



Monday, August 16, 2010

ACEEE Summer Study at Asilomar, California

Drinking from the Energy Efficiency Firehose:

Ongoing Thirst for Opportunities in the Buildings Sector

by Jennifer Amann, ACEEE Buildings Program Director, and Ben Foster, Behavior & Human Dimensions Program Staff



Jennifer Amann



Ben Foster

Interest in building energy efficiency continues to surge in response to growing recognition of the role energy efficiency can play in creating jobs, freeing up dollars for more productive investments, and protecting the environment. Federal, state, and local governments increasingly turn to energy efficiency to address economic and environmental challenges; more and more businesses

and consumers are seeking ways to reduce their energy use. Of particular note:

- Stimulus funding has spurred building code adoption in a number of states with outdated or non-existent codes while driving efforts to improve compliance rates across the country as well as supporting weatherization of more than 240,000 homes since February 2009, among other projects.
- Major provisions for energy efficient buildings are included in climate and energy legislation passed by the House and under consideration in the Senate. While it may take some powerful magic to revive the climate bill this year, the prospects for efficiency live on. HOME STAR—a \$6 billion program of rebates for consumer investment in efficient home retrofits—is part of the Clean Energy Jobs and Oil Accountability Act. Whatever the fate of the bill, the emergence of a coalition of more than 2,000 businesses and organizations working for its passage will represent an ongoing force for improved energy efficiency.
- Electric and natural gas efficiency program budgets in the United States and Canada totaled \$5.3 billion in 2009, more

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Sunday Plenary

Efficiency is the Centerpiece: Where Are We Going?

Cathy Zoi, Assistant Secretary for Energy Efficiency and Renewable Energy (EERE) at DOE, added a 1960s vibe to the Summer Study by calling the gathering “Woodstock for efficiency mavens.” Some in the audience at her plenary may have been at the original Woodstock mud fest in New York, and many in the audience have been passionately working for an energy efficient economy since the early 1970s. (Rumor has it that Art Rosenfeld and Carl Blumstein were at the original Woodstock.)

Cathy is truly one of the rock stars of efficiency, having worked in the Clinton White House, for Al Gore, and now as energy efficiency’s woman in Washington. Cathy Zoi, Steven Chu, and Barack Obama—quite the lineup!

Zoi went from celebrating what the administration has done, for example, earmarking \$12 billion for home retrofit work and accelerating appliance efficiency standards development—to imagining what we can do. We can retrofit 5 to 10 million homes a year and 4 to 8 billion square feet of commercial buildings. We can save more than 5 Quads of energy in industry each year. We spend \$1.1 trillion on stationary energy each year and a 20% savings means a \$200 billion savings. We can meet 25% of our energy needs through efficiency by saving 3.5% a year, according to the McKinsey Report.

Art Rosenfeld put it in perspective—if we had done business as usual in this country since the Arab oil embargo in 1973, instead of saving about 2.5% a year because of the efforts of many people at Summer Study and other efficiency mavens, we would be spending \$2.1 trillion on stationary energy this year instead of \$1.1 trillion. It’s not just imagination! But can we cut refrigerator energy use in half, again?

Zoi would say yes, but...financial constraints, a scarcity of data, unconvinced regulators, and a public that has not yet got



Cathy Zoi, Assistant Secretary, U.S.DOE

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Sunday Plenary continued

it, are obstacles to overcome. We have to improve our technology and our processes. For example, why not retrofit whole neighborhoods instead of a house here and a house there and save mobilization costs? And she needs the data! Send her the data—engineering estimates and actual performance data of energy savings and implementation costs. That will convince the regulators. To convince the public, find the language that sticks, e.g. “Retrofit Ramp-Up” is now “Better Buildings”, and get the message out through structures that already exist, such as

through utilities. DOE doesn't have that much money for marketing.

The government has made a \$12 billion down payment on energy efficiency, there are 7,700 energy efficiency projects in the works, and 17,000 good paying jobs have been created—irrefutable evidence that energy efficiency is good for the economy, at least for Summer Study attendees. It's our job to convince the rest of the country.

Drinking from the Energy Efficiency Firehose continued

than double the level of spending in 2006. These programs target a wide range of building end uses and cover a host of energy-saving technologies and practices.

- Two states and four cities have enacted mandatory energy performance benchmarking and disclosure laws for commercial (and in some cases multifamily) buildings. These laws empower businesses and individuals with information to make better decisions when buying or leasing space.

