, Pittsburgh, Nashville, and Tampa Bay allow density bonuses for green building. Density bonuses can be designed to offer developers meeting specific green building criteria the option to build more units (and possibly additional floors, in the case of additional height allowances) than ordinarily allowed by the jurisdiction's zoning code. Non-financial incentives are typically offered in conjunction with other tools such as conditional funding for publicly-financed affordable housing developments.
Technical Assistance and Training

In this rapidly evolving field, technical experts can help architects, engineers, developers and contractors better understand the true costs and benefits of green building. Development teams can also benefit from exposure to integrated design through facilitated design charrettes. The charrette process is an intensive workshop in which an interdisciplinary team convenes to develop collaborative design solutions. The charrette process demonstrates new ways to approach the design process, and the value of introducing green design into the development team’s process at an early stage. Integrated design charrettes can:

- Kick off the design process;
- Provide a forum for planning the project with those who can influence design decisions;
- Provide an opportunity for lessons learned from previous projects to inform the process;
- Encourage agreement on project goals;
- Save time and money by collaborating on ideas, issues, and concerns early in the design process to help avoid later iterative redesign activities; and
- Promote “collective enthusiasm” for a project with early realistic goals and directions.

Green buildings can incur higher first costs than other buildings. Diagnostic evaluation tools such as whole building energy assessments and energy audits identify improvements necessary to achieve high-performing buildings. These technical tools add upfront cost but are essential to ensure that developers and building owners have the knowledge and resources to build, rehab, and operate green buildings successfully. Many of these initial costs can be recovered over time through lower energy and water demand to improved health and productivity of occupants, durable buildings with lower operating and maintenance costs, and healthier communities. Realizing these benefits depends on sound design and intentional execution of green development plans.

Technical assistance and training for public agencies is also critical so that staff can carry out their review and approval duties and provide effective guidance to development teams grappling with new practices. Additional information on training agency staff is provided later in the Implementation chapter.

Enterprise’s newly completed report evaluating the cost effectiveness of the Green Communities Criteria, *Incremental Cost, Measurable Savings*, demonstrates striking savings in utility costs, especially when compared to the cost of implementing the Criteria’s energy- and water-conservation measures. These savings make the cost of implementing the Criteria ($4,524) financially attractive. When considering the benefits revealed in Enterprise’s recent study on green affordable housing projects, the average cost per dwelling unit to incorporate the energy and water criteria was $1,917, returning $4,851 in predicted lifetime utility cost savings.
Resources

American Recovery and Reinvestment Act (ARRA) Summaries

Enterprise Community Partners
Available at:

National Housing Trust
Available at:
www.nhtinc.org/economic_recovery.php

U.S. Department of Housing and Urban Development
Available at:
portal.hud.gov/portal/page/portal/HUD/recovery

Green Guide to the Stimulus Package
Available at:
www.greenstimulusguide.com
Resources


National Housing Trust
Available at:

National Housing Trust
Funding Energy Retrofits of Affordable Rental Housing: Department of Energy Stimulus Resources
Available at:

HUD Capitalization Funds for Public Housing Authorities
Available at:
www.hud.gov/offices/pih/programs/ph/capfund/

Bay Area LISC
HUD Green Retrofit Program for Multifamily Housing
Available at:
www.bayarealisc.org/bay_area/assets/asset_upload_file10_11472.pdf
Resources


Department of Energy
DOE State Energy Program
Available at:
www1.eere.energy.gov/wip/sep.html?volume=41

Center for American Progress
Green Jobs/Green Homes
Available at:
www.americanprogress.org/issues/2009/05/greenjobs_greenhomes.html

DOE Energy Efficiency and Conservation Block Grant
Available at:
www.nhtinc.org/Economic_Recovery.asp#EECBG

State and Local Policy Resources

Local Policy Directives and Executive Orders

Boston Green Building Task Force Report
Executive Summary, Fall 2004
Available at:
www.nhtinc.org/Economic_Recovery.asp#EECBG
State and Local Policy Resources

Local Policy Directives and Executive Orders

Boston Mayor Menino’s Editorial January 2004
“Green Building Task Force a Commitment to Boston’s Future”
Executive Summary, Fall 2004
Available at:

Cleveland Green Building Standard Handbook
February 7, 2009
Available at:

Salt Lake City Green’s Guide to a Sustainable City
Available at:
www.slcgov.com/slcgreen/

San Francisco HOPE SF
Available at:
www.sfha.org/hopesf/index.htm
State and Local Policy Resources

Local Green Building Ordinances and Resolutions

Atlanta, Georgia
Chapter 75 - Sustainable Development
Available at:
library.municode.com/index.aspx?clientId=10376&stateId=10 &stateName=Georgia

Gainesville, Florida
Chapter 6, Article I.5
Available at:
fyn.ifas.ufl.edu/materials/gainesville%20-%20greenbuildingprogram.pdf

Long Beach, California
Available at:
www.longbeach.gov/citymanager/sustainability/buildings_n_neighborhoods.asp

Miami, Florida
Miami State of the City 2006
Available at:
www.miamigov.com/cms/Files/StateoftheCityF.pdf
State and Local Policy Resources

Local Green Building Ordinances and Resolutions

New York, New York
PlaNYC
Available at:

New York, New York
Local Law 86 (2005)
Available at:

New York, New York
Chapter 10 - Green Building Standards (2007)
Available at:

Portland, Oregon
Regulatory Improvement Code Amendment Package 5
Available at:
www.portlandonline.com/bps/index.cfm?c=48212&a=246768
State and Local Policy Resources

Local Green Building Ordinances and Resolutions

Santa Monica, California
Office of Sustainability and the Environment
Available at:
www.smgov.net/departments/ose/categories/buildGreen.aspx

San Francisco, California
Available at:
www.sfenvironment.org/our_policies/overview.html?ssi=13

Additional Information

The American Institute of Architects
Local Leaders in Sustainability: A Study of Green Building Programs in Our Nation’s Communities
Available at:
www.aia.org/advocacy/local/programs/AIAS076930

Environmental Law Institute, April 2008
Municipal Green Building Policies
Available at:
Additional Information

AIA Sustainability 2030 Toolkit
What Can Policy Makers Do To Get Started?
Available at:
www.aia.org/practicing/groups/kc/AIAS077433

State and Local Policy Resources

State Legislative Initiatives

Map of State Energy Programs and Related Legislation
Available at:
www.dsireusa.org

Center for Community Change
Affordable Housing Trust Fund Project
Trust Fund Campaigns and Case Studies
Available at:
www.communitychange.org/our-projects/htf

Washington State Evergreen Standard
Available at:
www.commerce.wa.gov/site/1027/default.aspx
Shaping Green Affordable Housing Policy
Shaping green affordable housing policy involves critical steps: understanding the local policy environment and green agenda, mobilizing support, empowering a task-force, and planning for local implementation.

City and state governments can draw from a wide range of successful legislative and administrative models to advance green affordable housing goals (see Resources for specific legislative and policy vehicles). The process for shaping a green affordable housing policy typically involves four steps. First, key policy actors assess the overall policy context and the potential scope of green building activities. Second, policy drivers mobilize stakeholders to make the case for policy reform. Third, a policy champion initiates a task force and interagency working group to oversee policy development. Fourth, city and state agencies create a roadmap for implementation and related training for agency staff and the development community.

Designing a workable set of local green affordable housing policy goals and programs involves ongoing agreement across broad range of stakeholders. In that effort, a transparent public process is critical to reaching consensus on a policy framework and setting clear roles and responsibilities for elected officials, agency staff, developers, architects, builders, and community leaders.

**Step 1. Understand the Local Policy Environment**

States and localities around the country have followed many different paths to deliver green affordable housing policies. The particular course for pursuing a green agenda depends on the larger forces driving policy change at the local or state level. In some cases, it will be a carbon emissions reduction target or energy conservation plan. In other scenarios, the primary policy goal may be promoting Transit-Oriented Development, or overhauling an antiquated building code. In each case, it is important to identify a policy champion to advance green policy goals within larger discussions of planning and development.

Under the current Administration, federal policy is dramatically reshaping the context for state and local action. Federal policy is actively encouraging integrated planning to meet the nation’s housing, transportation, and energy needs. Federal stimulus funding to states and localities under the American Recovery and Reinvestment Act (ARRA) and new initiatives in the HUD’s Office of Sustainable Housing and Communities have emphasizes integration of transportation, development, and regional growth planning. These moves signal a renewed national commitment to maximizing energy efficiency and improving the health and economic benefits to low-income households. For instance, the $5 billion appropriation for Weatherization Assistance Program (WAP) funds offers significant new resources to local weatherization programs, which has the potential to create jobs and enable vulnerable communities to benefit from more sustainable and healthy housing while minimizing energy and utility bills.

*Opposite: Phase V, Detroit, Michigan, developed by the Bagley Housing Association*
Identify a Policy Champion

Most successful efforts to advance green policy goals have gained momentum with the support of a single, high-level champion to shape and drive the effort. In this dynamic arena, many different actors – a Mayor or Governor, a vital community coalition, a City Council committee, or a visionary agency – emerge as a leader in green affordable housing policy.

Policy makers often make a public commitment to create a green building framework or achieve a green building goal, and then identify lead public agencies to carry the agenda forward. Often, policy actions by state-level agencies, community funding agencies, or a legislative body are coordinated through specialized offices charged with harmonizing green building policies, local codes and zoning ordinances.

With the larger policy context in mind, the lead agency coordinates with others departments to establish clear policy goals. This process fully engages a broad spectrum of housing and community development stakeholders, leading to a clear understanding of expected outcomes, policy rationales, green program goals and implementation procedures.

