

**STATEMENT OF DOUG GATLIN
OF THE U.S. GREEN BUILDING COUNCIL**

**BEFORE
THE HOUSE COMMITTEE ON FINANCIAL SERVICES,
SUBCOMMITTEE ON HOUSING AND COMMUNITY
OPPORTUNITY**

**ON
H.R. 2336, THE GREEN RESOURCES FOR ENERGY EFFICIENT
NEIGHBORHOODS ACT OF 2009**

JUNE 11, 2009

On behalf of the U.S. Green Building Council's (USGBC) 20,000 organizational members and nearly 80 local chapters, I would like to thank Chairwoman Waters and Ranking Member Capito for the opportunity to testify about the role that the Department of Housing and Urban Development (HUD) and the federal government can play in improving the energy efficiency and sustainability of residential buildings nationwide. My name is Doug Gatlin, and I am the Vice President of Market Development for the U.S. Green Building Council.

The Imperative

Green homes are inherently affordable homes. Constructing and rehabilitating residential projects to green standards can measurably reduce a resident's financial obligation to a utility bill, result in long-term durability and ease of maintenance, and have a positive impact on individual and community health and well-being. Green homes offer similarly significant benefits for our environment—comprising a critical part of our nation's strategy for addressing climate change.

On the aggregate, buildings are responsible for 38% of U.S. CO₂ emissions per year.¹ In addition, buildings annually account for 39% of U.S. primary energy use;² use 13.6% of all potable water or 15 trillion gallons per year;³ and consume 40% of raw materials globally (3 billion tons annually).⁴ The EPA estimates that 136 million tons of building-related construction and demolition debris are generated in the U.S. in a single year.⁵ (By way of comparison, the U.S. creates 209.7 million tons of municipal solid waste per year.⁶) It is clear that we must act quickly to reduce the impact of the built environment on our planet.

Critically, sustainability is not limited to environmental performance alone, but rather, hinges on the creation of buildings and neighborhoods that are also socially and economically sustainable. As such, USGBC strives to integrate the theories and practices of social and economic justice within those of sustainable building. The Green Resources for Energy Efficient Neighborhoods (GREEN) Act of 2009 (H.R. 2336) makes important and

¹ Energy Information Administration (2008). Assumptions to the Annual Energy Outlook.

² Energy Information Administration (2008). EIA Annual Energy Outlook.

³ U.S. Geological Survey (2000). 2000 data.

⁴ Lenssen and Roodman, 1995, "Worldwatch Paper 124: A Building Revolution: How Ecology and Health Concerns are Transforming Construction," Worldwatch Institute.

⁵ U.S. EPA Characterization of Construction and Demolition Debris in the United States, 1997 Update.

⁶ U.S. EPA Characterization of Municipal Solid Waste in the United States, 1997 Update. Report No. EPA530-R-98-007.

necessary progress toward achievement of these broader goals while targeting the hard realities of affordability and climate change.

USGBC is particularly encouraged by provisions in the legislation that promise to advance the market transformation to sustainability by:

- providing needed financing mechanisms, such as energy- and location-efficient mortgages, to assist consumers in accessing more efficient properties;
- supporting states and localities in their efforts to improve the energy efficiency of homes in their communities through the Residential Energy Efficiency Block Grant Program;
- providing needed education to consumers and lenders about the benefits of energy efficiency through green banking centers; and
- empowering the private market to move further and faster by advancing the federal commitment to green and energy efficient affordable housing.

By allocating funds through competition based on a host of priorities in the public interest, HUD plays a critical role in both defining and delivering affordable housing. The GREEN Act establishes energy efficiency and green building generally as key public priorities, and provides a framework whereby developers can compete to provide the highest quality housing. This public sector leadership sends a powerful message to the rest of the housing industry, incentivizes private businesses to become experts in green building generally, and ensures that low-income families will maintain access to decent, safe, and affordable housing, even as our society's standards for what is decent and safe continue to rise.

Demonstrating that Green is Affordable

Affordable housing is not a special building type. Instead, the term describes a relationship between people and buildings. Congress has determined that for federally-subsidized programs, the costs to inhabit a residence should not exceed 30% of the gross annual income for the family living in that residence. This calculation includes payments for water, gas, and electricity, which can be significant and unpredictable. Compounding these potential costs, more than

80 percent of housing units assisted by HUD are 15 to 30 years old,⁷ and many low-income housing units are among the least efficient housing in the country.