As the number and pace of activities ramps up, it gets more challenging to keep up with all of the developments. Surely everyone in the efficiency community can relate to the concept of “drinking from a fire hose” by now! As we experience this information overload for ourselves, we should keep in mind how individuals and businesses must feel as they try to make sense of their options regarding energy efficiency. As we continue to push for policies and programs to increase adoption of energy-efficient technologies and practices, we must redouble our efforts to incorporate the latest understanding of the human dimensions of energy use (much of it conducted by the folks

you'll find hanging around Panel 7 or at the Behavior, Energy and Climate Change conference).

ACEEE's Buildings Program is working with our emerging Behavior and Human Dimensions Program on ways to help building owners and occupants understand their energy use, make more effective decisions, and ease the transition to more energy-conscious behaviors and habits. We are exploring approaches for increasing the number of energy audits that result in energy retrofits and developing effective energy use disclosures and labels for commercial buildings and homes.

Following on the recent ACEEE meta study of consumer feedback (<http://aceee.org/research-report/e105>) programs, we are also pursuing opportunities to work with smart grid pilots to incorporate and further evaluate promising feedback approaches that provide understandable, contextual, and actionable information for realizing and maintaining energy savings. We look forward to working with many of you as we push ahead on behavior-related projects and incorporate behavioral components into our buildings work.

Monday Night at the Movies: Carbon Nation

The nugget in the glut of 155 climate change films and shorts screened this spring at the Environmental Film Festival in Washington, DC was Carbon Nation - only because filmmaker Peter Byck was smart enough to start shooting at an ACEEE Summer Study conference in his quest for solutions to climate change (not that we're biased).

“We're not making a global warming film,” said Byck in an interview with Clean Skies, The Energy and Environment Network (www.cleanskies.com). “We're making a global warming solutions film.”

Three years ago, Byck had no idea if people were already taking action to mitigate the problems outlined in Al Gore's

“Inconvenient Truth” so he was relieved to discover characters like Jim Rogers of Duke Energy and John Rowe, CEO of Chicago-based power company Exelon, at an ACEEE conference.

“They're big guys with stockholders, but they're cutting edge people,” said Byck.

The film also features energy efficiency godfather Art Rosenfeld, who is here this week to encourage other states to follow California's lead in passing cool roof policy in new buildings and retrofits.

9pm-10:30 - Chapel (limited seating available)

Thermostats Gone Wild?

About 10% of the nation's energy consumption is controlled by thermostats. But is *out of control* a better description? A recent field study found that over 20% of programmable thermostats had the wrong time. Another study found that over 50% of the thermostats were switched to *long-term hold*.

Now, here you are at Asilomar and away from home. Did you leave your thermostat on long-term hold? Do you even know how to program your thermostat? Send your answers to Alan Meier, akmeier@lbl.gov or see how others answered these questions on Thursday morning, 8:30, in Panel 2.

Help Wanted

ACEEE is seeking an experienced professional with an advanced degree to direct our new research program on Behavior and the Human Dimensions of Energy Use. This is a cross-cutting program working closely with many of ACEEE's other research programs including buildings, transportation, industry, economic analysis, and utilities. The Director will develop

program priorities and work plans, lead research projects, coordinate with other programs, supervise a Research Associate, and help raise funds for the program (first-year funding is already in place). The position is based in Washington, D.C. If you are interested, www.acee.org/about/jobs, or speak with Steve Nadel or Jennifer Amann here at the Summer Study.

Monday Plenary: Severin Borenstein "Taking Economics Seriously in the U.S. Energy Policy"

Mr. Borenstein is E.T. Grether Professor of Business Administration and Public Policy at the Haas School of Business and Co-Director of the Energy Institute at Haas. He is also Director of the University of California Energy Institute. He has published extensively on the airline industry, the oil and gasoline industries, and electricity markets. His current research projects include the economics of renewable energy, economic policies for reducing greenhouse gases, equity and efficiency effects of electricity pricing, and competitive dynamics in the airline industry. In May 2010, Borenstein was appointed by U.S. Secretary of Transportation Ray LaHood to the DOT's Future of Aviation Advisory Committee. He also is a member of the Supply and Infrastructure Task Group of the National Petroleum Council's *Future of Transportation Fuels* Study, which has been commissioned by Secretary of Energy Steven Chu.

