

BY DEBORAH L. MYERSON

going green

WITH AFFORDABLE HOUSING

nOT LONG AGO, “green building” was commonly assumed to be an expensive boutique amenity, available to those who were environmentally conscious, but not particularly cost-sensitive. For multifamily residential development, green building was especially challenging, since tenants, rather than builders or developers, were more likely to benefit through the lower utility bills that upfront investments to enhance a building’s energy efficiency yield. Today, however, green building—which is commonly defined as the practice of making a building’s construction and operations more resource-efficient while reducing its impact on the environment and on the health of occupants—is enjoying much more widespread acceptance. And in the production of affordable housing, environmentally sustainable development is rapidly becoming the new standard.

This trend toward green affordable housing has emerged from the convergence of several factors—including growing public sector interest, demand from everyone for greater energy efficiency, heightened environmental awareness, an increasing number of trained professionals, and better availability of competitively-priced green building materials. In addition, several standards are now widely available to guide green residential development, including the ICC-700 2008 National Green Building Standard (NGBS), the NAHB National Green Building Program (which uses that standard), the Enterprise Green Communities Initiative (for affordable housing), the Department of Energy’s Energy Star program, the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED), as well as local and regionally produced guidelines.

The latest developments in green affordable housing demonstrate that environmentally sustainable design can be built under an affordable housing budget. These projects seek to provide housing that is energy efficient, durable, and healthy, in addition

to being affordable. The typical components that go into this green building include site selection, water efficient methods, energy efficiency tools and materials, the use of recycled and sustainable materials, and measures to ensure good indoor air quality.

“In many ways, affordable housing is leading the greening of housing in the country,” observed Gray Kelly, program manager for EarthCraft House, a residential green building program established in 1999 by the Greater Atlanta Home Builders Association in partnership with the Southface Energy Institute. Originally designed for single family houses, EarthCraft House offers a template for energy- and resource-efficient homes in the humid climates of the southeast United States. The EarthCraft Multifamily Program, available since 2005, has provided an opportunity for developers of affordable apartments to apply the criteria from that template. As a result, “Developers and policy makers are now seeing energy efficiency as being what affordable housing is all about,” Kelly noted.

Tax Credits Provide a Push

Much of the growth in green affordable housing projects can be attributed to the preference that state housing finance agencies increasingly give environmentally sustainable developments in allocating federal low-income housing tax credits. Those tax credits more generally have created the largest affordable housing production program in the country. According to a 2007 report from Enterprise Community Partners, 48 states now encourage green development through selection criteria incentives used for tax credit allocations.

“The low income housing tax credit has been a real driver for green building,” commented Bruce Mast, development director for Build It Green, a professional non-profit membership organization dedicated to promoting healthy, energy and resource-

efficient buildings in California. In addition to working generally with home builders and public policymakers to accelerate the adoption of green building practices, Build It Green teams with the Bay Area Local Initiatives Support Corporation to lead the Green Affordable Housing Coalition. This joint effort offers affordable housing developers, service providers, local governments, and redevelopment agencies information and training to help them succeed in building green projects.

Most explained that with California's tax credit program, developers need to earn sustainability points to be competitive on their Qualified Allocation Plans (QAPs), which are part of the tax credit application process. In its most recent analysis of green building criteria in state low income housing tax credit programs, national environmental organization Global Green USA has ranked California, which has the most tax credit authority of any state, among the top three.



A view of David and Joyce Dinkins Gardens, New York City, facing east shows what today's affordable and green can look like. Developer: Jonathan Rose Companies and Harlem Congregations for Community Improvement, Inc..

Meanwhile, Global Green's evaluation concluded that the QAP for Georgia's tax credit program has the most green building criteria of any state, placing first in its ranking. This is probably due in part to the EarthCraft Affordable Housing Initiative, which offers education and support to state housing agencies and governmental agencies in the implementation of tax credit programs.

An example of how these tax credits encourage green building can be found in the Virginia Housing Development Authority's (VHDA) green design of the Station at Potomac Yard in Alexandria, Virginia. Built into the low income housing tax credit applications is the incentive of additional points for EarthCraft House-certified projects. The Station is a unique, mixed-use blend that combines a four-bay fire station on the first level and 64 units of affordable and workforce rental housing on the upper floors.



COURTESY OF LEMAY-ERICKSON ARCHITECTS

The Station at Potomac Yard is a fire station below with residential units above.

