



**State Clean Energy-Environment Technical Forum
Energy Efficiency Opportunities in Affordable Housing
December 14, 2006
Call Summary**



Participants: 38 participants from 18 states and several national organizations (see the participants list at <http://www.keystone.org/html/documents.html#Dec14> .)

Key Issues Discussed

- Energy efficiency incentives and benefits offered for affordable housing units
- Role of homeowner education and committed contractors in program success
- Other important factors in the success of state programs including utility involvement, consistency in efficiency standards across agencies; leveraging all possible sources of funding to bring down costs to homeowner or developer
- Challenges of applying efficiency standards to multifamily housing units

Summary of Presentations

Note: All of the presentations from this call are available for download at <http://www.keystone.org/html/documents.html#Dec14>. Please refer to these documents for additional detail on the presentations.

A. Welcome – Julie Rosenberg and Brian Ng, U.S. Environmental Protection Agency (USEPA)

The 2007 Energy Star Excellence in Affordable Housing Award application deadline is on December 15, 2006. This is a great program that acknowledges eligible organizations that have made exceptional or market-leading contributions during 2006 toward advancing affordable housing by implementing Energy Star initiatives to improve energy-efficiency in new or existing housing. More information is available at www.energystar.gov .

EPA is working with the U.S. Department of Housing and Urban Development (HUD) to implement HUD's 21-point Energy Action Plan. The Energy Action Plan is a comprehensive strategy to address the cost of energy and promote energy efficiency in HUD-assisted, financed, or subsidized housing. The Plan focuses on upgrading the energy efficiency of new and existing housing by using an established inventory of proven energy-efficient products and appliances that can be put to work immediately through existing programs.

B. Utah's Loan Fund for Energy Star in Affordable Housing – Mike Glenn, Utah Division of Housing and Community Development

- The State of Utah Olene Walker **Housing Loan Fund** is administered by the Utah Division of Housing and Community Development. The Loan Fund manages **\$6.9 million per year in federal HUD and state funds**.
- The State adopted a comprehensive policy in October 2006 stating that **units constructed using money from Fund will be Energy Star qualified** unless a waiver is issued. 493 units are expected to receive Energy Star qualification in 2006 (plus approximately 300

additional units expected to qualify at the January 2007 meeting of the Loan Fund's Governing Board.)

- The policy covers **new construction and rehab for both single-family and multi-family dwellings**. Most qualifying structures are multi-family dwellings.
- **The case** for energy efficient affordable housing was **based on 5 factors**:
 - The **impact of gas and electricity rate increases** on fixed income households.
 - There were several **energy efficiency champions** on the Board and staff.
 - A **pilot project on 31 units (\$70,000)** demonstrated the potential of the program.
 - The program has **several partners**: utilities, the statewide energy rating organization, and the low-income housing tax credit agency
 - **Implementation of the policy is simple**. Access to funding requires Energy Star qualification. There are **10 steps** to implementation.
- **Other contributors** to the program's success are the Home Energy Assistance Target (HEAT) program, weatherization, and household education to teach residents about energy efficiency in their homes.
- This program does work, is cost-effective, and benefits the lives of people on fixed incomes.

Questions for Mike Glenn

Could you tell us more about the important role of utilities in the cost-effectiveness of this program?

The Utah utility had an energy efficiency program before we started this effort. Incentives include a rebate of \$350 to \$500 for homeowners or developers for efficiency modifications that cost as much as \$2400. The rebate does not always cover the entire cost of modifications.

C. New Jersey's Low-Income Housing Tax Credit/Energy Star Guidelines – Darren Port, Green Home Office, New Jersey Department of Community Affairs

- Affordable housing is a major endeavor in New Jersey. There are **people on a waiting list** to get into affordable housing. The state is hoping to create **100,000 new units by 2010**.
- **Funding** for the tax credit **comes from a variety of sources and departments** in addition to New Jersey Affordable Green, such as agencies focused on economic development and Brownfield redevelopment.
- A **pilot project** was launched in 1998. An RFP was issued for a developer to build green affordable housing. 10 applications were received, and 8 projects with a total of 760 units were built. After the success of the pilot project, New Jersey Affordable Green **became a full-time program**, and all affordable housing was required to meet Energy Star standards.
- The New Jersey Energy Star program has differed from programs in the rest of country, because for several years New Jersey had more **stringent minimum requirements** than the federal standards. Recently, however, the federal Energy Star requirements have "caught up" to New Jersey and now also include continuous ventilation, 3 hard-wired compact fluorescent lights (CFLs), and other measures.
- The goal of the New Jersey program was to **transform the market**, and this has been successful. As costs of energy efficiency products and services have come down, the

state has ratcheted down its incentives as well. The program itself is very close to breaking even.