Define the Local Green Agenda

State and local policy makers face a host of options in setting green goals. They include establishing green building requirements for publicly assisted housing developments, mandating green building practices on community facilities and public buildings, and issuing policy directives that reach the majority of residential and commercial real estate within the jurisdictional boundaries. Some cities may utilize their authority to overhaul the local building code in order to harmonize green building standards. Each choice involves different set of stakeholders and processes for policy adoption and implementation.
Chicago, Illinois - Mayor Richard Daley led a public campaign to “green the city,” resulting in passage of the 2002 Chicago Energy Conservation Code for municipal buildings and the adoption of the Chicago Standard for green development in 2004. It incorporates elements of the LEED Rating System deemed most appropriate for Chicago. Originally developed for municipal facilities, it can be used as a guide for any construction or renovation project, public or private.

San Francisco, California - Mayor Gavin Newsom announced in August 2005 that all city-supported affordable housing developments would be required to include holistic environmental standards based on the Enterprise Green Communities Criteria. The Mayor’s Office of Housing and the Redevelopment Agency partnered with Enterprise to create a program based on funding and technical support to a pool of projects receiving city funds.

State of Iowa - Iowa’s Department of Economic Development overhauled its funding processes to leverage implementation of green practices. Under its signature Green Streets initiative, the state developed a uniform green standard based on the Enterprise Green Communities Criteria, establishing minimum threshold criteria for all HOME, CDBG Community Facility, and Main Street Iowa Challenge Grant project applications.

Cleveland, Ohio - On November 14, 2007, Mayor Frank Jackson called for a sweeping policy to require new single-family homes to meet the Enterprise Green Communities Criteria and new or rehabilitated multifamily developments to meet the Enterprise Green Communities Criteria or LEED for Homes Rating System.
Greening the Code

When drafting local or state green housing policy, it is critical to understand the interaction between green building standards and existing building codes. A thorough review of existing local codes will produce a wide spectrum of policy options for code reform. Originally conceived simply to protect the health and safety of occupants, building codes have evolved over time in response to new building technologies, changing residential preferences, and evolving ideas of how the home and its occupants relate to the environment. Some modernized codes now reflect new thinking about lowering energy consumption and water usage.

For local and state governments charged with this broader authority, policy makers can consider a range of strategies to align building codes with environmental and healthy housing goals. A committee or task force should review policy goals alongside existing codes to understand areas of divergence, such as prohibitions on the use of graywater or recycled building materials, and outline potential code reform. Next, the local authority can amend or revise code sections appropriately to mirror current green building practices and policy goals.

Local Innovators on Code Reform

In December 2008, the Washington, D.C. City Council replaced the previous 2000 IECC-based code with the new ones developed from ASHRAE 90.1-2007 for commercial buildings and the “30 percent Solution” for residential buildings (about 30 percent more stringent than conventional buildings). The codes were offered in a comprehensive package of amendments at the 2009 International Code Council hearings. The 2008 D.C. Construction Codes contain several greening amendments recommended by the D.C. Green Building Advisory Council (GBAC), including cool roofs, on-site stormwater retention, and low-flow residential and commercial plumbing fixtures.

The City of Santa Fe recently developed a residential building code modeled on the Build Green New Mexico program. It addresses lot design, preparation and development; resource efficiency; energy efficiency; water efficiency; indoor environmental quality; operation, maintenance, and homeowner education; and global impact.

Above: Silver Gardens, Albuquerque, N.M., developed by Romero Rose
Key Actors:

- Mayor/Governor
- City Planning Commissioner
- City Council Members
- Grassroots Leaders
- Developers
- Financial Institutions
- Affordable Housing Industry

Core Activities:

- Convene Policy Stakeholders
- Identify Broad Policy Objectives (reduced carbon emissions, improved indoor air quality, lower heating or cooling costs, increased residential units proximate to public transportation and employment opportunities)

Tips for Success

- Link green goals to the larger policy context. Envision how green concepts align with and support other development planning objectives such as wholesale code reform, energy conservation and renewable portfolio standards, and climate action plans. This approach can create opportunities to offer bolder, more innovative solutions with broader support.
- Focus on linkages of housing, land use, and transportation to tie green development efforts to new federal policy priorities and planned infrastructure investments.
- Choose implementation tools. As covered in Section 2, cities and states have a variety of tools to consider, including Legislative and Administrative Mandates; Financial Incentives; Development Incentives; and Training and Technical Assistance.

Fast Facts – High Energy Cost Burden

Record numbers of low-income families struggle to pay home energy bills. In a national survey in 2008, respondents reported that high energy costs contributed to financial insecurity and deprivation:

- 42 percent went without medical or dental care
- 32 percent went without food for at least one day
- 28 percent reported an inability to fully pay their rent or mortgage
- 36 percent reported energy bills over $2,000 in the past year
- 49 percent reported higher energy bills over the prior year

Step 2. Mobilize Support

Mobilizing a constituency for green affordable housing starts with increasing awareness of how larger trends – such as high energy cost burdens, unhealthy living environments, resource scarcity – play out at the state and local level.

Making the Case for Green

The nation faces a significant shortage of decent, affordable housing. Currently, there is not a single county in the United States where an individual earning minimum wage can afford to rent a market-rate apartment, according to the National Low Income Housing Coalition. An estimated 55 million Americans live in unaffordable, overcrowded or substandard housing. Much of our existing subsidized housing stock carries hidden costs for residents, rental property owners and the environment. A conventional single- or multifamily home is not designed to use energy and water efficiently, resulting in higher than necessary utility bills. In addition, the location of housing developments far away from city, town or village centers, and lacking access to public transportation, contributes to more vehicle miles traveled and greenhouse gas emissions.

A growing body of research shows linkages between housing conditions and public health, underscoring how the location of housing, provision of site amenities, and housing design can encourage more active, healthy lifestyles. The U.S. Centers for Disease Control and Prevention report that low-income people endure the highest rates of asthma, with many known and suspected triggers linked to home conditions including mold and dampness, which account for 21 percent of all asthma cases. Medical treatment for asthma can severely burden low-income household budgets.

Vulnerable populations, such as seniors and the disabled, have acute needs for energy and water efficiency upgrades, healthier living environments, and access to affordable public transportation. According to a 2008 survey conducted by the National Energy Assistance Directors’ Association, 31 percent of low-income households reported keeping their homes at a temperature that they felt was unsafe so that they would be able to pay their energy bills. Nearly 70 percent of the households reported that they reduced spending on food so that they could pay their energy bills, 31 percent reported that they reduced spending on medicine, and 61 percent reported that they reduced purchases of other basic household expenses.

With mounting evidence concerning public health issues, rising costs of energy and water, and the built environment’s impact on global warming, public policy must play a stronger role in developing green affordable housing. Local and state green affordable housing programs can ensure that residential buildings across the economic spectrum are healthier, reduce operating expenses and lower greenhouse gas emissions.
Engaging the Public

Public comment periods and public meetings are common approaches to encourage feedback from residents, neighborhood associations and the development community. Stakeholder meetings – sponsored by the municipality or a third party, such as the local American Planning Association chapter, the local U.S. Green Building Council Chapter or Bar Association – offer the public a forum for examining model building codes, zoning ordinances and legislative directives. Other successful models for community engagement include public workshops, such as a city-sponsored integrated design charrettes, or design competitions. These alternative venues encourage the practical application of various green criteria and model building codes. The case studies in this toolkit offer examples of stakeholder involvement strategies to ensure an inclusive process for policy deliberation.

Achieving Water Independence in Buildings

Central City Concern, a non-profit owner of affordable housing in Portland, Oregon, initiated research to understand the regulatory, technological and behavioral barriers to achieve net-zero water demand in a residential development. The report *Achieving Water Independence in Buildings*, explains water reuse strategies and documents Oregon regulations. Their innovative approach helped achieve statewide rainwater and greywater allowances in Oregon and may offer guidance for those in other states interested in exploring the possibilities of water reuse in buildings and overcoming regulatory barriers. The report is available at: ilbi.org/resources/reports/water/oregon

Fast Facts – Water Consumption

- The average household spends as much as $500 per year on its water and sewer bill but could save about $170 per year by retrofitting with water efficient fixtures and incorporating water-saving practices.
- The average single-family suburban home uses at least 30 percent of its water for outdoor purposes such as irrigation (as much as 70 percent in dry climates). Some experts estimate that more than 50 percent of landscape water is wasted due to evaporation, wind, or overwatering.
- WaterSense labeled toilets and faucets can save more than 11,000 gallons annually.
- Buildings constructed to the Enterprise Green Communities Criteria use 20-30 percent less water than traditional construction.
Key Actors:

- Mayor/Governor
- City/State Housing Development, Housing Finance, Transportation, Environmental, Public Works, and Public Health Agencies
- City Planning, and Building Inspection Staff
- Green Development Specialists
- Developers, Architects and Builders
- Community Development Organizations
- Environmental and Community Advocates
- Education, Health and Medical Professionals
- Transportation Planners

Core Activities:

- Measure the harmful impact of existing planning and land use patterns.
- Analyze drivers of poor indoor air quality and high energy consumption.
- Assess impacts of poor ventilation, toxic materials used in flooring, cabinetry, paints and adhesives.
- Conduct housing inventory of existing affordable housing stock; evaluate energy and water consumption patterns and household energy expenses.
- Hold multiple forums and Charrettes to share ideas, set policy goals, address budget constraints and identify technical assistance needs.

Tips for Success:

- Focus early on getting buy-in on common goals such as lower energy and water costs, improved air quality, and carbon emissions reductions.
- Identify areas of policy convergence. For example, explore opportunities for climate action plans to align with regional environmental goals reducing the urban heat island effect and restoring wetlands.
- Include diverse voices: architects, builders, environmental advocates and community development organizations.
- Establish a common understanding of the rationale behind each green affordable housing policy and outline a clear process for implementation.
- Specify a timeline for agency review of proposed changes and steps necessary to implement a green building policy.
Fast Facts – Health and Housing

- More than 2.5 million families live in substandard housing.
- More than 6.7 million children in the U.S. have asthma. Mold, cockroaches, and dust mites trigger 4.6 million cases of asthma at a cost of $3.5 billion per year. Asthma attacks caused 12.8 million missed school days and 10.1 million missed work days in 2003.
- 250,000 children aged 1-5 have dangerously high blood lead levels. Lead-based paint and other toxins in the environment that cause lead poisoning, cancer, and neurobehavioral disorders result in $52.9 billion in annual costs.
- Air pollution levels inside the home can be 2-5 times higher than outdoor levels.
- Seattle’s Breathe Easy Program increased symptom-free days by five days and cut occupants’ use of urgent care 67 percent.