Potomac Yard originally was a regional rail yard that ran along a major highway between two other populated regions of the city—Old Towne Alexandria and the Crystal City/National Airport area. In 2004, home builders Pulte and Centex created Potomac Yard Development, LLC to redevelop 167 acres of the site as a residential neighborhood that would accompany the office, retail, commercial, and hotel developments on other parts of the property. The cost of the affordable housing portion of the development is estimated to be \$21 million, which includes about \$10 million in low income housing tax credits as well as \$5 million in below-market permanent loans from VHDA. The remaining \$6 million is taken from Potomac Yard Development's \$10 million voluntary affordable housing trust fund contribution, which helped to leverage needed additional financing.

Potomac Yard Development, the City of Alexandria, and the Alexandria Housing Development Corporation have collaborated on the production of the Station building. It will meet two



COURTESY OF COMMUNITY HOUSINGWORKS

SOLARA is the first apartment complex in California to be powered exclusively by solar.

green building certifications—the EarthCraft multifamily certification for the residential floors and LEED certification for the fire station portion. According to Helen McIlvaine, deputy director of the Office of Housing for the City of Alexandria, utilities will be individually metered and utility bills will be passed along to consumers. Therefore, designing the structure with a high energy efficiency quotient is expected to yield residents significant savings on utility bills.

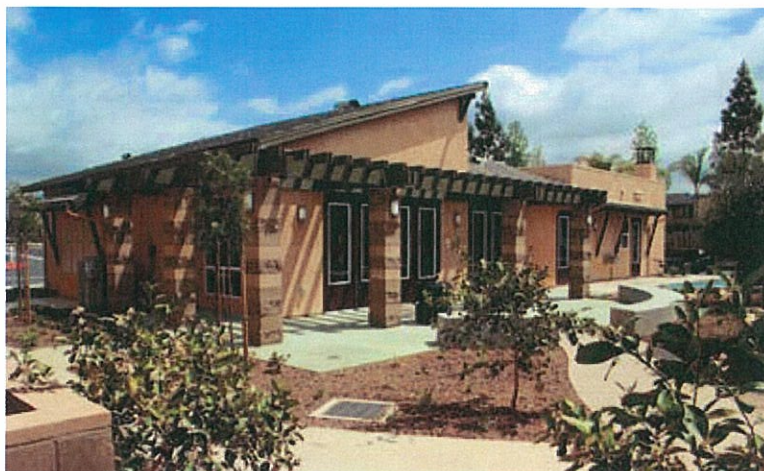
Still, such ramping up of the sustainability factor in the tax credit application process is not without a few wrinkles. “Every state agency has different criteria for green,” observes Bob Greer, president of the New Jersey-based Michaels Development Company, which owns 40,000 affordable units and has developed affordable housing in 28 states, along with Washington, D.C. and the U.S. Virgin Islands. He says his hope is “that the new NAHB/ICC [International Code Council] National Green Building Standard could contribute to crafting a standard that all state agencies could adopt.”

Collaboration and Innovation

An integrated process that includes all members of the development team from the start is vital to the success of green building projects, those with experience say. In addition, the steady evolution of environmentally sustainable building materials and technology means a wide array of tools is now available, which requires a savvy approach to green development and constant education about what can be done. However, in the realm of green affordable housing, today’s better practices serve not only to achieve sustainability but to contain costs, a critical advantage in typically complex financial arrangements.

The design of the Station at Potomac Yard again serves as an example. It has necessitated a collaborative effort on several fronts. In addition to the public-private partnership behind the development, two leading architectural firms designed the sustainable, mixed-use project: LeMay Erickson Willcox Architects, architects of record, and Rust/Orling Architecture, associated architect. According to Andrew Caldwell, AIA, senior project architect with LeMay Erickson, the builder was selected very early in the design process, which has made implementing the green elements of the project much easier. Caldwell explained that: “We had the builder on board in the project before the construction documents were completed, so they knew in advance what was expected of them. We’ll have a better building as a result.”

Another example of a team approach is the David and Joyce Dinkins Gardens, a seven-story apartment building with 84 affordable units in New York City’s Harlem near Frederick Douglass Boulevard. The team that created the integrated green design process included the architect, engineers, general contractor, cost estimator and several green consultants. Through the team’s collaboration, the project was able to use several green features at little or no additional expense. The property’s sustainable elements are seamlessly incorporated throughout the site, starting with the building’s location and orientation, and continuing with integration of the building and its landscape and optimal design of the mechanical systems, building envelope, and ventilation systems.