- **Impacts of Energy Star on affordable housing** in New Jersey include:
 - Positive changes on operating costs
 - Better design and better quality housing
 - More positive public perception of affordable housing
 - A cohesive standard among state agencies
 - Clear expectations among partners and design teams
 - An opportunity to change habits of energy use
 - An avenue to explore green building
- The program has several priorities:
 - Increasing energy efficiency to reduce utility costs and make housing more affordable for a greater portion of the population. People with low or moderate incomes are paying 14% of their income in utility costs, compared to the 7% paid by the average earner.
 - Improving durability to extend building life and reduce the cost of keeping units viable, safe, and healthy living spaces.
 - Building to safeguard the health of occupants to improve the quality of life for people with the least access to quality healthcare.
 - Ensuring the safety of the occupants, while fostering a sense of community and pride.
- New Jersey Affordable Green was named a **2006 EPA Energy Star Partner for Excellence**.
- New Jersey offers a **3-pronged approach to tax credits** for building low-income green housing: unlimited technical assistance, training, and up to \$7,500 in incentives.
- To date, 3,000 units have been certified and 10,000 more are in the process of being certified. **Certification requires** that every room in the house have hard-wired CFLs and all Energy Star appliances.
- New Jersey also has the **Affordable Green Premium** program, which applies to projects that score 5 to 10 points lower on the Energy Star scale (75 or 80 versus the 85 for standard Energy Star certification).
- The state will also use EPA's Energy Star Indoor Air Quality Package to help reduce Energy Star scores even further. *[Note: This is a set of comprehensive measures that addresses indoor air quality issues such as moisture control, radon control, pest management, heating and air conditioning safety, and building materials safety. For information: http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_iap.]*
- New Jersey estimates that **if all housing starts over the next 10 years were built using Energy Star or green building standards** with a benchmark of 30% energy use reduction:
 - 7,000,000,000,000,000 BTUs could be saved,
 - 773,000,000 metric tons of CO₂ emissions could be eliminated, and
 - \$1,100,000,000,000 in consumer spending could be saved.

Questions for Darren Port

You mentioned that New Jersey is combining Energy Star with “high performance.” Is this a term of art with particular meaning?

We use “high performance” to talk about energy and energy savings. High performance has higher baseline requirements than standard green building.

How does the program take emissions benefits into account?

So far, emissions benefits have not been looked at in detail, but this is changing. We track emissions saved based on an assumption that 30% is saved in certified units, but we have not yet begun to have programs where developers can capitalize on those benefits. The state is moving away from incentives toward certificates that can be sold based on power saved. A carbon credit program is also under consideration.

Energy Star certified units are typically 15% more efficient than code in any state, but in New Jersey, because our code is outdated, the improvements result in 30% reduction in energy use compared to our current code. In 2007, we will upgrade our code to the International Energy Conservation Code (IECC), and then our Energy Star efficiency will be 15% above code instead of the current 30%.

Have you estimated the savings from this program in cents per kilowatt-hour?

No, we have not estimated the savings that way.

How does the program apply to mid-rise, high-rise, and historical preservation?

There is not currently a federal Energy Star standard for multi-family homes, and New Jersey is unique (with a few other northeastern states) regarding how Energy Star requirements are applied to these structures. We conduct energy modeling for *each unit* in a multi-family dwelling of three or fewer stories, thereby treating each unit as a single-family dwelling. We do a case-by-case assessment for buildings taller than 3 stories. This is not ideal, because it means each unit has to have its own meter, air conditioner, etc., which is good for providing greater control to each resident, but is not sustainable over the long term. We are looking forward to 2008 when EPA will have a national policy for multi-family dwellings. Regarding historical buildings and other landmarks, we have encountered a number of challenges in making these buildings more efficient. For example, we cannot puncture the envelope, which limits the type of equipment that can be used.

