

Making Affordable Housing Greener



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In the past several years, the green building movement has moved from the fringes of development practice to the mainstream. Today numerous developers are pursuing sustainable strategies. It started with long-term, institutional property owners like governments, universities, and hospitals and moved to mission-driven building owners in corporate headquarters, community-based nonprofits, and the like. More recently, green design has penetrated the mainstream housing and commercial development sectors.

Tackling the Myths

Despite those trends, many affordable housing developers have been uncertain as to whether incorporating greening in their mission is appropriate and effective. So in November 2007, Maryland-based Enterprise Community Partners convened affordable-housing developers to assess what was working and what was not. Two dominant fears were expressed: that green affordable housing was too costly and that the green development process was too complex.

Despite those concerns, the consensus was that green affordable housing is better affordable housing. That view is shared by national housing advocates such as Local Initiatives Support Corporation (LISC), housing financiers such as Boston Community Capital and Mass Housing Partnership, and developers working in New England such as Homeowner's Rehab, Urban Edge, New Atlantic Development, Viet Aid, Rogerson Communities, Beacon Communities, Winn Development, and Chelsea Neighborhood Developers.

One reason is that the work of making a project greener leads to a building that is better planned, better built, more durable, better for health, and less expensive to operate. In the experience of Boston-based nonprofit New Ecology Inc., which promotes sustainable development in cities, making affordable housing greener has not detracted from community-based developers' mission.¹ Community developers are finding that greening actually advances the cause of equity. After all, a tool that can simultaneously address housing challenges, energy prices, and global warming should not be dismissed.²

Despite the field's growth, however, there is no standard definition of what green affordable housing is. Two well-known national rating systems, Enterprise Community Partners' Green Communities standard (www.greencommunitiesonline.org)

and the U.S. Green Building Council's LEED for Homes standard (www.usgbc.org), require developers to tackle both onsite and offsite environmental issues.³ These rating systems focus on reducing energy and water consumption, improving indoor air quality, increasing durability, using recycled and less-toxic materials, recycling waste, reducing the size of units, and making units accessible to transportation and community amenities.

In the authors' experience, four categories of potential benefits receive the most attention from developers: reducing energy consumption, reducing water consumption, increasing durability, and improving health. (See "Defining Green.")

Defining Green

An affordable housing project is not green unless it is dropping the cost of ownership through aggressive pursuit of the following:

- reducing electrical and fossil fuel use (through Energy Star certification and green approaches to heat, hot water, appliances, lighting, air conditioning, or onsite renewable energy);
- reducing water consumption (with reliable low-flow fixtures);
- improving health outcomes for asthma-prone residents (improved ventilation, fewer toxins in materials, cleaning and pest-control improvements, easily cleaned surfaces); and
- making the structure less costly to maintain and operate (reducing or eliminating materials that wear out, such as carpeting; making landscaping easier to maintain; improving water and moisture control).

Green affordable housing is no longer exotic, experimental, or costly. Indeed, a 2005 study to measure cost increases in 16 projects found that achieving green goals cost less than 5 percent of up-front construction budgets whether the units were urban or rural, single family or multifamily, new or rehabilitated.⁴ That cost premium

has been confirmed in numerous projects and is consistent with studies of many types of buildings. Enterprise Community Partners, for example, reports that of 27 new multifamily affordable housing projects that met its Green Communities standard, all had a lower than 4 percent increase in total development costs attributable to greening, and 11 reported increases of lower than one percent.⁵ Similarly, in a study by Davis Langdon, green building premiums fell within the "noise level" of normal fluctuations in construction costs, and there was no statistically significant difference between the costs of green construction and more traditional building.⁶

Operational Savings

The challenge that most affordable housing developers face is balancing any increase in first costs against the promise of long-term savings. Thus it is imperative that funding organizations rework policies and procedures to account for life-cycle cost estimates and net present value analysis, rather than merely up-front cost projections. The data from *The Costs and Benefits of Green Affordable Housing* reveal that most developers with a long-term interest in their properties, such as developers of rental housing, reap financial benefits from lower operating costs. Utility rebates also enable many developers with short-term interests to do the same. There is growing consensus that greening costs are similar to costs of many other design decisions. Where there is a longer-term perspective, greening is more likely to be included in the budget.