Merrill Hall - 7:30 - 9:00 pm



Day-tripping around the Peninsula and Beyond

The Message Board at Surf & Sand (Summer Study office) is a great way to post opportunities for Spouses and Significant Others who want to explore the area. Susan Sachs (703-399-9941) has car and plans some non-shopping excursions, for example.

Got Something to Report?

If you have any announcements, updates, or important information related to events here at ACEEE, drop them off at the Grapevine Office (Room 509 in the Pirates' Den) or email them by 3:30 pm to jpgunshinan@homeenergy.org.

Utility EE Devotees

For those interested in utility-sector energy efficiency policies and programs, there are two informal sessions of special interest today. At 2:00 a session on how to achieve the aggressive new savings goals being established in a number of states ("Bending the Line Down"); and at 4:00 a session discussing benefit-cost analysis methodologies, including growing practical concerns about the TRC test.

INFORMAL SESSIONS

2 pm - 4 pm

ZNE Technology Session

–Peter Turnbull, PG&E (**Chapel**)

Multi-state CFL Study

–Jane Colby, The Cadmus Group (**Evergreen**)

High-Rise Apartment Buildings: Let's Get the Energy Numbers Right

–Dennis Nelson, BC Hydro-Power Smart (**Scripps**)

Convention Busting, Appliance Standards Style

–Marianne Dimascio, Appliance Standards Awareness Project (**Fred Farr Forum**)

Energy and Peak Demand Implications of Inverter-Driven Compressors Gaining Traction in Residential and Commercial HVAC Systems

–John Taylor, Consortium for Energy Efficiency (**Acacia**)

Planning and Achieving Much Higher Energy Savings: Bending the Line Down

–Jeff Schlegel, Independent Consultant (**Heather**)

Networked Low Power Modes

–Bruce Nordman, Lawrence Berkeley National Laboratory (**Kiln**)

The Residential Energy Consumption Survey: Enhancements Included in the 2009 Survey and Discussion of Potential Changes and Improvements

–Bill McNary, U.S. DOE (**Nautilus**)

RESAVE: Build Tight and Ventilate Right in California

–Max Sherman, Lawrence Berkeley National Laboratory (**Oak Shelter**)

The Super Efficient Dryer Initiative -- interim report on a bi-national technology innovation effort

–Chris Granda, Grasteau Associates (**Sanderling**)

Structuring a Community-based Energy Efficiency Organization: a part of the "Launching Successful Community Energy Efficiency Programs" series

–Steve Morgan, Clean Energy Solutions, Inc. (**Dolphin**)

4 pm - 6 pm

The Times They Are a Changing - Updating Policy and Evaluation to Today's Context

–Rafael Friedmann, PG&E (**Acacia**)

Multifamily Energy Efficiency: Potential, Importance, and Actions

–Nehemiah Stone, The Benningfield Group (**Scripps**)

Launching the Global Buildings Performance Network

–Adam Hinge, Sustainable Energy Partnerships (**Chapel**)

Gathering the Tribes - What's Going in Emerging Technologies Programs?

–Jonathan Livingston, Livingston Energy Innovations, LLC (**Evergreen**)

State and Federal Energy Standards Partnership Opportunities Session

–Pat Eilert, PG&E (**Fred Farr Forum**)

Computer Power Management in Homes--Plotting a Path

–Ingo Bensch, Energy Center of Wisconsin (**Kiln**)

The Cost/Benefit Analysis Methodology: Best tool to use and why?

–Suzanne Watson, ACEEE (Heather)

Retro-commissioning and Event Day Planning for Efficient and Economical Demand Response

–Charlie Middleton, PG&E (Nautilus)

Interim Report of Laboratory and Field Measurements of HVAC Maintenance and Installation Measures and Procedures

–Robert Mowris, VERIFIED, Inc. (**Oak Shelter**)

Leveraging Data from Recent Residential Lighting Metering and Inventory Studies

–Mimi Goldberg, KEMA, and Michael Poplawski, Pacific Northwest National Laboratory (**Sanderling**)

Workforce Needs for Net Zero in Commercial Buildings

–Michael Bobker, CUNY Building Performance Lab for the DOE-ASE Commercial Building Consortium (**Toyon**)

Towards a Taxonomy of Behavior Change

–Carol Yin, Yinsight (**Triton**)

the grapevine

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