Above: Breathe Easy homes are constructed in ways that help further decrease the risk factors that cause asthma among low-income children. High Point Community, Seattle, Washington, developed by Seattle Housing Authority and Neighborhood House Photo Credit: Mithun
Step 3. Empower a Task Force

The next step builds on public engagement by establishing a task force comprised of policy staff, green building specialists, and key stakeholders. The goal of this body is to examine initial program concepts and consider alternative green standards or performance targets.

Task force members who understand local housing needs, residential construction, building codes, and practical budget constraints for green affordable housing can help identify the best approach to establishing threshold green criteria. Another important consideration is the availability of local program incentives, such as additional funding, technical assistance, and/or reduced fees and expedited permit schedules.

The task force is often established to compare policy goals with existing local building codes and identify a set of recommendations and a timeline for phasing in program requirements. A local or state task force benefits from careful review of each green affordable housing category, such as energy and water efficiency, materials beneficial to the environment, and healthy living environments. Whether prescriptive or performance-based, green policy criteria should be reviewed alongside existing building and zoning codes, land use regulations, and municipal infrastructure plans. A task force can also provide a forum for airing concerns and policy differences before the public hearing stage.

Policy makers have a wide array of options available in selecting (or even creating) an appropriate set of criteria to align with the overarching sustainability goals of the city or state. A task force can help policy staff reach consensus on a set of green building principles and outline criteria appropriate for common building typologies and local environmental concerns. The task force recommendations should give careful consideration for how specific functions such as plan review and approval, construction monitoring, and ongoing compliance monitoring will be allocated between different departments.

Above: The Rosa Parks Apartments, Chicago, IL, developed by Bickerdike Redevelopment Corporation
Local Innovators: Task Force Leadership

In 2003, the City of Boston launched the Green Affordable Housing Task Force. The task force brought together key agencies - Department of Neighborhood Development, Boston Housing Authority, Boston Redevelopment Authority, Boston Public Health Commission, the Mayor’s Office and the Environmental and Energy Services Cabinet – to formulate consistent green policies across agencies. The task force report set the stage for subsequent green building standards for new construction based on the USGBC’s LEED Rating System and a green overlay to Boston’s Zoning.

In 2004, the City of Chicago kicked off the Chicago Green Homes Program, a multi-year environmental partnership between public agencies and local stakeholders tasked with integrating best practices from single-family and multi-family residential construction. The process produced a formal certification program and green permit schedule to encourage residential builders, developers and homeowners to use technologies, products and practices that increase energy and water efficiencies, provide healthier indoor air, preserve natural resources, improve durability and reduce waste.

*Above: Trolley Square, Cambridge, Massachusetts, developed by Homeowner’s Rehab, Inc.*
Key Actors:

- Lead Agency (e.g. Housing, Zoning, Planning, Community Development)
- Interagency Sustainability Coordinators
- Housing Finance Agency
- Community Development Agencies
- Public Stakeholders
- Technical Advisors
- Affordable Housing Developers
- Public Health and Environmental Advocates

Core Activities:

- Review green building program approaches around the country – initiatives, financial and non-financial incentives, and training programs.
- Review model authorizing documents – Executive Orders, local ordinances, and state regulations.
- Select a Green Building Framework and identify local adaptation needs.
- Review existing green affordable housing initiatives and incentives in Low Income Housing Tax Credit programs (LIHTC), bond finance programs, and city/state capital funding programs.
- Review regulatory mandates and threshold requirements for green design and/or construction in projects with public financing and discretionary zoning.
- Identify potential conflicts with existing laws and policies.
- Design mechanisms for policymaking, agency-level implementation, and public input.
- Determine staffing and training needs and design mechanisms for ongoing compliance monitoring and program oversight.

Tips for Success:

- Use the task force to educate participants, identify conflicting points of view, explore workable solutions, and negotiate satisfactory resolutions.
- Recognize the need to build capacity among developers, permitting agencies, and monitoring systems.
- Consider phasing in green building requirements to allow more time for developers to adapt and to overcome resistance to change.
- Anticipate needs to customize standards to accommodate rural areas with lower density and less access to public transportation.
- Consider geography when designing inspection, compliance, and performance measurement.
- Study state-level LIHTC Qualified Allocation Plans and scoring practices to identify any provisions that may conflict with green affordable housing goals.
Step 4. Plan for Local Implementation

A successful program will identify the potential costs associated with each green building goal and work to ensure that agencies are equipped to handle design review and verification. Whether drafting a new local ordinance or state housing plan, the policy should clearly identify which agencies - such as housing, zoning code enforcement, and building inspection - will be responsible for oversight and enforcement. The specific program design and staffing needs will vary based on program intent and scope.

In order to fully achieve the benefits of local green affordable housing policy, a task force or policy adoption committee should review a range of potential grant sources and public incentives that will help facilitate the transition to a more sustainable building approach for local and private sector affordable housing projects.

Key Actors:
- Housing Finance Agencies
- State/City Housing and Community Development Agencies
- City Planning, Zoning and Building Departments

Core Activities:
- Assess existing agency staff capacity to manage green building program responsibilities green underwriting, design review, interagency coordination, and quality assurance.
- Dedicate staff for green building standard verification and enforcement.
- Conduct a needs assessment and develop an appropriate training protocol prior to policy adoption and implementation.

Tips for Success:
- Anticipate the full range of training and capacity building needs within various city agencies and development partners.
- Build in mechanisms to capture and share new information on emerging green building practices from around the country as well as local experience in implementing the program.
Resources

Green Development Overview

Enterprise Green Communities Criteria and Technical Manual
Available at:
www.greencommunitiesonline.org

Sustainable, Affordable, Doable
Tony Proscio, 2008.
This report collects firsthand experiences and lessons from participants in eight Enterprise Green Communities developments.
Available at:

Smart Market Reports
McGraw-Hill Construction Analytics.
These reports document recent trends in green building across various building sectors.
Available for purchase at:
greensource.construction.com/resources/smartMarket.asp

Playbook for Green Buildings and Neighborhoods
This web-based tool houses a compilation of resources on green buildings, green neighborhoods and green infrastructure.
Available at:
www.greenplaybook.org
Resources

Green Development Overview

“Sustainable Design Can Be an Asset to the Bottom Line”
Environmental Design & Construction
Available at:
www.edcmag.com/Articles/Feature_Article/936335f1c9697010VgnVCM100000f932a8c0

Local and State Green Building Policy

Boston Green Roundtable Municipal Policy Tools
Available at:
www.nexusboston.org/

Green Chicago
A powerpoint presentation prepared by the City of Chicago.
Available at:

Municipal Green Building Policies
The Environmental Law Institute, 2008.
Strategies for Transforming Building Practices in the Private Sector.
Available at:
www.elistore.org/reports_detail.asp?ID=11295
Resources

Local and State Green Building Policy

Affordable Housing’s Green Future
This book details this national model that began before Minnesota Green Communities and continues today. The book distills key lessons for those interested in similar systems change in their states.
Available at:

Green Multifamily Preservation Initiatives by State
The National Housing Trust.
This resource identifies green incentives and compared state housing finance agencies’ low income housing tax credit Qualified Allocation Plan.
Available at:
www.nhtinc.org/green_affordable_housing_preservation.php

Greener Policies, Smarter Plans
How States are Using the Low-Income Housing Tax Credit to Advance Healthy, Efficient and Environmentally Sound Homes.
Enterprise Community Partners.
Available at:

Local Leaders in Sustainability
A Study of Green Building Programs in our Nation’s Communities.
Available at:
www.aia.org
Resources

Building Codes

Building Codes Assistance Project (BCAP)
A complete reference of Greening Residential Building codes. BCAP provides custom-tailored assistance on building energy code adoption and implementation.
Available at:
www.bcap-energy.org

U.S. Department of Energy Building Industry Codes Program
Information on local and state energy codes and support the adoption and enforcement of energy codes.
Available at:
www.energycodes.gov
Implementing Green Affordable Housing Policy
Step 1. Identify a Lead Agency or Advisory Council

Once a municipality or state has adopted a green affordable housing program, the next step is designating a lead agency or advisory council. Its purpose is to implement the policy goals and create a network of public agency directors and officers responsible for oversight of housing finance, community and economic development, environmental enforcement, construction and permitting, transportation, and zoning. This coordinating body will be responsible for evaluating a formal structure for compliance review and outlining a communications platform for funding announcements and training schedules.

The work of a committee or advisory board should also reflect the distinct local geography, demographics, and characteristics of the built environment. For certain regions, rural housing demographics and limited infrastructure may necessitate a green building approach that accommodates lower densities, limited site selection, and infrequent public transportation. In urban communities with limited sites for new construction, the committee may focus on maximizing opportunities for intensive infill redevelopment, investing in green infrastructure, and providing incentives for rehabilitation and retrofit projects. Broad representation among government stakeholders and local constituencies in the early stages of policy review helps create bold and contextually appropriate tools for green affordable housing.

An important policy consideration at this stage is whether existing agency staff can absorb new responsibilities for implementing a green affordable housing program, such as green underwriting, design review, interagency coordination, and quality assurance. One of the central concerns from emerging local programs is the extent to which green building standards can be verified and enforced, including possible remedies for non-compliance during or after construction. Programs should anticipate internal capacity constraints and resource demands.

Designating a green building program coordinator is essential. This position is responsible for staffing and operations of the program. The coordinator also supports the implementation of the green building work plan and training efforts. Depending on the complexity of the green building program and existing available staff capacity, a Green Building Design and Construction Technical Advisor and/or a Green Building Permit Process and Plan Review Coordinator may be included. Where resources are available, these positions can improve program implementation and capacity building. See Staffing and Training Plan for more details.