Regarding complexity: The process for designing and building green affordable housing is different from the traditional process. It involves more careful study of issues, more coordination between design professionals and the trades, targeted project meetings, more-detailed plans and specifications, plus training of contractors and their subcontractors. Those who have gone through it a few times find that it improves the end result and that it gets easier over time. In the short term, committed stakeholders have accepted a more complex process in order to deliver a superior product.

New Ecology has shepherded dozens of affordable housing projects through the process. Massachusetts examples include Lena Park's and New Boston's Olmsted Green, the Visiting Nurses Association of Somerville's Alewife Assisted Living, Viet Aid's 1460 Dorchester Avenue in Boston, Beverly Affordable Housing Coalition's

Homeowner's ReHab in Cambridge, Chelsea Neighborhood Developers Armory/113 Spencer project, Beacon Properties' Wilber School in Sharon, Action for Boston Community Development's 30 Rockland Street project, the Lynn Home for Women's rehab, Rogerson Communities' Hong Lok House in Boston, and Lazarus House Ministries' transitional housing in Lawrence. An example in Pawtucket, Rhode Island, is Citizens Development Callaghan Gardens.

Each lesson learned makes green efforts easier for future initiatives to meld greening with community development. (See "Going Green: The Voice of Experience.")

Data that support greening are increasing every year.⁷ Stories like Somerville Community Corporation's Linden Street apartments—which use only one-third of



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Going Green: The Voice of Experience

Through a growing number of projects, New Ecology has gained insights on applying green principles to building affordable housing.

- Choose your team wisely. The architects and engineers are essential to success. Make sure they understand greening, what you want to accomplish, and how to manage an integrated process.
- Use an integrated design process. Discuss the greening goals with all project stakeholders early on, and make sure everyone starts on the same page. Assign one person to manage the process. Ensure that issues are vetted by the team and that each team member is involved in the process.
- Bring in help for utility analysis, energy modeling, plan and specification review, and researching utility rebates.
- Set the bar high, but be realistic. Consider focusing on priorities such as energy, water, and health. Integrate the greening goals and the program goals for the building.
- Use cost/benefit analysis to aid decisions: first costs vs. lifecycle costs or net present value analysis.
- Understand that measuring externalities is difficult. For example, even if transportation to the building has more of an environmental impact than energy use in the building itself, it may not be possible to influence such factors.^a
- Understand greening as risk mitigation. Eliminating toxins and improving indoor air quality is a hedge against liability; reducing utility costs guards against operational cost increases; a more thorough design reduces construction cost overruns.
- Constantly measure how the building is performing and make improvements even after construction is over. Don't stop greening the building once it is occupied. Apply the lessons to the entire portfolio.
- Don't wait. The climate crisis is upon us. The cost of fossil fuels will rise. It will be easier to address the issues now than to retrofit later.

^a "Driving to Green Buildings," *Environmental Building News* 16 (September 2007): 1.

the energy to heat, compared with a comparable nearby affordable-housing building—speak volumes. And as energy costs inevitably rise, greening will become increasingly attractive.

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Endnotes

¹ See <http://www.newecology.org>.

² For the effect of energy costs in New England this winter, see Jad Mouawad, "Home Energy Prices Are Expected to Soar," *The New York Times*, August 6, 2008, <http://www.nytimes.com/2008/08/06/business/06fuel.htm>.

³ LEED stands for Leadership in Energy and Environmental Design.

⁴ W. Bradshaw et. al., *The Costs and Benefits of Green Affordable Housing* (Boston: New Ecology Inc. and the Tellus Institute, 2005), <http://www.newecology.org/cb%20description.htm>.

⁵ Dana Bourland, senior director of Enterprise Green Communities, presentation at the GreenBuild 2008 conference, Boston, November 17, 2008.

⁶ P. Morris, "What Does Green Really Cost?" *PREA Quarterly* (summer 2007), <http://www.davislangdon.com/upload/images/publications/USA/Morris%20Article.pdf>.

⁷ Current resources include *Blueprint for Green Affordable Housing*, <http://www.globalgreen.org/greenurbanism/affordablehousing>, and the case studies featured at <http://www.greencommunitiesonline.org> and at <http://www.homedepotfoundation.org>.

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