



Regional Cooperation in Energy Efficiency Program Implementation in the Southwest

October 28 and 29, 2004
Las Vegas, Nevada

WORKSHOP PROCEEDINGS

THURSDAY, OCTOBER 28

Morning Sessions

The morning was devoted to presentations and question and answer periods. Presentations included overviews of energy efficiency policies and programs in the Southwest (Howard Geller), the Northwest Energy Efficiency Alliance (Marci Sanders), the U.S. EPA ENERGY STAR[®] programs (Maureen McNamara), and the Consortium for Energy Efficiency (Marc Hoffman).

Afternoon Sessions

The afternoon consisted of three facilitated sessions meant to discuss potential collaboration opportunities in greater detail.

New Cooling Technologies

Facilitated by Tony Schaffhauser (NREL)

Gine Flury of Adobe Air began the session with an overview of the evolution of evaporative cooling technology, discussing the improved technology, the move to consumer-oriented products, and expanding applications for evaporative cooling.

Mark Berman discussed the residential indirect/direct evaporative cooling unit, the Night Breeze natural cooling system, and the evaporative cooling-assisted rooftop air conditioner product being developed at Davis Energy Group. Both products are in the development stage and targeted to the commercial market.

Jon Wellingshoff discussed the Freus product, which is an evaporative-cooled condenser coil for a traditional compressor-based central AC system. He pointed out that the EER of this technology is high (around EER = 17) and does not decline as air temperature rises.

Tony Schaffhauser reported on the Idalex evaporative cooling unit. This company is producing a product for small commercial buildings and is also working on a residential product.

Historical biases against evaporative cooling include security concerns (if windows are left open); concerns of too much moisture in the air of very tightly-constructed homes; mold problems; the perception that evaporative coolers are “low-tech” cooling solutions (i.e. swamp coolers); the stigma that exists against the technology in mid- to higher-end homes; covenants, codes, and restrictions barriers; and increased maintenance requirements. New Mexico, for example, is seeing a push-back from school districts that do not like evaporative cooling because of the increased maintenance needs.

Another concern raised is that evaporative cooling is not a year-round cooling technology in all locations. In instances when it is hot and the humidity is greater than 20%, evaporative cooling suffers in regards to providing comfort. New technologies are being developed to address this issue, and improved performance is being seen. NREL is playing a key role in this through demo projects and field testing.

These perceptions and misperceptions are being reinforced by ongoing information campaigns – disinformation being disseminated by CFC-based air condition trade groups, for example. To combat this, it was suggested that an evaporative cooling dealer network be developed that would include education opportunities for members.

A collaboration idea was discussed to establish an evaporative cooling work group or coalition, which would develop education materials, promote state-of-the-art technologies, create model covenants, etc. A good first step for such a group would be to evaluate the potential for evaporative cooling in order to convince utility executives of its value – before any market transformation efforts are started.

The group felt that an important need is an independent field test of modern evaporative cooling technologies, augmented with a market survey of why people are choosing evap cooling (those that are) – looking at customer perception and awareness. Also, a survey of HVAC and evaporative cooling vendors and their perceptions and needs was suggested, along with case studies of installations of modern evaporative cooling systems.

It was also felt that it would be important to look at what is happening in regards to evaporative cooling in the commercial and industrial sectors.

Electricity and Natural Gas Overlap

Facilitated by Jeff Bumgarner (PacifiCorp)

The group discussed the fact that natural gas and electric companies face different strategic and business issues, and that they often compete with each other. In other words, collaboration can be challenging, and there may be more barriers than opportunities.

It was noted that gas companies today are facing declining end-use consumption per-capita, and while open to pursuing collaboration, the climate in the Southwest limits the

opportunities (i.e., in parts of the region where heating from natural gas furnaces is rarely needed).

The home-building market might be a ripe market for collaboration, as might joint efforts targeted to consumers to educate them about appliances that are gas- and electricity-efficient (e.g., condensing furnaces with high-efficiency fan motors). These efforts could play an important role in nurturing customer loyalty, even though they may result in the use of less natural gas.

Time was spent discussing the role of combined heat and power in Utah. Some collaboration is happening here between electricity and natural gas utilities. i.e. the Questar Gas/Utah Power collaboration ordered by the Utah PUC.

New home construction and appliances were seen as the best collaboration opportunities for electricity and natural gas utilities.

Discussion of Other Topics

Facilitated by Bob Balzar (Nevada Power) and Howard Geller (SWEEP)

This discussion began by asking the group if the time is right to form a “Southwest Energy Efficiency Alliance,” or is it better to begin with baby steps? The group felt that it would be best to capitalize on the existing interest in new programs in the southwest states: focus on this first, and then move toward developing a formal organization. Any group that forms must be tied to a solid business model, one that is economically and fiscally sound, in order for the utilities to participate. This point was further broken down to differentiate between a short-term profit-driven model, or a longer-term, growth/customer service model as the basis for the group. This is an important question to answer.

HVAC quality control was discussed as a potential collaboration opportunity, specifically as it relates to promoting proper sizing and installation of HVAC systems. It was suggested that a regional training center for HVAC contractors and an education campaign may be a good ways to address this issue.