Core Activities

- Evaluate Program Implementation and Outcomes
- Make Course Correction and Expand Green Building Program Scope
- Assess Changing Policy/Funding Landscape
- Monitor Trends in Green Building Best Practices

Opposite: Laurel Crest, Lancaster, California, developed by Jamboree Housing
Fast Facts: Integrated Design Charrettes

A design Charrettes involves an intense working session that takes into consideration a holistic and total-systems approach to the development process to promote health and livability throughout the life cycle of the development. Green Communities offers Charrette Grants for up to $5,000 to assist housing developers with integrating green building systems in their developments and engage in a serious discussion of green design possibilities. To measure the effectiveness of the Enterprise Green Communities Charrette Grant program, past grant recipients were surveyed:

- More than 96 percent responded that next steps/action items were clearly identified during their integrated design Charrette.
- Approximately 60 percent of respondents were developing to the Green Communities Criteria.
- About 70 percent of project teams found their integrated design charrette helpful in meeting the Green Communities Criteria.
- Close to 70 percent of project teams found their charrette facilitator helpful in meeting their integrated design charrette goals.
Step 2. Secure Resources for Implementation

The success or failure of a local or statewide green building program largely depends on the resources allocated to implementation and verification.

Local and state policy implementation begins with investing in staff specifically to oversee compliance, project support, and monitoring. The District of Columbia, for instance, directed staff to perform this function within the Department of Consumer and Regulatory Affairs. By contrast, Washington State enabled the Department of Community, Trade, and Economic Development to handle initial screening of applications and charged a third-party reviewer in the field to conduct design review and field inspections. While many jurisdictions have not brought on new staff positions to handle all aspects of compliance review, agencies commonly designate existing staff to play a role in application review and verification as well as to serve as a liaison to developers and other public agencies.

Initially, the lead agency or advisory council will conduct a careful evaluation of the program costs and sources of revenue to support the program. If a green building fund has been established or capital outlay attached to the new program, then the coordinating agencies likely will have discretion over a training and technical assistance budget. Supplemental funds are often used to help developers to defray incremental costs of meeting a new green standard, and to establish a protocol for verifying compliance. Depending upon internal capacity and availability of funds for certification, the city or state government may decide to handle verification internally or hire a third-party entity to monitor compliance and review projects according to uniform design and construction criteria. The following key steps are recommendations for program administration to consider. Sample documents are also provided later in this section.

- Designate an agency responsible for reviewing the green permit intake or application materials.
- Create the submittal and inspection checklists for use by the Agency’s monitoring staff.
- Develop the project certification and completion form.
- Provide training to Agency staff for a) initial and construction document technical review, b) submittals and inspections specific to the chosen green standard, and c) understanding the intent of the standard and the basic building science behind the requirements.
- Provide technical support to Agency staff during the reviews and inspections.

The following section outlines a verification structure for jurisdictions contemplating adoption of the Enterprise Green Communities Criteria or an equivalent green affordable housing program.
Step 3. Establish a Compliance and Monitoring Process

After a standard has been adopted and developers are oriented and trained on the requirements of the technical criteria, the lead agency will need to establish a process for verifying compliance. Legislative committees with oversight responsibility, will likely require mechanisms to ensure projects are designed, constructed, operated, and maintained in strict adherence to the program parameters.

The collaborating agencies may opt to use the Enterprise Green Communities Criteria as the basis of the local green affordable housing program or create a local or regional standard adapted to meet the specific program goals and unique geographic concerns of the region. Whichever green building standard is chosen, implementing agencies will need to adopt procedures that ensure the program meets its environmental performance targets and results in healthy, affordable and durable housing for low-income households.

The following description details a suggested process that can be modified and customized for a specific jurisdiction. Agencies have the option of performing all the compliance work in-house or contracting for this work with external organizations. The level of due diligence required by the collaborating agencies may vary, depending on such factors as expectations of oversight groups, the willingness of developers to embrace the standards, and the internal and external capacity that can be marshaled to support compliance verification. Typically, there are three stages of compliance review: 1) initial application review, 2) certification of construction documents, and 3) monitoring during construction, which includes final certification. See the attached Guidance on Verification and Compliance Monitoring for details.
Initial Application Review

When an application is submitted for a program requiring green building compliance, the agency will want assurance that the developer understands the green building standard and intends to meet it. In its practice, Enterprise requires an applicant to submit the Green Communities Criteria certification workbook. The form documents how the developer intends to meet the requirements for each criterion. The submission, including a location and site map, provides enough detail to demonstrate the applicant’s intent to incorporate the standard in the design of the project.

Some agencies, by contrast, require only minimal certification at initial application and the full documentation of green building compliance at a later stage. It is advisable, however, that administrative procedures prompt the development team to adopt an integrated design approach early in the process. The initial application review stage should require demonstration of an integrated design process with participation from a diverse team of architects, engineers, the owner, and operations and management staff.

For example, in Washington, D.C., one local agency requires the developer to conduct a “Green Charrette” prior to submitting an application for funding. The charrette, or integrated design meeting, focuses the project team on setting goals and creating a green development plan. The charrette is a comprehensive planning exercise that defines the overarching sustainability goals of the project. It also analyzes the technical requirements of the program, identifies the person or profession that will oversee the implementation of each particular criterion, and provides an indication of where each measure can be found in the construction plans or specifications.

The developer should be required to produce, whether through a charrette process or through development team meetings, a green development plan for submission to the reviewing agency. A green development plan lists the party responsible for meeting each criterion or measure. Such a submission requirement drives early planning and stakeholder engagement. Adopting an integrated design process early in the planning has been shown to improve results and reduce the cost of “going green”. Detailed records are an important part of this review stage. For instance, the review may raise questions that require follow-up correspondence with the project team. This correspondence should be documented as part of the project file. Also, a reviewer may prepare a brief summary on each project indicating the score of the project and any issues for follow-up. This summary is a valuable record for the project file, as it can be referenced in review meetings prior to award of funding.

Reviewers for this stage will need a working knowledge of the technical criteria that form the basis of the green affordable housing program. Some agencies have staff architects who conduct this review. Alternatively, green consultants may serve as reviewers. In either case, agency staff will benefit from technical training on the green criteria so that they are able to perform reviews or spot check third-party reviews.
Certification of Construction Documents

The next phase in compliance verification begins at the certification of construction documents. This occurs when the final construction plans and accompanying specifications are complete. Documents are submitted for permitting, priced by bidders (except for design-build projects), and intended to guide the construction of the project. All methods and materials used to meet the green building criteria should be noted clearly in the construction documents, with the exception of certain location issues reviewed during the initial application stage. This is also the point in the development process when construction financing is moving toward closing, including the release or final contract for funds from the agency requiring the green standard.

Local agencies may wish to pursue a thorough review of construction documents and specifications at this stage either by staff architects or outside consultants. This type of effort can be streamlined by requiring an extensive narrative from the developer on each criterion along with references to where the design measures are located in the construction documents. In this way, a reviewer could work through each criterion and cross-reference the plans and specifications that are noted to verify compliance. Some local jurisdictions will verify the green aspects of the design as part of the review for code compliance. When review is complete, the agency should feel confident that the plans and specifications include all necessary provisions for meeting the corresponding green measures.

Monitoring During Construction and Final Certification

As the project moves into construction or rehabilitation, the final phase of verification begins. At this stage, verification of compliance should include on-site inspections by agency staff or rely on third-party verification protocols to ensure the project has been built as designed. Field confirmation is necessary to ensure that developers fully integrate the green building standards associated with the particular construction type.

Many agencies already have a process for site monitoring during the construction phase that is often tied to verifying draw requests from the developer. This review is often contracted to third-party organizations who conduct inspection reviews for items such as the use of correct paint, carpet, and water fixtures. With the advent of numerous green building protocols, many agencies are requiring verifiers to check for detailed compliance with all green aspects of the building envelope as well as mechanical and electrical systems. The more involved aspects of site monitoring include the review of energy performance testing and adequate ventilation measures.

As a verification strategy, agencies may prepare a list of required submittals customized to a particular project type. Compliance can be enhanced by requiring staff or third-party verifiers to submit photographs and a final report documenting compliance with criteria and any violations or deficiencies.

Some requirements are more complex and are not easily verified by submittals and visual inspections alone. For instance, the energy efficiency requirements necessitate a whole-building approach that integrates a number of materials and methods that need to be procured and installed properly. In this case, a project designed to meet the requirements of the Energy Star program might be required to use a Home Energy Rating System (HERS) rater to certify compliance.

If the project is over three stories and therefore required to meet the ASHRAE standard for energy performance, verification could consist of certification of compliance (constructed as designed) by the project’s mechanical engineers and/or energy expert. The energy expert should certify that the system for whole-house ventilation has been installed as designed and meets its design requirements.

At completion of the project, some programs rely on a signed certification from the developer, architect, and green design specialist as verification of compliance. To verify that the project meets the energy performance requirements, the program may require a sign-off by the project engineer and/or energy expert confirming the completion of performance testing and inspections both during and post-construction. The agency should also request a final report from those responsible for field verification. This packet of information should also be accompanied by any third-party certifications the project has achieved (such as Enterprise Green Communities Criteria, LEED for Homes, or Energy Star for Homes). The entire file of documentation on the project should enable the agencies to confirm that the project has met its green requirements.
Performance testing of key features of the building – including tests of the building envelope, duct system, exhaust fans and water fixtures – is critical to ensuring the expected performance is achieved. Clockwise from left: Exhaust fan testing, water fixture testing, blower door tester, exhaust fan tester, window testing.
Green affordable housing programs should consider ongoing performance monitoring to verify that the energy and water consumption of each project meets acceptable levels. As a condition for funding, a participating agency may require that the developer provide information such as actual utility bills or certified periodic summaries of energy and water usage. To maintain compliance through routine unit turnover and repair, agencies may wish to retain the right for spot inspections or reports from developers to verify that future purchases of paint, carpet, cabinets and fixtures meet program requirements.