When paid directly by low-income residents, high utility costs erode and in some cases entirely undermine affordability. Indeed, low-income households spend on average 19.5% of annual income on home energy costs, while the average for median-income households is just 4.6%. These costs can become an even greater burden on low-income families during the winter months, when home energy costs may climb as high as 70% of monthly income.⁸

Affordability is similarly in jeopardy where utilities are paid by HUD or another public agency, as these recurring costs limit the public funds that are available for the construction and maintenance of affordable housing. Indeed, HUD spends more than \$5 billion annually in direct and indirect utility costs.⁹ Green building offers opportunities to reduce energy and resource consumption, enabling lower utility costs and critical savings for agencies and residents alike.

An affordable housing project developed in Michigan by the Genesis Nonprofit Housing Corporation demonstrates the economic and environmental savings that are possible through green building. The project was built in two phases utilizing the same basic design and the same builder, but phase two was built to LEED standards and certified by USGBC. Compared to phase one, the LEED building added just 2% to the initial construction cost, but the owner reports that in its first two years of operation the LEED certified building produced an impressive 26% savings on electricity and 41% savings on gas.

Public housing agencies have experienced similar successes. Over the past two years, the District of Columbia Housing Authority (DCHA) has implemented major green building improvements in 5,000 units of public housing across 31 separate properties. These improvements included HVAC upgrades, new lighting, appliances, and water fixtures for residents. As a result, DCHA has reduced its overall utility budget by 24%, from \$16 million annually to \$12.1 million in 2008. After paying capital costs for these improvements, DCHA expects to net approximately \$1 million per year indefinitely. Additionally, DCHA has estimated \$2.3 million in annual

⁷ Harvard University Graduate School of Design, Public Housing Operating Cost Study, June 2003 available at http://www.gsd.harvard.edu/research/research_centers/phocs/documents/Final%20Report.pdf (last visited June 10, 2009).

⁸ National Fuel Funds Network, National Low-Income Energy Consortium, et. al, The Cold Facts: The First Annual Report on the Effect of Home Energy Costs on Low-Income Americans (2001-2002), available at <http://www.nliec.org/facts.pdf>.

⁹ U.S. Government Accountability Office, Green Affordable Housing, GAO-09-46, October 2008, available at <http://www.gao.gov/products/GAO-09-46> (last visited, June 10, 2009).

operating and maintenance savings from fewer emergency repairs and replacements.¹⁰

Nationally, nearly 200 energy performance contracts have been undertaken by public housing authorities, resulting in gross savings to HUD of about \$50 million annually.¹¹ Due to program requirements, there is currently no means of encouraging similar cost-savings in the 1.6 million units of privately-owned housing receiving project-based subsidies from HUD. The GREEN Act provides HUD with the needed congressional authority to develop such an initiative.

Green Building and Health

Many low-income residents are among our nation's most vulnerable citizens, including children, seniors, and persons with chronic disabilities. For these households in particular, asthma, allergies, and even cancer can result from or be exacerbated by exposure to toxins in the built environment.

Asthma is now recognized as the leading cause of school and work absences, emergency room visits, and hospitalizations.¹² Asthma disproportionately affects children from lower-income families and from specific racial and ethnic groups.¹³ According to HUD, approximately 21% of asthma cases in the U.S. are linked to dampness and mold, at an annual cost of approximately \$3.5 billion.¹⁴ Although these costs are not directly paid by HUD or the federal government, they are real costs that draw energy and resources from predominately low-income and minority communities.

While growing anecdotal evidence helps to confirm the health benefits of green building practices, we need additional, more robust statistical research to specifically quantify those benefits. HUD is currently undertaking such research in partnership with the Centers for Disease Control and Prevention. Additionally, organizations such as the National Center for Healthy Housing are working on longitudinal studies of the health of residents before and after a green rehabilitation project, including projects built to LEED standards.

¹⁰ Presentation by the DC Housing Authority at D.C. HUD Field Office Energy Forum, March 18, 2009.

¹¹ GAO, Green Affordable Housing, p15.

¹² U.S. Department of Housing and Urban Development, HUD Healthy Homes Strategic Plan, p3, September 2008, available at http://www.hud.gov/offices/lead/library/hhi/DraftHHStratPlan_9.10.08.pdf (last visited June 10, 2009).