D. California’s Low-Income Energy Efficiency Program – Kelly Hymes, Policy Advisor to Commissioner Grueneich, California Public Utilities Commission (CPUC)

- The **Low-Income Energy Efficiency (LIEE)** program was established by statute in the California Public Utilities Code, and provides qualified low-income households with energy efficient appliances and weatherization measures **at no cost**.
- LIEE has been **operated by small and large utilities** throughout California since the 1980s. It is a state-wide program, but each utility implements its own individual program.
- The program is funded **by ratepayers who are not low-income** through the Public Benefits Charge on utility bills. It is implemented by the utilities with CPUC oversight and with input by the **Low Income Oversight Board (LIOB)**.
- The eleven-member LIOB consists of a diversity of representatives of the public and utilities, and has several meetings each year that are open to the public. The LIOB helps the CPUC **conduct studies and coordinate outreach** and other programs. The advice of

this diverse group is crucial because it allows the Commission to **better connect with those who need the program.**

- Because the cost of living in California is relatively high, LIEE serves customers who are **at or below 200% of the federal poverty guidelines** (or 175%, depending on the utility serving the customer). The program **serves single-family, multi-family, and mobile homes**, and both **owners and renters are eligible** to participate. Participants receive all feasible measures for which they qualify.
- LIEE services include many **measures to improve the comfort and safety of homes:**
 - Weatherization
 - Energy efficiency measures
 - Minor home repairs
 - Energy education to help people understand energy efficiency and thereby increase the long-term value of the program
 - Helping customers reduce energy consumption, resulting in energy bill savings
 - Enrolling LIEE participants automatically in the California Alternate Rates for Energy (CARE) assistance program, which provides a 20% discount on monthly energy bills for 3.9 million Californians.
 - Providing “cool centers” at libraries and other air-conditioned buildings in hotter areas of the state to provide an alternative for people concerned about the cost of air conditioning and for those who do not have it.
- LIEE **accomplishments and successes** include:
 - Between 2001 and 2005, there were 845,855 homes treated, \$573,570,220 expensed, 233,414 megawatt-hours saved, and 10,928 megatherms saved. These numbers do not include the 100,000 homes that were added in 2006 and the related savings.
 - Statewide coordination of a variety of efforts that are tailored to meet the specific needs of residents of California’s different climates
 - Comprehensive services to improve energy efficiency
 - Cooperation with local agencies and community-based organizations throughout the state
 - Education efforts to teach people how energy is wasted and what they can do (or what LIEE will do) to improve their energy efficiency
 - Leveraging with other utility programs like CARE, as well as several federal programs
 - Targeted outreach allows engagement of residents who do not speak English, seniors, etc.
 - Rigorous education and training for LIEE contractors.
 - Cost effectiveness is assessed at the program and individual measure levels, and includes non-energy benefits
 - Having each utility operate its own program allows for creativity and customization
- LIEE engages in **program evaluation in two ways:**
 - The **Impact Evaluation Study** determines the real energy savings in kilowatt-hours or therms attributable to the LIEE measures. This study is submitted to the CPUC on a biannual basis.

- The **Needs Assessment** gathers information to determine what low-income customer energy needs exist and provides recommendations to meet those needs. The final Needs Assessment report will be submitted to the CPUC in early 2007.
- **Next steps for the LIEE program** include:
 - Implement program improvements and efficiencies so that more low income customers can be served
 - Improve outreach methods to reach and serve more eligible customers
 - Provide measures that maximize energy and bill savings benefits for low-income customers
 - Improve coordination between LIEE and energy efficiency programs. “Everyone should be onboard the energy efficiency train.”
 - Apply “Order Instituting Rulemaking” to review programs and investigate broader policy issues (expected in early 2007).
- **Low-Income Energy Efficiency Symposium**
 - First of many energy efficiency events sponsored by the Energy Efficiency Leadership Council held in Los Angeles in June 2006
 - For copies of bios and presentations, please go to http://www.cpuc.ca.gov/static/energy/060505_liee.htm

Questions for Kelly Hymes

Where did the initiative for this program come from?

The program started in 1980, but I do not know the exact history. I think it was a combination of legislation and the utilities taking some initiative on the issue.

What kind of checks does the program have to ensure that burned out compact fluorescent bulbs are replaced with the same kind of bulb and not something cheaper?