Information gleaned through this post-occupancy monitoring can be helpful both in fine-tuning the program requirements and in quantifying program benefits. The case studies included in this toolkit offer lessons on how the verification process has been addressed in different programs.

It will also be helpful to review the Enterprise Green Communities Charrette Application, Green Development Plan templates, and Resident and Operations and Maintenance Manuals, available on the Enterprise Green Communities website at www.greencommunitiesonline.org.

*From left to right: Charrette Application, Green Development Plan template, and Operations and Maintenance Manual template*
Public Engagement and Training

Educating residents and property management staff on the unique features of green buildings is critical to maintaining healthy and sustainable homes within a local state affordable housing program. A green building is designed with specific operating conditions in mind. However, its ultimate energy and water consumption, durability, and building performance are highly influenced by resident behavior and ongoing property management practices. Ongoing training and supervision of property management staff will be the most important determinant of long-term building performance.

State and local agencies may consider developing sample green living guides for residents and property managers, with information on the building’s amenities, suggestions on how to most efficiently use the home’s appliances and heating systems, instructions for recycling, maintenance procedures for some of the unique features of the apartments, and general energy conservation strategies. In addition, the Enterprise Green Asset Management Toolkit is a comprehensive resource for asset managers on green operations and maintenance.

These guides touch on topics such as thermostats, air conditioning, lighting, ventilation, showers and sinks, toilets, faucets, appliances, carpet/flooring care and selecting non-toxic and recycled content cleaning products. They may also highlight local and regional information on green living, such as sourcing locally grown food, options for outdoor recreation, and ways to access public transit and shared vehicle services. Information gleaned through post-occupancy monitoring can be helpful both in fine-tuning the program requirements and in quantifying program benefits.

Green Educational Guides from left to right: “Own it Green” a green Operations and Maintenance guide; “Green Asset Management Toolkit” gives holistic approaches and resources for improving the performance of existing buildings; “Trolley Square Green Living Guide” provides answers to basic questions about living an environmentally low-impact lifestyle in green affordable housing. These resources are available at: www.greencommunitiesonline.org/tools/resources
Structuring a training plan is an integral part of a green affordable housing policy initiative. Taken as a whole, the trainings are intended to enhance the knowledge base of developers and agency staff to facilitate smooth implementation of policy directives. A good training plan will include appropriate strategies for educating both the local development community and the agency review staff on the topics of particular importance to each agency’s role in policy implementation.

**Trainings for Public Agency Staff**

It is helpful to have an introductory training for agency directors and other senior staff on the rationale for incorporating this policy direction, the benefits of green affordable housing, and the general plan for implementation. These trainings typically require at least two hours, but could even extend a half-day if needed. Follow-up trainings should be tailored to agency review staff and designed to cover verification of Enterprise Green Communities Criteria (or other green building program) compliance at the specific review stages. For these more detailed and time-intensive trainings, it is advisable to divide agency staff into two groups: 1) funding application review staff, and 2) permit review/inspections staff. This division will allow the trainer to focus the session only on the verification associated with the review stage(s) for which the group of staff is responsible.

Before a detailed training plan is developed, the principal agencies should:
- Determine the various audiences that require training on green affordable housing strategies;
- Develop clear learning objectives specific to each audience; and
- Identify the training format and delivery (i.e., place-based, an online learning service, or on-site training at a project location).

Once there is general agreement around these issues, staff can create a detailed training plan for the various audiences, including the scheduling and trainer needs. It is ideal to have the trainer on board and begin outreach campaigns at least one month before a scheduled training. Detailed training materials, especially on green building verification and compliance, should be distributed prior to the sessions. Evaluations of the training provide useful feedback to help trainers and coordinators plan subsequent workshops and educational forums.

**Trainings for Developers and Housing Professionals**

There are a variety of entities within the development community that benefit from training on green affordable housing strategies. The primary audience is project management and/or construction management staff at local CDCs and housing development organizations. Trainings for this group work well if strategically timed around funding application cycles. In this way, agency staff can be incorporated into the training to provide information on the policy direction and logistics around the application. Also, it may be appropriate to open these trainings to contractors, architects, mechanical engineers, landscape architects and other trades. Training coordinators should ensure the event is offered to those professionals who work closely with the local affordable housing developers.
Nationally Recognized Certification Programs

**Building Performance Institute (BPI):** BPI offers a variety of certifications focused on home performance and whole-home retrofit planning and execution. The trainings focus on the knowledge and skills needed to evaluate existing homes and buildings (as opposed to new). Courses are distinguished by building typology; professionals seeking BPI certification can select from courses that emphasize strategies for either single-family or multifamily buildings.

**Residential Energy Services Network (RESNET) HERS Rater:** The HERS rater certification allows professionals to rate the whole-building energy performance of residential buildings three stories or below using the HERS Index. The certification requirements include demonstrated proficiency in energy modeling software and a quality assurance evaluation or in-field home ratings.

**Build It Green (BIG) Certified Green Building Professional Certificate:**
BIG organizes a two-day (16 hour) Certified Green Building Professional Training that covers all aspects of green building: energy, water, materials, indoor air quality, and implementing green in your company’s operations and marketing. It also offers a Green Points Rater Training for California building professionals, with training in home inspections and performance testing for green building designs, products and practices.

**U.S. Green Building Council’s LEED Professionals:** USGBC offers three tiers of professional accreditation. Professionals can select and apply for status under the most appropriate tier, depending on one’s knowledge base around green building and LEED project experience.
Sample Staffing Plan

The following positions can play a critical role in guiding policy implementation and building internal staff capacity.

**Green Building Program Coordinator**
Responsible for staffing and operations of the program; for coordinating the implementation of the green building work plan and training efforts; for network management and making presentations to key stakeholders; for interagency coordination and partnerships; and for developing implementation case studies.

**Green Building Design and Construction Technical Advisor**
Responsible for the development and management of technical services and resources. Duties may include: develop and provide consultation services; intake and respond to inquiries for technical information, develop and publish design and construction guidelines; develop and publish evaluation tool and rating system; and provide technical information for case studies and other materials.

**Green Building Permit Process and Plan Review Coordinator**
Responsible for facilitating the processing of green building permits and plan review. Duties may include: develop permit review and processing strategy for green building projects; train relevant permit staff on green building practices, systems, and materials; and develop effective interface between green building technical services and permit agency staff.

*Above: Iowa Green Streets Green Building Training*
Resources

Enterprise Green Communities Training Materials
District of Columbia Compliance Training for Agency Reviewers
Compliance Manual and Compliance Workbook for Agencies
Available at:
www.greencommunitiesonline.org

NeighborWorks America
Trainings, including week-long NeighborWorks Training Institutes
held quarterly in various locations
Available at:
www.nw.org/network/training/training.asp

Energy and Environmental Building Association (EEBA)
Houses That Work educational series
Available at:
eeba.org/housesthatwork/index.html

Affordable Comfort Institute
National and Regional Trainings
Available at:
www.affordablecomfort.org/events_overview.php?PageID=2
Resources

U.S. Green Building Council
Annual Greenbuild International Conference and Expo
Available at:
www.greenbuildexpo.org
Denver, Colorado

Summary Description

The City of Denver has emerged as a leader in sustainable development, from its commitment to creating Transit-Oriented Development (TOD) to Greenprint Denver, a long-term, citywide initiative to promote the importance of green development and ecologically friendly practices. This case study highlights various policy instruments that have shaped the affordable housing agenda at the state and local level, providing insight into the planning process leading up to implementation of a formal green affordable housing standard.

Policy Development Process


As part of the package, the Office of Economic Development announced that all city-subsidized affordable housing projects (rental and for-sale) will be required to meet the Enterprise Green Communities Criteria beginning in January 2010. It encouraged affordable housing developers to build according to the standards during 2008 and 2009, and organized a series of green building trainings for developers. Denver also drafted a new Housing Plan for 2008-2018.

The actions were taken in concert with the city’s Housing Plan Task Force, a 40-member panel made up of local public agency staff, affordable housing developers and housing advocates. The Housing Plan Task Force will continue to shape the goals and strategies of the Housing Plan through its implementation. The task force recognized early that a successful green building program must be embedded in a comprehensive approach to housing and economic development. It identified three key areas of city policy that would have significant impact on green affordable housing development:

1. Land use planning, and particularly zoning, affect what can be built on sites within the city and whether there are barriers to, or incentives for, the incorporation of affordable housing. Density and parking requirements, for example, have an enormous impact on affordability.
2. Regulation, including the development review process, permits and fees add time and cost to development. At the same time, regulatory review is a critical way that the city ensures that rules are being enforced and broader community goals met.
3. Funding, including grants, loans, tax-increment financing and vouchers represent a way for the city to directly support the type of development that it desires.

Opposite: Roanoke-Lee Street, Christiansburg, Virginia, Community Housing Partners
To implement its green building goals, the Housing Plan expressly calls for the following action steps:

1. Train affordable housing developers on the requirements of Enterprise Green Communities Criteria and identify funding to help offset additional costs associated with green requirements.
2. Develop and implement a system to verify compliance with green requirements.
3. Phase in Energy Star's Advanced Lighting Package as an additional requirement to the Enterprise Green Communities Criteria.

Policy Implementation

In anticipation of the new Green Building Standard, public agency staff from the City and County of Denver, the Colorado Housing and Finance Authority (CHFA), and the State Division of Housing conducted a series of trainings. In September 2008, Enterprise Community Partners hosted a compliance training session where participants from each sector discussed creating a joint timeline for milestones in the implementation of green building requirements and incentives for affordable housing developers. The green building framework includes publicizing the new energy efficiency standards, greening the residential building code, creating a data collection and tracking mechanism for green building projects, and establishing a clear process for beginning to implement the Enterprise Green Communities Criteria in 2010.
Policy Challenges and Responses

Denver’s housing plan draws on existing housing production programs and subsidies. By incorporating green building goals in the plan Denver succeeded in changing building practices without a lengthy regulatory or legislative process. It also provides an opportunity for Denver to align other initiatives, particularly the greening of the residential building code, with a uniform green building standard for affordable housing.