¹³ U.S. Environmental Protection Agency, Fast Facts on Children's Environmental Health, 2008, available at <http://yosemite.epa.gov/oceph/ochpweb.nsf/content/fastfacts.htm> (last visited June 10, 2009)

¹⁴ HUD Healthy Homes Strategic Plan, p3.

With an emphasis on the use of non-toxic materials and proper ventilation, among other elements, green building targets improved indoor air quality for residents. Public health demands that such strategies be adopted in both market rate *and* affordable housing. Failure to do so would result in an increasing health disparity for low-income families and have a particularly pronounced and disparate impact on communities of color. Using 2006 Census data, nearly three times as many blacks (24.3%) and more than twice as many Hispanics (20.6%) live in poverty as non-Hispanic whites (8.2%). It is imperative that these communities share in the financial and social benefits of modern green building practices. The GREEN Act is an important step toward achieving this goal.

Challenges in Greening Affordable Housing

USGBC estimates that more than 190 localities have implemented various green building policies. Many of these local laws apply to affordable housing efforts, including one of the earliest right here in the District of Columbia, which maintains requirements similar to those in the GREEN Act for affordable housing. These local requirements have not impeded the development of affordable housing, but rather, have spurred private developers and public housing authorities to achieve better and smarter results, meeting both short- and long-term affordability concerns.

While case studies increasingly document the benefits of green affordable housing, several barriers will need to be addressed to enable the implementation of green improvements in the whole of the HUD-assisted and public housing stock. Chief among these is the need to verify that green measures are conscientiously selected and properly installed to optimize building performance. USGBC values third-party certification as an important tool to this end. Importantly, it may prove challenging for public agencies to ensure that projects receiving credit for green building measures in the funding application process have properly implemented such measures when construction is completed many months later.

Additionally, residents and property managers will need training and support for operations and maintenance issues unique to their green buildings. For example, broad education will be required to ensure that cleaning and maintenance practices do not reintroduce toxic chemicals or products into a building, compromising indoor air quality measures that have a heightened benefit for low-income families. This challenge is not unique to HUD or to affordable housing, but is simply a reminder that a sustained commitment to building operations and maintenance is required to achieve the benefits of green building throughout a building's life cycle.

Tools for Greening Affordable Housing

LEED for Homes

First released in 2000, USGBC's LEED Green Building Rating System® was originally focused on the commercial building sector. In subsequent years, USGBC has developed additional systems for other market sectors, including the launch in 2007 of a residential rating system. LEED for Homes is based on the successful LEED model, but with a number of changes intended to minimize the costs of certification and verification while still demonstrating a level of confidence in the final result. This rating system was designed with specific input from the affordable housing community.

All residential projects seeking LEED certification must verifiably demonstrate that they have been built as designed, and that relevant equipment was properly specified and installed. Although on-site inspections and performance testing result in additional up-front costs, USGBC believes that such measures are essential to optimizing projected cost savings or other qualitative benefits throughout the operation of a green building. This is especially true in the case of innovative measures or those that require contractors to modify their traditional procedures.

Verification measures required by LEED for Homes include:

- **Green Inspection:** LEED requires that all homes certified under the program have a minimum of two on-site inspections from a Green Rater to verify that green features are installed and functioning as specified.
- **Home Energy Rating System (HERS) Rating:** LEED requires that all homes certified under the program be HERS rated and Energy Star certified.
- **Third-party verification:** Every LEED certified home is reviewed by a third-party assessor for accuracy.

To date, 13,000 housing units have registered with LEED for Homes, and 2,200 have been certified.

USGBC Affordable Housing Initiative

Affordable housing units account for 37% of the 2,200 units certified nationwide through LEED for Homes. An additional 4,000 affordable units have registered with LEED for Homes, indicating an intent to complete the certification process.

The ability and desire of affordable housing developers to seek certification through LEED for Homes is an important measure of USGBC's continued success with this rating system. As part of this effort, USGBC has teamed up with the Home Depot Foundation to provide almost \$500,000 to offset the direct, if modest, costs of LEED for Homes verification for affordable housing projects. Additionally, USGBC is engaged in efforts to educate the broader green building community about best practices for developing green affordable housing. USGBC provides numerous educational opportunities for affordable housing developers and public financing agencies, including a two-day Affordable Housing Summit at the annual Greenbuild Conference and Expo. USGBC is also seeking to enable individual staff at nonprofit affordable housing developers to achieve the LEED Accredited Professional (AP) designation, a credential demonstrating an understanding of green building practice.