Each program participant receives a home analysis and walk-through to ensure that participants understand the measures that will be taken. We explain that CFL bulbs last a lot longer than regular bulbs and the amount spent on one efficient bulb will be recouped in energy bill savings.

Will the evaluation studies you mentioned be posted on your website?

The draft needs assessment is available at www.liob.org; we will issue and post the final report in late January or early February.

Does the program include upgrading interior fixtures for CFLs, or does it only apply to outdoor fixtures?

I do not believe that there are limits on fixture modification.

Does the LIOB coordinate and standardize the services offered by the different utilities?

The LIOB is purely advisory and only advises the Commission. The Commission itself is the organization that approves the individual measures offered by utilities. Measures do differ by utility, but they are reviewed and approved through the CPUC’s two-year budget cycle. There was a standardization committee that worked with the Commission to ensure that most measures being offered are similar from utility to utility.

Are energy efficiency in new developments and housing starts being coordinated with energy efficiency in low-income housing?

We are still looking at these as two separate programs. However, it is our end goal to coordinate the programs as much as possible (aside from funding) and have all energy efficiency benefits available for affordable housing.

Questions for All the Speakers

What kind of lessons learned can you share with other states that do not have aggressive LIEE programs?

I would recommend several things. 1) Use a stakeholder process to keep interested groups and individuals involved. 2) Start with the housing finance agency as one of your partners, because they control most of the funding. Then, they can help provide technical assistance and bring in other stakeholders, like utilities. 3) Do not assume that people will resist such a program in your state—once we started talking about it, we found that other people were already interested in it but did not know how to pursue it. 4) Work closely with community-based organizations because they are part of the community, are able to reach in to the community, and are trusted by the community. 5) Never underestimate the importance of education. All stakeholders should be educated. Recipients of the programs should understand the linkage between cost savings, energy savings, and the measures put in place.

What is the difference in policy that accounts for the different incremental costs for energy efficiency in Utah and New Jersey?

In Utah, we are using the latest ICEE code, and our incremental cost (\$2,400) is the added cost for improved efficiency above that for typical single-family dwellings. We are hoping that cost comes down as products and services become more widely available and cost-effective. The increment includes the rating cost and upgrades to furnaces.

In New Jersey, our costs for implementation are about the same as Utah's on a per-unit basis. Energy Star is our baseline—\$2,900 per unit from the public utility, and participants can pay that back with the \$7,500 the state offers for green building measures.

How are these programs financed?

In Utah, we include this in our overall home-financing package, which means about \$200 increase on their mortgages.

In NJ, the Energy Star program money comes from the societal benefit charge to ratepayers. The affordable housing funding comes from legislation that established a realty transfer tax. 50% of these tax revenues go to affordable housing, and 50% go to a shore restoration program. Since no one is likely to cut a shore restoration program, the revenue for affordable housing is pretty secure. We are averaging about \$60 million a year in revenue for affordable housing, and a small percentage of that goes to finance administration costs. It is possible that we will soon allow people to use the \$2,900 in incentives to go beyond the basic New Jersey Energy Star program and use it for insulation, upgrades, and appliances, so they do not have to pay it back.

What kind of success has EPA had in getting Energy Star adopted through the HUD housing program?

HUD has done a lot to incorporate Energy Star into their new programs—it is included in their Energy Action Plan. They have encouraged new HUD-financed housing to meet Energy Star standards. We are working with them to ramp up their commitment to energy efficiency and Energy Star by increasing the amount of points they award in their grant program for different Energy Star activities.

E. Wrap-Up – Catherine Morris, The Keystone Center

- There have been several common themes in today’s discussion:
 - The need to educate homeowners
 - Ways to finance the additional costs in order to keep incremental costs to homeowners and developers as low as possible, and leveraging as many sources of funding as possible
 - The crucial role that utilities and technical assistance play
- There have also been some common challenges identified:
 - The need for more tailored or customized specifications for multi-family homes—individual metering, heating, and cooling is hard to apply and not effective in the long term
 - Evaluation of emissions benefits is hard, although capturing energy savings is not
 - Outreach to customers and potential occupants is imperative
 - The need to expand all energy efficiency programs so that they are offered to low-income residents

NEXT TECHNICAL FORUM CALL: January 18th, from 2:00 p.m. to 3:30 p.m. ET
TOPIC: Innovative Funding Approaches to Clean Energy: Local Support to Advance State Goals