However, the lack of an explicit ordinance or statutory framework for adopting Enterprise Green Communities Criteria has led to several challenges. For instance, the city lacks a common road map for the adoption and implementation of Denver’s Green Building Standard. The Housing Plan sets a common goal and a definitive timetable. Yet, without a legislative or administrative policy tool, the roles of housing and community development, energy and transportation, and permit review are not clearly delineated. Each of these vital sectors acts in isolation, without sufficient coordination and integration. A statute or ordinance may be a more effective tool for outlining a policy framework and detailing enforcement procedures. The current process also does not assign responsibilities for policy implementation, such as through the formation of a Green Building Advisory Board or steering committee to establish consistent rules and procedures.

Recognizing the need for greater coordination, state and local agencies with housing finance, community development, energy, and transportation have announced a shared commitment to interagency collaboration. Representatives from city and state agencies have formed an interagency task force to discuss program coordination and compliance review. The interagency group reflects awareness that communication and transparency are essential to understanding the relationship between local, state, and federal green building programs.

The next steps for the task force will focus on three cornerstone issues:

1. Identify staffing needs.
2. Focus on existing resources for program delivery (across financing, planning and permit review).
3. Determine a verification system of green building projects at initial application review and project completion.

City and state government staff are also working together to establish benchmarks and project milestones that incorporate important dates and funding opportunities that trigger green affordable housing development. This list includes, but is not limited to, CHFA, the City of Denver, the State Division of Housing and HUD. Agencies work in concert to ensure that affordable housing providers are aware of new funding program requirements and have an opportunity to develop capacity in green building design and construction.
CHFA has set a new milestone by establishing threshold green requirements within the Low Income Housing Tax Credit (LIHTC) program. Beginning in 2010, to be eligible for LIHTC through CHFA, a project must comply with all of the mandatory provisions of the Enterprise Green Communities Criteria. In addition, new construction projects must earn 35 points from the Optional Criteria, while moderate rehabilitation projects must earn 30 points from the Optional Criteria. At the state and local level public agencies recognize the value of ongoing stakeholder consultation, developer capacity building, and engaging affordable housing developers in the transition to green housing finance.

Links to Related Resources

City of Denver
Available at:
www.denvergov.org

GreenPrint Denver
Greenprint Denver charts the city’s course over the next five years and will position the city as a national leader in a global effort to meet the needs of the present without compromising the ability of future generations to meet their own.
Available at:
www.greenprintdenver.org

GreenPrint Denver Download the Plan
Get the Complete Action Agenda
Available at:
www.greenprintdenver.org/about/download-the-plan
Washington, D.C.

Summary Description

In December 2006, Washington, D.C. enacted one of the nation’s most comprehensive green building programs for residential and commercial real estate. This case study of the District of Columbia’s Green Building Act of 2006 focuses on the role of interagency coordination and permit review for green affordable housing. It also provides model documents on compliance systems for monitoring green building requirements.

Policy Development Process

In late 2005, Councilmembers Graham, Ambrose, Cropp and Mendelson, along with a number of co-sponsors, introduced a Green Building Act in the D.C. City Council. The legislation would, in the words of former Mayor Anthony Williams, help “the District move into a position of national leadership in terms of demonstrating our commitment to the environment.” The bill was referred to the Council’s Committee on Consumer and Regulatory Affairs. At its first public hearing on February 10, 2006, over 50 witnesses from the environmental, design and building professions, and the general public, gave testimony on the proposed bill.

Galen Terrace, Washington, DC, a rehabilitation partnership between the National Housing Trust and Enterprise Preservation Corporation
Public testimony at the hearing was generally supportive of the intent and direction of the bill, specifically its health and energy conservation goals for affordable housing and public buildings. At the same time, however, some testimony raised valid concerns over the proposed regulatory and administrative framework of the legislation. A number of witnesses called for the establishment of a task force to develop goals, requirements, and incentives to dramatically reduce the negative impacts of the District’s built environment, while still encouraging continued growth and development.

**Creation of a Task Force**

Following that hearing, the Committee established the Green Building Act Task Force (“Task Force”) to shape the Green Building Act and support its implementation. The D.C. Green Communities Initiative, a collaboration of GreenHOME and the D.C. office of Enterprise Community Partners, played a convening role. The Task Force was comprised of over 45 professionals from a variety of fields including architecture, planning, construction, development, finance, environmental advocacy, education, and landscape architecture, along with D.C. government staff and officials. Its purpose was to re-write the initial legislation and develop broad-based consensus prior to policy adoption.

The Task Force set assertive yet realistic goals and timetables to implement green building requirements. It also developed a comprehensive legislative package and created a structure for implementation, evaluation and future improvement to the program structure. The Task Force met five times over the summer of 2006 and included presentations from green building experts from Boston, New York, Chicago, San Jose and Santa Monica. Throughout the process, the Task Force had to balance green goals – reducing energy consumption, sustainable land-use practices, indoor air quality and many others – with a realistic timetable for implementation. The legislation that resulted from this consensus-building process includes a sequence of initiatives. Beginning with publicly owned and leased buildings and publicly financed affordable housing, it extended to all commercial development 50,000 square feet over a six-year implementation schedule.

_Above: Atonal Apartments, Washington D.C., developed by Manna. Photo Credit- Steve Dickens_
To help reach consensus, Enterprise Community Partners and GreenHOME hosted a series of local task force working groups and public forums to consider options. The Enterprise Green Communities Criteria emerged as a template for the District’s green building framework. Sessions focused on educating developers, financiers, the affordable housing, environmental and health advocacy communities and policy makers on different approaches ranging from incentives for green development to mandates for publicly financed housing projects. The process also solicited feedback from constituents on preferred approaches to meeting green planning and construction goals.

Throughout, presenters emphasized the value of integrated design. The D.C. Green Communities Initiative with its partner, the Coalition for Nonprofit Housing and Economic Development, hosted an integrated design charrette training session for the affordable housing community. The exercise illustrated how building and rehabilitating homes that are healthy, energy efficient, and better for the environment can be achieved without adding infeasible costs to the project. The training workshop featured an actual project, its development team and a trained facilitator guiding team members through structured explorations of green building choices. Over 70 local developers, architects, local government representatives and others observed the process as a learning experience.
Passage of the Green Building Act

On December 5, 2006, the District passed the Green Building Act of 2006. It required developers to build environmentally sustainable projects that incorporate energy-saving measures. The Act mandated that by FY 2009 (October 2008) all residential projects receiving at least 15% public funding and larger than 10,000 square feet would meet the Enterprise Green Communities Criteria or an equivalent standard. The requirement also applies to District-owned or leased residential property undergoing new construction or substantial improvements.

The Act extends green building requirements to public buildings and commercial projects over 50,000 square feet. The FY 2008 District capital budget mandated that all public buildings constructed or rehabilitated must meet green building requirements from the USGBC’s Leadership in Energy and Environmental Design's (LEED) Rating System family of standards. This process was designed to align with development incentives, such as expedited permit review, and lead to the requirement that all commercial buildings that exceed 50,000 square feet must meet LEED standards beginning in 2012.

Looking to the future, the legislation established a Green Building Advisory Council (GBAC) to evaluate the success of the legislation and promote additional green building practices and standards to keep the District in the forefront of the green building movement.

Policy Implementation

In order to carry out this ambitious agenda, the Act assigns various D.C. agencies and administrative bodies key roles in overseeing its implementation. One of the early champions of the implementation of the Act was the Department of Housing and Community Development (DHCD). Beginning in November 2007, the department required that all residential projects applying for financing through its Request For Proposals (RFP) process conduct an integrated design charrette to explore the most cost-effective ways to incorporate green building standards. To facilitate the transition to green building, DHCD partnered with the D.C. Green Communities Initiative to provide $5,000 in grant funds per qualifying project to conduct this charrette. The small grant helped nonprofit developers climb the learning curve with the help of private and public funds to complete a charrette process and a Green Development Plan. Through its RFP process, DHCD continues to drive integration of green building requirements in affordable housing developments in the District.

The Act establishes the GBAC to oversee policy implementation and the Green Building Fund. The fund generates revenue through marginal increases in local permit fees. GBAC is represented by members from each of the agencies responsible for public finance of commercial and residential projects, permitting, environmental review, and oversight of District planning and zoning. The body also includes several appointed members from the green development community. GBAC meets at least six times per year to advise the Mayor on the development, adoption, and revisions of the Act, evaluate the effectiveness of the District’s green building policies, and promote green building education.
Notably, D.C.’s Department of Consumer and Regulatory Affairs (DCRA) adopted a major role in policy implementation. DCRA’s responsibilities include construction code enforcement and building permit review. The Act directs DCRA to develop a green permitting structure and offer a green building incentive program. The agency has initiated a process for expedited permit processing, which will offer incentives to builders and renovators who maximize green methods and materials. The Act also authorizes DCRA to use a portion of the Green Building Fund to educate builders, renovators, businesses, and residents who want to learn how to build green. It also expands the agency's capacity to conduct green building plan reviews and inspections.

GreenHOME and Enterprise have mapped out an extensive training agenda, technical assistance, and additional resources to help DCRA and other District agencies implement Enterprise Green Communities Criteria. As DCRA continues to finalize the process of green development permit review, it will train their design review and construction teams on an integrated approach to site plan review and inspections. Working with the GBAC, public agencies have realized the benefit of a policy framework that parallels the development process and provides clarity and incentives for participating developers.

The next phase of policy implementation will involve further development of the District’s compliance review process for applications seeking funding for residential projects over 10,000 square feet and public residential housing projects (administered by the D.C. Housing Authority and the Deputy Mayor’s Office). Several documents available in this section provide examples of how to align applications for financing, permit review, verification during construction and final inspection.