Photovoltaic arrays produce about 90 percent of SOLARA’s electricity.

The project is sustainable also by nature of the fact that it is located in a pedestrian-oriented urban neighborhood close to job centers and transit. The property also includes individually metered utilities and Energy Star appliances and lighting. Other distinctive sustainable components include a green roof, a rainwater-harvesting system, and photovoltaic site lighting. Dedicated grants for the \$19-million project helped underwrite the cost of more expensive sustainable features, such as a \$50,000 grant from the Home Depot Foundation to support the construction of a Green Grid roofing system.

Dinkins Gardens is also a collaborative effort, developed as part of the Enterprise Green Communities program under a partnership between Jonathan Rose Companies, a private development firm, and the nonprofit Harlem Congregations for Community Improvement, Inc. (HCCI). Jonathan Rose Companies plans and executes a variety of developments that incorporate green design and construction methods. HCCI is a diverse, interfaith consortium of more than 90 Harlem congregations with extensive development experience through production of more than 2,000 affordable housing units. Dinkins Gardens is the only green building in Harlem developed exclusively for low-income residents and is affordable to households earning less than 60 percent of area median income. In addition, 24 units are reserved for youth graduating from foster care. The building is one of the first Enterprise Green Communities projects in New York City.

Bringing in Solar

The SOLARA project is an excellent example of the innovation required for successful green affordable housing development. Community HousingWorks (CHW), a San Diego-based non-profit organization that develops affordable housing and provides training and support to residents, pioneered SOLARA, an affordable multifamily building of 56 units that is on the cutting edge of green development. CHW has developed and operates 1,500 affordable apartments in 28 properties throughout San Diego County. SOLARA is located in the San Diego suburb of Poway in southern California. Its units are reserved for households earning no more than 30 to 60 percent of the area median income, and the building is the first apartment building in California to be fully powered by solar. It is also the first home in the

state built under the California Energy Commission's Zero Energy New Home program, an effort that seeks to bring together energy efficient building design and technologies along with electricity generation from solar photovoltaics to reduce peak electricity use to nearly zero in new homes. By reducing its carbon footprint by 95 percent compared to conventional developments, SOLARA has achieved the equivalent of removing 300 cars per year from the pollution picture or of planting 5,400 trees per year. With a total of 142 kilowatts, rooftop photovoltaic arrays produce about 90 percent of SOLARA's electricity—and occasionally generate surplus electricity for the region's power grid.

When CHW embarked upon the development of SOLARA, it had an ambitious goal to pursue solar power. However, the company needed additional expertise to accomplish that goal. The organization selected Global Green USA to be the project's green building advisor. The other green features in the \$15.8 million project include energy efficient materials, lighting, and Energy Star appliances; use of recycled materials throughout the building and in public art; a design that supports healthy indoor air quality; energy efficiency in the building envelope, and green education programs for residents.

Except for the cost of the panels, the overall cost of the development was comparable to other properties in the area. To defray the \$1,103,000 cost of the photovoltaic panels, CHW applied a \$409,000 rebate from the California Energy Commission, as well as low income

housing tax credits, and federal energy tax credits. As the property owner, CHW estimates a payback period of seven years for the small remaining balance of the added cost of the solar panels

An Eye on the Future

While green affordable housing production has made great strides in recent years, there are still challenges to overcome. One is cultivating a workforce in the building industries that is knowledgeable about green building, since it's such a rapidly evolving field. Mary Jane Jagodzinski, senior project manager for Community HousingWorks, notes that: "The building trades are learning, but finding a subcontractor to do a new method or material can be difficult."

Another concern is that green building policies need to be voluntary and flexible, rather than mandatory, to keep prices affordable and keep from pricing buyers out of the market.

According to Elizabeth Odina, federal legislative director for NAHB: "It's important that governments at the state and local level actively engage the building industry before mandating green requirements. Builders need flexibility, and voluntary measures are the best way to shift the market."

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DEBORAH MYERSON is principal of Deborah Myerson Planning & Development Consulting, based in Bloomington, Indiana. She can be reached at dmyerson@yahoo.com.



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