

ENERGY e-BULLETIN

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Sustainable Communities – HUD and Federal Partners Invest in Sustainability

Through the Consolidated Appropriations Act of 2010, Congress made a major investment in sustainable community development by making \$100 million available for the Sustainable Communities Regional Planning Grant Program (SCRPG). As the centerpiece of the federal Interagency Partnership for Sustainable Communities, the program will award funds to communities nationwide who are engaged in regional, collaborative planning processes for the development of sustainable communities.



The Interagency Partnership for Sustainable Communities was announced in June 2009, when the Environmental Protection Agency (EPA) joined with the U.S. Department of Housing and Urban Development (HUD) and the U. S. Department of Transportation (DOT) to help improve access to affordable housing, develop more transportation options, and lower transportation costs while protecting the environment in communities nationwide. The goal of the partnership is to coordinate federal housing, transportation, and other infrastructure investments to protect the environment, promote equitable development, and help to address the challenges of climate change. To guide the agencies' efforts, they jointly developed a set of livability principles and a partnership agreement.

The partnership agreement outlines how the partnership plans to meet those goals. The group will develop a vision statement, which will set the tone. The agencies have agreed to integrate funding streams to better support local initiatives that fulfill the vision for sustainability. The partnership will undertake research to develop new standards for housing affordability, community livability, and performance metrics that take into account the challenges and opportunities

Continued on page 2

Implementation in Action: The Philadelphia Housing Authority's Green Roof Strategy

The Philadelphia Housing Authority (PHA) is meeting one of the most critical challenges of the 21st century with an elegant solution – greening the roofs of affordable housing developments. The challenge for many affordable housing providers is how to keep rising utility costs manageable for their vulnerable populations of low-income families. Green roofs, which are reinforced to bear the weight of the garden, contain several species of hardy sedums, or rock garden plants, in a three-inch mineral medium.

PHA's use of green roofs at Warnock Village and Nellie Reynolds Gardens is part of the agency's vision to build ecologically friendly buildings that conserve energy. The green roof retains heat in the winter and has a cooling effect in the summer. The green roofs save energy, but also lower storm water runoff, reducing stress on the city sewer system. The green roofs at Nellie Reynolds Gardens (approx. 24,000 SF) and Warnock Village ex-

Continued on page 4

From the Director:

The Philadelphia Office of Public Housing is pleased to present this annual issue of the Public Housing Energy e-Bulletin. In this issue, we highlight best practices and the latest energy-related HUD news.

- Dennis Bellingtier,

Director, Philadelphia Office of Public Housing

OFFICE OF PUBLIC HOUSING MISSION STATEMENT:

Our aim is to ensure safe, decent, and affordable housing; create opportunities for residents' self-sufficiency and economic independence; and assure fiscal integrity by all program

Inside this Issue:

Sustainable	1
Implementation in Action	1
ARRA in Action	2
Fall Project Spotlight	3

Sustainable Communities, continued from page 1

we face as we recover from the recession and rebuild our economy.

The Partnership has gotten off to a strong start with the Sustainable Communities Grant Program, but there remain opportunities for further growth. The Office of Sustainable Housing and Communities (OSHC) published a guide to the many programs that provide funding for community development, environmental remediation, and transportation through the partner agencies. The guide can be found here: portal.hud.gov/portal/page/portal/HUD/program_offices/sustainable_housing_communities/SustainableCommunitiesPrograms4-29-10.pdf. Although the application deadline for communities to apply for a Sustainable Communities Regional Planning Grant has passed, there will be future opportunities for communities to get funding for collaborative, regional, integrated planning processes that can influence land use decisions for years to come.

Six Livability Principles

The Six Livability Principles, available on HUD's website at http://portal.hud.gov/portal/page/portal/HUD/program_offices/sustainable_housing_communities/Six%20Livability%20Principles :

Provide more transportation choices.

Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.

Promote equitable, affordable housing.

Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.

Enhance economic competitiveness.

Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.

Support existing communities.

Target federal funding toward existing communities – through such strategies as transit oriented, mixed-use development and land recycling – to increase community revitalization, improve the efficiency of public works investments, and safeguard rural landscapes.

Coordinate policies and leverage investment.

Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.

Value communities and neighborhoods.

Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods – rural, urban or suburban.

ARRA in Action: The Harrisburg Housing Authority's Energy Efficient Rehab Project

In last year's energy bulletin, we spotlighted housing authorities that were awarded funding under the ARRA Competitive Grant Program. We're following up on one of the exciting projects from that list, the Harrisburg Housing Authority's William Howard Day Homes Rehabilitation Project. HHA took one of its oldest public housing developments and transformed it into a highly energy efficient apartment community.

The \$20 million renovation project features new low-flow toilets, showerheads and sink faucets, which will lower water use by 33.5%. The efficiency of the building envelope will be increased by installing new Energy Star windows with thermal seals. Utility costs will be reduced by providing new Energy Star appliances, energy efficient lighting and energy efficient baseboard heat with precision controls, which will improve energy efficiency by 28.6%. Low emitting materials with zero vola-

tile organic compounds (VOCs) and new mechanical and natural ventilation systems/techniques will improve indoor air quality.