Policy Challenges and Responses

Under this green building legislation, District agencies, developers, and builders are committed to sustainable approaches to affordable housing construction and rehabilitation. Yet, the District faces the challenge of administering a comprehensive program that involves financing, design review, inspections, and coordination among multiple agencies – DHCD, DCRA, the D.C. Housing Finance Agency, Department of the Environment, Department of Transportation, D.C. Housing Authority, Deputy Mayor for Planning and Economic Development, and the Office of Planning.

The legislation outlines the roles and responsibilities of public agencies, but does not specify a process for verifying compliance with the new green building standards or coordination between agencies. Over the past year, the D.C. Green Communities Initiative and the Coalition for Nonprofit Housing and Economic Development hosted the Agency Directors and their staff to clarify the mechanics of implementation, collaboration and compliance review. Without additional funding or staff capacity to address compliance and inter-agency coordination, each department faces significant obstacles in ensuring that green projects succeed in satisfying the Enterprise Green Communities Criteria and create healthier, more energy-efficient homes.
A key lesson from the Green Building Act of 2006 is that green building standards naturally change over time with new technology and evolving best practice. The residential building requirements in the Act reference the Enterprise Green Communities Criteria of 2006. However, the Criteria were updated and re-released in 2008, rendering the 2006 version obsolete. Attempts to harmonize the legislation with updates to Enterprise Green Communities and LEED have been cumbersome and created market confusion for developers trying to meet the current Enterprise Green Communities Criteria and LEED Standards, and decipher District funding requirements based on 2006 standards. Any enabling legislation or statute to incentivize green affordable housing must anticipate the evolving nature of green building standards. Depending on legislative intent, green building requirements should either automatically update to the most recent edition of third-party green building standards referenced in the Act or follow a formal rulemaking or legislative amendment process.

Another important lesson is the value of aligning green building standards with the residential building code. In December 2008, with support from the Mayor’s Green Building Advisory Council, the D.C. City Council adopted a comprehensive overhaul of its building codes to incorporate energy efficiency and green building standards. An alternative mechanism would have been to address code reform as a part of the initial legislative drafting and review process. Integrating code and zoning reform with new green building requirements often leads to a smoother implementation process. It provides transparency to developers and guidance to government agencies responsible for oversight and code enforcement.

The Green Building Act of 2006 is one of the most expansive local green building programs. It represents a model for how to implement a bold policy vision tied to public financing incentives and green permit review. It also provides a road map for the development community, with explicit compliance requirements and timetables. The legislation creates a tiered approach to implementation, recognizing the need for agencies and developers to build capacity in order to meet performance objectives inherent in the Enterprise Green Communities Criteria and LEED Rating System.

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Links to Related Resources

Green Building Act of 2006
Available at:
green.dc.gov/green/lib/green/pdfs/GreenBuilding_act06.pdf

Enterprise Green Communities Compliance Training for D.C. Agencies
Available at:
www.greenspacencr.org/documents/plan_spec_review_training-jul08.pdf

Enterprise Green Communities Permit Workbook
In order to ensure compliance with the Enterprise Green Communities Criteria, agency reviewers must be able to locate specific information in the plans, specs, and construction documents during all stages of agency review. Enterprise Community Partners created a model compliance manual to provide guidance on where to locate information and how to verify compliance with the Enterprise Green Communities Criteria.
Available at:
www.greenhome.org/documents/dc-gc_workbook.xls
Links to Related Resources

Framework for Greening the D.C. Code
Available at: bcap-energy.org/node/311

D.C. Guide to Green Buildings
Available at: green.dc.gov/green/lib/green/pdfs/GuideToGreenBuildings.pdf

Green Building Fact Sheet
Available at: dcra.dc.gov/dcra/lib/dcra/information/publications/green_building.pdf
Iowa State Green Streets Standard

Summary Description

The State of Iowa adopted Enterprise Green Communities Criteria as the basis for a comprehensive green building standard that applies to publicly funded affordable housing projects and community facilities across the state. This case study highlights an iterative policy process that responds to geographic diversity.

Policy Development Process

In late 2007, the Iowa Department of Economic Development (DED) began to consider a uniform green building program for residential and commercial projects that receive public funding. Initially, DED focused on projects in its Community Development Division, where DED could create incentives to implement sustainable community and design principles through its funding policies for the Community Development Block Grant (CDBG) program, Iowa Housing Fund, and the Iowa Main Street Challenge Grant program.

To help direct the department’s efforts, DED convened a group of 20 key stakeholders, including program managers, program users, program partners, and community members. The stakeholder group participated in a facilitated three-day Design for Lean Six Sigma event. The group recommended that DED implement a pilot program as a first step. DED accepted and expanded on the group’s suggestion to develop a green building pilot project. It went even further, establishing minimum green building criteria for all HOME, CDBG Community Facility, and Main Street Iowa Challenge Grant projects. The threshold requirements, known as the Iowa Green Streets Criteria, applied to all projects seeking funding in 2008.

The department researched green design criteria and standards in the U.S. and abroad. It eventually chose Enterprise Green Communities Criteria due to its holistic approach to health, environmental and economic issues and emphasis on affordable housing. Agency staff held a series of internal meetings to review and revise draft versions of the criteria. The team sought advice and feedback in these early stages from a dozen experts in the fields of architecture, energy, land use and engineering. After several tiers of agency review, DED sent draft criteria in May 2008 to program users and experts in sustainable community principles. The following month, an official Housing Fund rule change provided a formal opportunity for public review and comment.

In May and June of 2008, the department provided design assistance to several housing projects and funded one community facility project prior to developing the Iowa Green Streets Criteria. This was an opportunity to “field test” some of the criteria concepts and build capacity among developers and builders. After receiving public comments from over 400 people, DED made further revisions and circulated a new draft to a smaller group of approximately a dozen key stakeholders. The revised version was completed and posted on the Department’s web site.
To introduce the program to a statewide audience, staff from Enterprise Green Communities held a series of workshops in the summer of 2008. The sessions introduced nearly 200 developers, public agency staff and members of the community to the Iowa Green Streets Criteria in more detail. It provided opportunities to gather feedback on the proposed criteria. DED staff made additional revisions based on the workshop feedback and held additional sessions for CDBG program applicants. It also issued a Request For Proposals for a statewide capacity building program aimed at local governments, the building trades, and building owners. The goal of the training initiative was to build industry capacity to meet the Iowa Green Streets Criteria and, more generally, to design and construct high-performing, durable, safe, and energy-efficient homes.

Policy Implementation

Iowa approached implementation from the ground up, working with local colleagues and building programs to demonstrate the potential for aligning green design standards with common construction practices and showcasing housing prototypes in the field. In addition, the state created a communication platform, GreeNetwork, to keep the development community and local policy makers informed of funding incentive programs, training opportunities, and green building projects in development.

Agency staff recognized early on that a successful statewide implementation would require investment in a communications network and training curriculum. These tools allow field staff and local developers to engage rural communities in the development of a green building standard that extends from urban Des Moines to historic Main Street in the small towns across Iowa.
Policy Challenges and Responses

Capacity gaps among affordable housing providers and limited networks of green development specialists posed a significant early challenge for the state program. Overcoming resistance to the additional cost of green building also required attention. Iowa has worked to identify the true additional costs to build green, sustainable alternatives for affordable housing and community facilities – and to predict declines in these costs over time as developers and builders become more familiar with the integrated design process, green design specs and new materials. To address cost concerns, DED has increased maximum per unit award amounts for its housing projects and continues to develop and offer green building training.

Severe flooding in June 2008, and the ensuing disaster response, prompted sweeping changes in land use and sustainable development policy. In the wake of the devastating floods, the State of Iowa sought bold plans to rebuild and invest in local affordable housing and community projects that would mitigate the environmental and health hazards associated with conventional building design and construction. In July 2009, $1 million of disaster recovery funds were dedicated to green building training to increase capacity for green rebuilding efforts. Iowa introduced an ambitious statewide agenda for transforming the way community development projects are designed, located and built. The state committed to a disaster recovery plan that aligns with the Green Streets Criteria. Currently in the second year of implementation, new standards are viewed by agency staff as an iterative process that will gain momentum as Iowans seize opportunities to create green, sustainable communities in cities, small towns and rural areas across the state.

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Links to Related Resources

Iowa Green Streets Criteria 2009
Available at:

Iowa Green Streets Criteria 2009 Green Development Plan and Checklist
Available at:

Iowa Green Streets Criteria 2009
Available at:

Iowa Green Funding and Incentives
Available at:
www.iowalifechanging.com/community/resources/funding.aspx
Links to Related Resources

Iowa GreeNetwork
Available at:
www.iowalifechanging.com/community/e-network.aspx

Iowa Life Changing
Available at:
http://www.iowalifechanging.com/community/
**Minnesota Green Communities**

**Summary Description**

The Minnesota Green Communities Collaborative builds on the partnership between major private affordable housing funders and Minnesota Housing to implement a statewide program for increasing energy efficiency and other aspects of green building for the benefit of low-income families. This case study highlights ways in which private-public partnerships can lead to successful state policy.

**Policy Development Process**

Minnesota Green Communities is a collaborative effort between the Greater Minnesota Housing Fund (GMHF), the Family Housing Fund, and Enterprise Community Partners. It is a statewide initiative for affordable housing developers seeking to build green affordable housing. GMHF and the Family Housing Fund are private philanthropic funds that closely coordinate with the Minnesota Housing Finance Agency (Minnesota Housing) through a single Consolidated Request For Proposals (RFP). Through this innovative collaboration, an affordable housing project’s total funding need is considered as a whole, through a single application process. Selected projects receive public and private commitments of funding early in the development process. Expert staff at Minnesota Green Communities shares its perspective with funders in this process, ensuring green building is a priority in the selection process. Over the course of four years, this working partnership led to the creation of the “Minnesota Overlay” to the Enterprise Green Communities Criteria. The Minnesota Overlay made minor modifications to the criteria to respond to specific regional concerns and to be inclusive of rural projects. It is now a threshold requirement for almost all types of funding awarded through the Consolidated RFP.