The restaurant industry was suggested as a collaboration opportunity, for example through a facility assessment program, for both gas and electric utilities.

A small business commercial audit one-stop-shop idea was discussed, the goal of which would be to reduce the barriers that exist for small business customers to become more gas and electricity efficient. The Nevada Energy Team could be used as a model, as it provides education and outreach opportunities to small businesses owners through Small Business Development Centers.

Outreach campaigns specifically designed to reach Spanish-speaking customers was also discussed as a collaboration opportunity. This would include the development of

marketing materials specifically for the market, not merely the translation of material designed for the majority of customers. California and New York may serve as examples.

Developing a collaborative effort around energy-efficient window technologies was also mentioned. The NEAA and Texas windows collaboratives were discussed as potential models, the idea being to work with manufacturers, distributors, and vendors to promote greater production and dissemination of low solar gain ENERGY STAR windows in the Southwest, both in new homes and as retrofits. This effort could begin with market research that would lead to a market transformation effort if the opportunity is there. Co-funding for a Southwest windows initiative may be possible from the U.S. DOE and/or the Efficient Windows Collaborative.

Interest was expressed in pursuing collaboration opportunities around cool materials and the urban heat island effect. Arizona Public Service Company is especially interested in this topic, and is already engaged in applied research.

Building design assistance was also discussed as a collaboration opportunity. This effort could integrate nicely with existing utility programs and would provide collaboration opportunities with a wide variety of organizations (e.g., local AIA chapters). Xcel's design assistance program could be used as a model; also, the Nevada utilities are beginning programs in this area. Some of the topics mentioned for possible collaboration include examining how to influence the design of smaller buildings, and how to ensure that good design and performance are actually being realized. An education effort around code enforcement was also briefly discussed.

The group agreed that the following collaboration opportunities warranted further consideration:

- Natural Cooling
- Outreach to Spanish-Speaking Customers
- Cool Materials/Urban Heat Island
- Commercial Building Design/Schools
- Commercial Food Sector
- Residential HVAC Installation Practices
- New Residential Construction Training

FRIDAY, OCTOBER 29

Areas of Collaboration

Facilitated by Howard Geller (SWEEP)

Howard opened the discussion by asking the group if the time was right to establish a Southwest Energy Efficiency Alliance, even if it was much less formal than the Northwest Energy Efficiency Alliance. Discussion by the group led to general agreement that the timing was not quite right, that the best first step was to develop some specific



cooperative projects that could be agreed to by the group, and to then begin working to accomplish some of them. These shorter-term initiatives could then be leveraged to develop a track record of collaboration, making the establishment of a more formal Southwest Energy Efficiency Alliance more realistic.

The rest of the session focused on the priority areas of collaboration that had been discussed on Thursday and Friday morning, gauging the relative interest in the group about these areas, and recruiting volunteers (including designation of a team leader) to further pursue them. Results of this discussion were as follows:

NATURAL COOLING

Leads: Howard Geller/Tony Schaffhauser

Volunteers: Chris Wentz, Gine Flury, Mark Berman, Jon Wellinghoff

OUTREACH TO SPANISH-SPEAKING CUSTOMERS

Lead: Emily Sanchez

Volunteers: Rebecca Chavez, Chris Wentz, Maureen McNamara, Betty Pruitt, Roya Stanley

COOL MATERIALS/URBAN HEAT ISLAND

Leads: Bob Balzar, Howard Geller

Volunteers: Maureen McNamara, Tom Hines, Jim McMahan

COMMERCIAL BUILDING DESIGN/SCHOOLS

Leads: Patti Case, Bob Balzar

Volunteers: Jeff Schlegel, Rebecca Chavez, Tom Hines, Kathleen Hogan, Jeff Bumgarner, Chris Wentz, Tony Schaffhauser, Patti Case, Roya Stanley, Marc Hoffman

COMMERCIAL FOOD SECTOR

Leads: Maureen McNamara, Emily Sanchez

Volunteers: John Koeller, Howard Geller, Patti Case, Vivian Scott

HVAC INSTALLATIONS

Lead: Bob Balzar

Volunteers: Tom Hines, Rebecca Chavez, Tony Schaffhauser, Maureen McNamara, Betty Pruitt, Jeff Schlegel

NEW RESIDENTIAL CONSTRUCTION TRAINING

Lead: Betty Pruitt

Volunteers: Tom Hines, Tony Schaffhauser, Rita Ransom, Roya Stanley, Vivian Scott, Howard Geller, Kathleen Hogan

It was determined that the first key task to complete is to hone in on exactly what each group would like to accomplish, and then begin moving forward to achieve the goals. SWEEP will play a facilitative role in this work. Howard urged each group to have an



initial conference call before the end of the year to discuss and if possible decide on the mission and focus for each project area. Project leaders should report the results of these discussions to SWEEP, who will distribute the information to the full group.

It was agreed that a next meeting for the full group may be appropriate in six months, or April 2005. Tucson was offered as a possible location.