

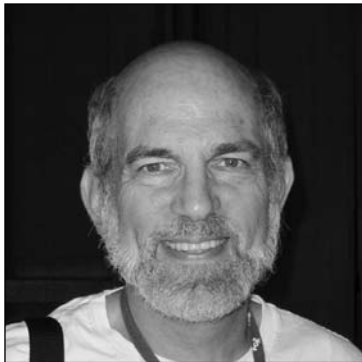


THE GRAPEVINE

ACEEE Summer Study at Asilomar, California

Wednesday, August 25, 2004

Sowing the Seed and Reaping the Harvest



by **Harvey Sachs**

Identifying promising emerging technologies and practices (T&P), fostering successful market transformation programs, and ensuring adoption of effective codes and standards are successive stages in the life cycle of buildings-sector efficiency improvements. Emerging T&Ps are the "seed corn."

**Harvey Sachs,
Buildings Program
Director, ACEEE**

Market transformation (not further discussed here) tills the soil and nurtures the crop, while codes and standards reap the full harvest of these efforts.

Emerging Technologies and Practices. With our partners, Davis Energy Group and Marbek Resource Consultants, ACEEE just completed our third study on emerging T&Ps (which will be available on our Web site in September). ACEEE, CEC, and the California utilities are sponsoring the Emerging Technologies in Energy Efficiency—Summit 2004 this October in San Francisco to discuss some of the most promising T&Ps and more generally to examine programs and policies to foster emerging T&Ps.

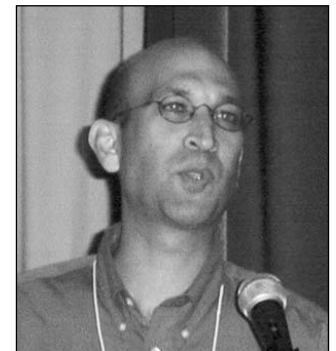
In our latest study, we found many opportunities for huge savings. Interestingly, the list of most promising opportunities is dominated by practices, not widgets. Commercial design and construction that far exceeds code, automated diagnostics, retrocommissioning, and duct improvements lead the list. Indeed, our top six

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The Business of Climate Change



Marilyn Brown



Joel Levin

After reminding us that big businesses do not exist to make the world a better place, Joel Levin, the vice president for business development at the California Climate Action Registry, told Summer Study participants reasons why businesses should join the fight against global climate change anyway. Levin's job is to convince major emitters of green house gases to account for and voluntarily reduce those emissions, so he speaks with some authority.

As pressure to reduce emissions increases, the business climate for emitters will change. Those who plan ahead will win and those who do not plan ahead will lose. Energy efficiency is a relatively inexpensive investment that helps the environment and saves money quickly. And while the world has reached a consensus on the dangers of global warming, the lack of federal regulation exposes greenhouse gas emitters to costly litigation. Levin

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Sowing the Seed and Reaping the Harvest

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include only one pure technology: 1-watt standby power. These findings underscore the fact that future successes will depend on improving "peopleware" for architects, HVAC system designers, facility managers, and others. We need to become smarter and develop smarter tools to make it easier to design and evaluate efficient systems. EPA's financial tools for building owners are a good example, but more tools are needed.

Equipment Efficiency Standards.

Representing the last stage of the efficiency life cycle, standards lock in savings and have been a key area of ACEEE work for two

decades. Current efforts include new consensus standards in pending federal legislation, work on state standards, and participation in DOE rulemakings. The U.S. Senate and House have passed legislation that would set efficiency standards on six new products, and we've reached agreement with manufacturers on three more. Despite controversies over other provisions of the energy bill, the standards section may be enacted into law soon. In the meantime, several states are considering action to set standards on products not subject to federal standards. Maryland and Connecticut enacted such laws earlier this year, and California is moving forward with a rulemaking covering more than 20 products.

Finally, after three years of no visible public activity, DOE recently published Advanced Notices of Proposed Rulemaking on standards for residential furnaces, commercial packaged air conditioners, and distribution transformers. If DOE sticks to its schedule, final standards should be published in early 2006. Along with the Appliance Standards Awareness Project, ACEEE is now working on two reports highlighting savings estimates from these standards. Overall, we estimate that these standards would reduce U.S. peak electric demand by about 69,000 MW by 2020 and save consumers about \$88 billion (net present value from products purchased by 2030). For more information, visit www.standardsasap.org.

The Business of Climate Change

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used the example of the seven U.S. states that are suing the five dirtiest coal burning power plants. "I'm sure those five power producers would welcome some clear standards," he said.

Energy efficiency investments have generally been good business investments and will continue to be, maintains Marilyn Brown, director of the energy efficiency and renewable energy program at Oak Ridge National Laboratory. Looking forward, Brown is counting on energy efficiency to reduce projected increases in energy consumption by the buildings sector by 12 Quads. Brown described five breakthrough building technologies that she says will be pivotal in achieving that reduction: solid state lighting; integrated energy equipment; advanced geothermal heat pumps; efficient operations technologies; and smart roofs.

Of course, technology cannot work alone; policy changes also will be needed. Toward that end, since 2002, Brown has been a member of the National Commission on Energy Policy, a bipartisan group of 17 of the nation's leading energy experts assembled to develop a long-term energy strategy.