Minnesota was well positioned to design an innovative approach to statewide green building. First, the state had been a leader in energy-efficient construction techniques for decades. Policy makers in this cold climate were well aware of the connection between energy costs and affordability, particularly as energy costs skyrocketed. Second, the state enjoyed both significant technical expertise in energy technology and a strong network of nonprofit developers eager to pursue green, energy-efficient housing. A number of leading organizations and academic experts had been working on energy issues since the 1970s. This was leveraged through the establishment of the Advisory Committee that included representatives from the affordable housing community, experts focused on energy conservation and green building, academics, utilities, other state and local agencies and others. Third, the close working relationships between major public and private financing sources through Minnesota Housing facilitated early high-level stakeholder collaboration. This collaborative structure, coupled with readily available funding for early green demonstration projects, assured statewide buy-in to the program.
Minnesota Green Communities began in early 2005 through a Memorandum of Understanding with the partners. Enterprise offered one-to-two matching funds to green building developers selected for four pilot projects. Initial pilot projects received up to $3,000 per unit in grant funds to offset the costs of building to Enterprise Green Communities Criteria. In addition, the Family Housing Fund and Greater Minnesota Housing Fund provided funding to hire a consultant dedicated solely to managing Minnesota Green Communities.

In 2005, the first round of demonstration funding focused on providing a variety of project types, including new construction, adaptive reuse of a historic building, and rehabilitation of existing affordable housing. Starting in the second year, all projects meeting the Enterprise Green Communities Criteria were given preference for GMHF and Family Housing Fund dollars. In 2007, Minnesota Housing began requiring multifamily, rental, new construction projects requesting deferred financing to meet the criteria, but in accordance with the Minnesota Overlay. The Metropolitan Council (the Twin Cities regional planning agency) also adopted the criteria. In 2008, the program expanded to single-family and other for-sale affordable projects. Recognizing the complexity and unique challenges of meeting green building standards in housing rehabilitation projects, Minnesota Green Communities and Minnesota Housing moved more deliberatively in this area.

Above: The Wellstone, Minneapolis, Minnesota developed by Hope Community, Inc.
Policy Implementation

Since 1999, initial applications have come in to Minnesota Housing through the “Consolidated RFP”. Minnesota Housing makes an initial cut based on readiness and other project qualifications. For projects advancing to the next level of review, the green aspects of the applications are forwarded to Minnesota Green Communities. These aspects include site and location maps and documentation regarding intended methods of meeting the criteria. A one-page summary for each is developed and sent to Minnesota Housing.

As part of the overall review process, public and private funders hold a joint meeting to select projects that meet funding qualifications, including the Minnesota Overlay to the Enterprise Green Communities Criteria. Staff architects from Minnesota Housing actively participate in the initial review. Selected projects receive technical assistance where green building plans need to be strengthened to meet the criteria.

The application process is the first level of commitment by the developer toward satisfying the Enterprise Green Communities Criteria. Subsequently, at the construction documents stage, the developer and project architect must certify compliance with criteria as a closing requirement for project financing. Certification of compliance is required again at construction completion.

For multifamily rental projects, Minnesota Housing architects conduct an initial review and provide some oversight during construction. For the first round of single-family developments, Minnesota Housing contracted with the Center for Sustainable Building Research, an affiliate of the University of Minnesota, to provide site review, performance testing and project-specific technical assistance to these developers. The first round of rehabilitation projects were all required to include building performance assessment and verification.

Challenges and Responses

Effective construction monitoring was an early challenge for this large state, and over time greater verification and monitoring have been incorporated into the process. Selective post-completion performance testing has shown that projects are generally performing well. Given the geography, it is impractical to conduct site inspections frequently enough to verify compliance during construction. Minnesota Green Communities continues to increase technical assistance to developers to address this issue.
Overall, the Minnesota experience shows that green affordable housing techniques can benefit a variety of housing types and, if adequately planned, will generate health, environmental and economic benefits without adding significantly to the total development cost. Further, despite a rather steep learning curve in a developer’s initial project, subsequent projects have proven achievable and cost-effective.

Minnesota Green Communities has developed a set of “Lessons Learned” fact sheets that provide concrete recommendations based on the experiences of the first eight demonstration projects. They highlight actions that have contributed to the success of Minnesota’s affordable housing developers, and identify tips to avoid common challenges.

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**Links to Related Resources**

- Minnesota Green Communities  
  Available at:  
  www.mngreencommunities.org

- Minnesota Green Communities Publications  
  Including Minnesota Overlay to the Green Criteria for both multifamily and single family developments  
  Available at:  
  www.mngreencommunities.org/publications/index.htm
Washington State

Summary Description

Washington State implemented a legislatively mandated green program for state-funded affordable housing developments. This case study highlights the early outreach and planning efforts that led to a statewide green standard aimed at producing healthier, energy efficient and sustainable housing opportunities for low-income families.

Policy Development Process

In March 2005, the Washington State Legislature passed Senate Bill 5509. The bill addressed strategies for greening publicly funded buildings, and directed the Department of Community, Trade, and Economic Development (CTED) to identify and implement a green building standard for affordable housing projects funded from the State's capital budget. The designated standard was to be established by July 1, 2008.

To accomplish this task, CTED convened a team of technical experts facilitated by Common Ground, a Washington State affordable housing assistance organization. Seeking an appropriate standard for state-funded affordable housing in Washington State, this “Green Team” analyzed existing Green standards from across the United States. An initial list of 12 standards was winnowed to the following programs: Enterprise’s Green Communities Criteria, the LEED rating systems, and SeaGreen, a standard created and managed by Seattle’s Office of Housing.

In May 2006, the team gathered input on the three standards during public meetings in Spokane and Seattle. The public meetings and internal project review suggested that none of the three standards as written could fully address the range of projects funded through CTED. Rural projects, in particular, had great difficulty meeting the standards. From this initial review and input, the Green Team recommended the adoption of Green Communities Criteria along with a set of modifications that would meet the intent of the legislation for most Housing Trust Fund projects throughout the state.

A formal 30-day public comment period on the Green Team’s recommendations was held during June and July of 2006. As required by the legislation, the final recommendation was discussed, reviewed, and approved by Washington State Housing Trust Fund stakeholders. After review, CTED selected the Green Communities Criteria as the basis for the State’s standard for four key reasons:

- Criteria focus on direct benefits to the residents of affordable housing.
- Criteria offer specificity and detail on what is required.
- Enterprise showed a willingness to allow the State to make modifications and control the standard.
- Criteria offer reasonable documentation and administrative costs.
To counter the Green Communities Criteria’s perceived urban bias, certain site selection criteria were made optional and the overall optional, point total requirement was doubled. Energy Star certification remains an essential component utilizing builder option packages that have been specifically developed for the Northwest. The criteria were also modified to align with well-developed Washington State weatherization protocols. The final product was named the “Evergreen Sustainable Development Standard.”

Enterprise Community Partners collaborated on the overall process by participation on the initial team of green experts from Washington State, providing flexibility in negotiating changes to the standard and training assistance for the development community and CTED staff. From June through October 2007, Enterprise conducted training events in Spokane, Seattle, and Olympia to familiarize affordable housing developers, architects, and state and local officials with the modified standard. Enterprise also delivered training for CTED and the Washington State Housing Finance Commission staff, who were considering adopting the Evergreen Standard. The trainings were repeated in major Washington markets in 2008, in coordination with the rollout of the updated green requirements, effective July 2008. The Washington State Housing Finance Commission adopted the Evergreen standard for all tax credit projects, effective January 2009.
Policy Implementation

The Evergreen Standard took effect on July 1, 2008. The first round of multifamily project applications utilizing the new standard was submitted to CTED by September 5, 2008. The first round of grant funding for single-family projects closed in December and awards were made in 2009.

Developers are required to submit a checklist to Washington State Department of Commerce (formerly CTED) detailing compliance with the mandatory criteria as appropriate to the type of project and indicating enough optional points to meet the Evergreen threshold requirements. Rehab projects must achieve 40 points, and new construction projects must achieve 50 points. This checklist is reviewed internally, and the department conducts routine follow-up with applicants. If a project does not meet the Evergreen threshold requirements, it will be eliminated from consideration in the Housing Trust Fund application process.

Before a contract can be finalized between the developer and the department, the developer must submit an Evergreen Project Plan. The document is similar to the Enterprise Green Communities’ Green Development Plan, which requires more specific information on how each criterion will be met. The approved Evergreen Project Plan is then forwarded to a third party verifier under contract to the department. The verifier reviews the construction documents along with the development budget and compares them for consistency with the Evergreen Project Plan. The department does not release funds until the third party verifier approves the construction documents and the project budget. The third party verifier also tracks compliance with the Evergreen Project Plan throughout the construction process through on-site visits.

Additionally, the developer is required to appoint a “Sustainable Development Project Manager” from their development team to verify implementation of the Evergreen standards. That team member is responsible for knowing the green aspects of the construction documents, overseeing green development plan implementation and cooperating with outside verifiers.

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Note: As of July 26, 2009, the Washington State Department of Community, Trade & Economic Development is changed to the Washington State Department of Commerce.
Links to Related Resources

For more information regarding the Evergreen Sustainable Development Standard
Please visit:
www.commerce.wa.gov/evergreen

Evergreen Sustainable Development Criteria
Available at:
www.commerce.wa.gov/DesktopModules/CTEDPublications/
CTEDPublicationsView.aspx?tabID=0&ItemID=8034&MId=870&wversion=Staging

Evergreen Criteria Responsibility Matrix
Available at:
www.commerce.wa.gov/DesktopModules/CTEDPublications/
CTEDPublicationsView.aspx?tabID=0&ItemID=6324&MId=870&wversion=Staging

Evergreen Homeowner’s Manual
Available at:
www.commerce.wa.gov/DesktopModules/CTEDPublications/
CTEDPublicationsView.aspx?tabID=0&ItemID=6478&MId=870&wversion=Staging