Durable low-maintenance materials have been included in the rehabilitation process to reduce the need for paint and future maintenance. Also, recycled and recyclable materials were incorporated into the design, such as new kitchen countertops that are made with recycled materials. Additionally, the HHA reused materials to

improve the overall efficiency of the project and reduce landfill costs. Through construction waste management, the project was able to divert 70% of the demolition and construction waste from landfills. The holistic approach to managing the energy consumption of the entire project was guided by the design firm hired by the HHA, KD 3 Design Studio, Inc., 426 South Third St., Lemoyne, PA 17043. Robert Grosko, Director of Capital Improvements at the HHA, praised the firm for *Continued on page 3*

Fall Project Spotlight: The Union County Housing Authority's Energy Efficiency Vision

The Union County Housing Authority will soon be celebrating the opening of the Union County Energy Efficient Housing Project. This small, but exciting project packs a tremendous number of features into a small footprint. The two semi-attached units were built as infill housing for income eligible applicants aged 55 and older. These highly efficient modular homes feature siding that is 95% recycled steel produced in Schuylkill County, countertops made from recycled paper, and wood floors from locally-grown trees. The health of the indoor environment was not taken for granted – paints and finishes are low in volatile organic compounds, and air exchangers supply fresh air to keep mold at bay. The houses even incorporate sustainable features to mitigate storm water runoff, such as rain gardens to channel water into the ground to be filtered and returned to the aquifer.

The homes are constructed to appeal to the largest segment of Union County's population – "Prime Time" or active seniors in search of affordable houses where they can age in place. The homes will sell for \$100,000 each, and will be extremely low maintenance. The homes are 45% more efficient than an Energy Star home and 60% more efficient than a home built to the

International Energy Conservation Code. While not handicapped accessible, they are handicapped adaptable, so that accessible features can be added as the need arises.

By adding these features, UCHA was responding to a number of challenges in the market that many small, rural housing authorities also face. First, according to UCHA Executive Director Jere Engle, seniors, regardless of income level, were calling the agency looking for appropriate housing. Many wanted to downsize, and were interested in accessible features that would allow them to age in place. Also, as seniors look to retirement, affordability and low maintenance become increasingly attractive. The development serves as a model for housing authorities hoping to create a product that meets the needs of a changing market.

In order to share the energy lessons it learned, the UCHA created a website (www.unioncountyhousingauthority.org) and a Facebook page (Affordable Energy Efficient Housing). Realizing the dearth of information from practitioners may be a barrier for some agencies contemplating starting their own projects, the UCHA is preparing a technical paper for presentation in academic and professional associations.



Union County's Energy Efficient Duplex
Check for updates on this and future projects on Facebook (Affordable Energy Efficient Housing), and online at www.unioncountyhousingauthority.org

Another important aspect of the project is UCHA's collaboration with the Pennsylvania State University. The university will track energy consumption and compile the research. UCHA installed energy monitoring equipment in each house so that the university can conduct its energy consumption research over the next five years. The UCHA plans to continue its partnership with the university for its next phase of their current project, the rehabilitation of two existing homes. The homes will be retrofitted

with energy efficient features, and will be monitored as well.

The UCHA has gotten positive attention for this innovative project from multiple sources. The local cable network is putting the finishing touches on a documentary on the Energy Efficient Housing Project, which will soon be aired. Local media has also spread the news. More celebration is sure to come when the ribbon-cutting ceremony is held on September 29, 2010.

ARRA in Action, continued from page 2

its innovative approach to the project. "They gave us not just ideas, but solutions that improved the final product and will benefit residents and the community," Grosko said.

The HHA will be celebrating the completion of Phase I of the William Howard Day Homes Project in the next few weeks. Look out for Phase II in Fall 2011, and, funding permitting, Phase III shortly thereafter.



William H. Day Homes Before and After
The Harrisburg Housing Authority anticipates completing the renovation in the next few weeks.

Philadelphia Office of Public Housing

100 Penn Square East, 10th Floor

Philadelphia, PA 19107

Dennis G. Bellingtier, Director

T. 215-861-7596

F. 215-656-3424

VISIT US ON THE WEB
AT WWW.HUD.GOV

For further information on energy efficiency in public housing, please visit the following websites:

Capital Improvements: <http://www.hud.gov/offices/pih/programs/ph/capfund/>

Capital Fund Finance Program: <http://www.hud.gov/offices/pih/programs/ph/capfund/cffp.cfm>

Public Housing Energy Conservation Clearinghouse: <http://www.hud.gov/offices/pih/programs/ph/phecc/policies.cfm>

HUD Energy Star Website: <http://www.hud.gov/offices/pih/programs/ph/phecc/federal.cfm>

Implementation in Action, continued from page 1

tends the service life of the roofs, reduces landfill waste, and ultimately improves the value of the property. Warnock Village also contains a system for rainwater retention linked to the green roof. A gutter system on the roof fills a large underground tank in the parking lot. The water is eventually released into the system.

Developments such as Warnock Village and Nellie Reynolds Gardens strengthen local land use planning and implementation because they are “infill” developments. They also reduce land and resource consumption because these sites are developed with existing land and infrastructure. Because green roofs and other stormwater mitigation techniques reduce strain on the city’s infrastructure, the City of Philadelphia’s water department offers incentives to

use green roofs, including more rapid approval for their part of the building permit process, thereby reducing delays that influence building costs.

But besides the cost and energy savings, green roofs can be an attractive amenity and a value-adding component of a sustainable approach to development. The green roof at Warnock Village (approx. 28,000 SF) is accessible to senior residents, providing them with a safe, outdoor space. Both developments also feature “green label” carpet for better indoor air quality, environmentally friendly paints and primers that reduce emissions between 13 and 14 percent, and Energy Star appliances and fixtures. By continuing to build in a sustainable way, PHA is living up to its goal of “Building Beyond Expectations.”



The Green Roof at Nellie Reynolds Gardens in Philadelphia.



The Green Roof at Warnock Village II is a safe place for seniors to enjoy the outdoors. The Philadelphia skyline enhances their view.