Energy Efficiency in Affordable Housing

Policy Note prepared by Siri Colom

ISSUE

Energy efficiency programs in affordable housing face unique challenges and opportunities: challenges because of the possible weaker price signals for energy efficiency incentives, and opportunities because of a large housing stock in need of upgrades and thus, a large opportunity for energy savings. Another challenge is that much energy policy is tailored toward single-family housing and individual ratepayers.

Figure 1. Solar panels being installed on public housing units.
Photo: U.S. Department of Housing and Urban Development

PANEL FINDINGS

The ability to capture and monetize utility savings is important to supporting investments in energy efficiency. Under subsidized housing programs, the U.S. Department of Housing and Urban Development (HUD) pays the difference between an authorized rent level inclusive of estimated utility costs and the tenant's rent contribution. The renter's monthly rent payment is typically 30 percent of the household income, less the "utility allowance," which is calculated based on the estimated utility consumption needed for that unit and local utility rates. If a tenant's contribution is calculated at $340 a month, and the apartment has a $40 utility allowance, the rent payment made is $300, with the renter expected to pay the utilities. Moderator Ophelia Basgal, of HUD, pointed out that if energy retrofits lower energy consumption, the utility allowance can be reduced, with the rent paid by the tenant increasing by the amount the utilities went down. The tenant does not receive any financial benefits from the energy savings. Because the energy savings are applied as an offset to the federal rent subsidy, the property owner is not able to capture them either. These may be disincentives to invest in energy efficiency.

In terms of the opportunity offered by the volume of affordable housing in the U.S., panelist Wayne Waite, of HUD, noted that the department spends $6.8 billion a year on energy costs, in the form of subsidies to property owners and housing authorities or utility allowances to families living in private housing. Under the American Recovery and Reinvestment Act (ARRA), HUD invested more than $7 billion in energy efficiency upgrades for nearly 10 percent of its assisted housing portfolio, affecting more than 250,000 housing authority units and private subsidized units. HUD also worked in partnership with the Department of Energy to pre-qualify over 15,000 affordable housing units in multifamily properties for weatherization assistance.

However, there remains a large need for additional energy investments: 85 percent of the properties that HUD oversees were built before the new energy building codes and some 65 percent were built before 1970. For public housing, HUD's 2010 Capital Needs Assessment estimates capital investment needs of $26 billion including over $4 billion in needed upgrades for energy and water efficiency, or about $3,900 per unit.

Matthew Schwartz, of the California Housing Partnership Corporation, noted that 100,000 of California's 600,000 affordable rental homes that receive federal, state, or local assistance pre-qualified for free federal weatherization assistance, but fewer than 700 had actually received services through June 30, 2011. In California, that is due

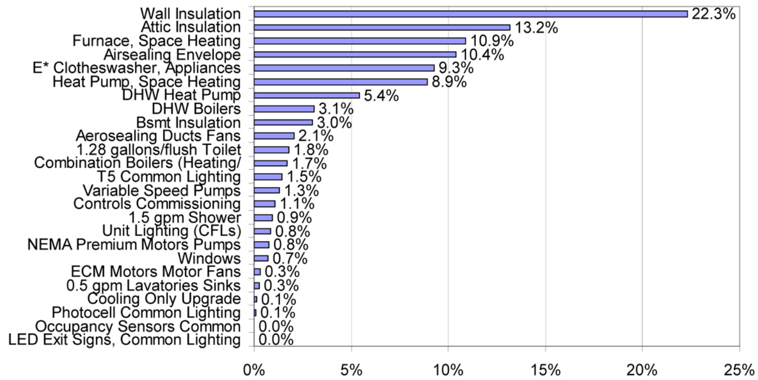

Figure 2. Technology capital costs as a proportion of overall energy upgrade costs.
Source: U.S. Department of Housing and Urban Development

in part to resistance by some traditional weatherization contractors to adopt the newer performance-based whole-building approach, as well as to a lack of established protocols.

Ann Silverberg, of BRIDGE Housing, noted that pressing maintenance needs, such as roof and window replacements, had to take precedence. But, she added, her group and others have been successful in folding energy conservation measures into larger rehabilitation projects funded through refinancing.

Steven Raphael, of UC Berkeley, raised the concern about the opportunity costs imposed when resources are used to upgrade the energy efficiency of existing affordable units, diverting those resources from being used to create new ones.

RECOMMENDATIONS

One obstacle to non-government financing is the difficulty in quantifying the energy gains resulting from retrofits. Under ARRA, the federal government and HUD promoted the first physical needs assessment that successfully incorporated green building and energy efficiency standards on a national scale, through the Green Retrofit Program. The response to the Green Retrofit Program demonstrated that many public housing authorities could design capital improvement plans that increased energy savings by 20 percent or better.

Schwartz described how the San Francisco Housing Authority is using energy performance financing to retrofit thousands of public housing apartments by hiring a company that will guarantee a level of savings that can then be financed through the bond market.

Alternatives to government subsidies include utility controlled ratepayer-funded programs. Unfortunately, some utilities are strongly resisting adapting their approaches to better serve affordable multi-family residences.

PARTICIPANTS

Presenters

Wayne Waite, U.S. Department of Housing and Urban Development
Matthew Schwartz, California Housing Partnership Corporation
Ann Silverberg, BRIDGE Housing Corporation
Steven Raphael, UC Berkeley

Moderator

Ophelia Basgal, U.S. Department of Housing and Urban Development

This is a Policy Note from the second panel in the first conference, "Energy Efficiency in the Residential Sector: Practice, Policy, Prospects," in the Sustainable Cities series held in 2011-2012 at UC Berkeley, organized by John Quigley and Larry Rosenthal, along with Michelle Wilde Anderson, Karen Chapple, and Cecilia Estolano. It was hosted by Berkeley Law, the College of Environmental Design, the Institute of Urban and Regional Development, the University of California Transportation Center, and the Berkeley Program on Housing and Urban Policy. The Ted and Doris Lee Fund sponsored the series.