USGBC actively collaborates with affordable housing organizations and other stakeholders to promote green affordable housing. For example, USGBC actively participated in the development of the Enterprise Green Communities Criteria and continues to provide direct consultation to this national green affordable housing standard. Green Communities is aligned with the LEED rating systems, and USGBC strongly supports Enterprise and its work to support and advance green affordable housing.

Expanding the Private Green Residential Market

Green homes are currently being embraced by innovators and early adopters in the residential marketplace, including many affordable housing developers, community development organizations, public agencies, and private investors committed to providing quality, affordable housing.

This pattern is consistent with the early stages of the green commercial market, which provides a powerful lesson for accelerating uptake of green building practices in the residential sector. Upon the release of LEED in 2000, the majority of the few building projects committed to LEED certification were "going green" based on a values-oriented commitment as opposed to potential economic gains. Relatively few green products and systems were available in the marketplace, and those that were available were largely untried and expensive. Additionally, there were but a handful of building industry professionals with the knowledge and experience in green building practices to successfully deliver a green building project without incurring significant additional time and expense on the "learning curve."

The growth of the green market has been exponential, comprising 2% of non-residential construction starts in 2005; 10-12% in 2008; and a projected 20-25% by 2013.¹⁵ The economic impact of this growth is similarly significant. McGraw-Hill Construction projects that the overall green building market, including both non-residential and residential buildings, is likely to more than double from today's \$36-49 billion to \$96-140 billion by 2013.¹⁶

To rapidly mainstream green building practices in the residential sector in order to recognize both the economic and environmental benefits of energy savings sooner rather than later, a proactive effort is needed to build professional capacity, and educate owners, tenants, and building managers about the benefits of green building. The provisions of the GREEN Act would advance the marketplace on each of these fronts. Indeed, by promoting the creation of green banking centers in communities nationwide, the legislation would help to ensure that the owners, tenants, and managers of residential properties can readily obtain information about opportunities to finance energy-saving and green improvements and to connect with established programs and professionals. Coupled with an enhanced focus on the provision of energy- and location-efficient mortgages by the nation's lenders, these provisions can help to jumpstart the creation of new green housing. The Residential Energy Efficiency Block Grant program will help to promote similar efforts in existing housing, will create jobs, and will catalyze the development of a scaled and skilled workforce to make energy efficient, green renovations more accessible to residential owners and tenants.

Federal Leadership by Example

A federal commitment to energy efficient and green housing, as expressed in the provisions of the GREEN Act, can responsibly leverage taxpayer dollars and the tremendous purchasing power of the federal government to further drive the market for green building practices and products in the residential sector.

Governments at all levels have been highly influential in the growth of green building, both by requiring green building standards for their own buildings and by creating green building incentives for the private sector. From the Department of Energy's support for the initial development of LEED, to provisions in the Energy Independence and Security Act of 2007 (EISA), to the many cities and states that are using LEED, the public sector has demonstrated considerable vision and leadership in the transformation of the built environment. Currently, 12 federal agencies or departments, 31 state

¹⁵ McGraw Hill Construction (2009). Green Outlook 2009: Trends Driving Change.

¹⁶ *Id.*

governments, 190+ local governments, 16 public school jurisdictions and 39 higher education institutions have made various policy commitments referencing, using, or encouraging LEED.

These commitments are having a dramatic impact on the green building market, bringing to fruition a growing and impressive number of green, public spaces. To date, federal, state, and local governments have a total of 742 projects certified under LEED and another 6,175 pursuing certification.

The acceleration of energy efficiency and green building standards for properties and projects receiving financial assistance from HUD presents the opportunity to forge a greener, more energy efficient, healthier, and prosperous path for the nation's public and assisted housing. By leveraging the unparalleled purchasing power of federal dollars to support green affordable housing, HUD can not only reduce the significant environmental footprint of the projects it supports, but also speed the creation of green affordable housing by the private sector, and save America's low-income families needed dollars through reduced utility bills and operating costs.