Technology Showcase

1:00-5:00 pm in Merrill Hall

U.S. DOE Building America

Jennifer Palmer
Oak Ridge National Laboratory

Lighting for Tomorrow: New Residential Lighting Fixtures

Rebecca Foster
Consortium for Energy Efficiency

Non-Intrusive Electric Appliances Load Monitoring

Yukio Nakano
CRIEPI

Light Louver Daylighting System

Michael Holtz
Architectural Energy Corporation

Energy Savings from PC Power Management

Philipp Degens
Northwest Energy Efficiency Alliance

CEC PIER Lighting Research Program

Bret Logue
Bevilacqua-Knight, Incorporated

Advanced Two-Stage Evaporative Cooler

Dick Bourne
Davis Energy Group

High Efficiency Tankless Water Heaters

Victor Sacks
Takagi Industrial

Efficient Power Supplies

Arnold Alderman
Commergy Ltd.

Power Meter Showdown

Suzanne Foster
Ecos Consulting

Semiconductors for Low-Standby Power Supplies

Chuck Mullett
On Semiconductor

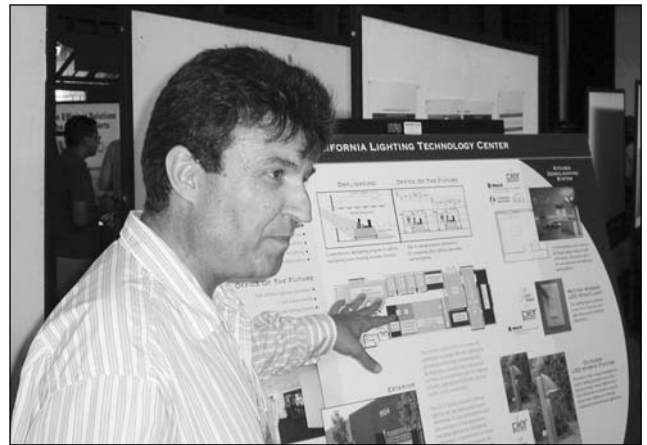
Ice Energy Ice Bear 50

Paul Kuhlman
ICE Energy, LLC

A Wealth of Information Displayed

Tuesday afternoon's display presentations covered a wide range of territory, from lighting to green schools, and from California to Florida. The newly instituted California Lighting Technology Center was showcasing its kitchen lighting system and its outdoor LED hybrid fixture. From the southeast corner of the continent, a display from Florida Power & Light (FP&L) promoted its load control programs. Using a bidirectional Powerline communications system that was first installed in customers' homes as early as 1987, FP&L has the capability to shed 2,000 MW in an emergency and 1,000 MW during normal operation. This technology has been tried and tested. In August of 1995, FP&L shed more than 975 MW in 60 seconds in response to a generation shortage.

How do you get the light through the skylight on the factory roof and through the suspended ceiling to the workers inside, increasing worker health and productivity? Get a copy of "Modular Skylight Well: Design Guidelines for Skylights with Suspended Ceilings." The skylight guidelines were developed by the New Building Institute, Incorporated, and the Heschong Mahone Group, Incorporated, through a research effort funded by the California Energy Commission. For a copy of the guidelines, go to www.newbuildings.org. For more information, talk to Shefali Modi here at Summer Study, or e-mail John McHugh at mchugh@h-m-g.com.



Konstatinos Papamichael explains the wonders of the newly created California Technology Lighting Center.



Shefali Modi of Heschong Mahone Group explains modular skylight wells to Rolf Butters of DOE.

Co-Chairs Announced

Ron Judkoff, director of the center for thermal systems at the National Renewable Energy Laboratory, and John Busch, leader of the end-use forecasting group at Lawrence Berkeley National Laboratory, have stepped up to be the co-chairs of the 2006 Summer Study. "Remember their faces," said Steve Nadel. Don't let them pass you by without relaying all of your brilliant ideas for the next Summer Study.



John Busch and Ron Judkoff

Multifamily Controversy Continues at ACEEE

How to define an Energy Star standard for multifamily buildings? It's a controversy that has animated many hours of conference calls since last summer's Multifamily Conference in New York, and now it's come to the Summer Study. An informal session organized by Jim Mapp of Wisconsin was held on Tuesday afternoon, and David Hepinstall will continue stirring the pot in a presentation in the first session today in the Scripps meeting room. Much of the difficulty arises from fitting a multifamily standard between the modeling-based Energy Star Homes program and the benchmark-based Energy Star Commercial Buildings program. A working group organized by the Consortium for Energy Efficiency has been meeting in biweekly conference calls to hash out an improved standard. Participants in the working group will be offering recommendations to EPA in the next several months. So please come and join the discussion at today's session.

Winners of the Champions of Energy Efficiency Award

The following four individuals and two organizations were feted at Tuesday night's plenary for their long-time, outstanding contributions to the field of energy efficiency. Congratulations to this "band of brothers and sisters," as Steve Cowell described them.

Susan P. Kennedy, *Commissioner, California Public Utilities Commission*, for her energy policy leadership in building a strong future for energy efficiency programs in California.

Tom Echman, *Senior Planner, Northwest Power and Conservation Council*, for his leadership in making energy efficiency a cornerstone of energy policy in the Pacific Northwest.

Steve Cowell, *CEO, Conservation Services Group*, for his private entrepreneurship and public citizenship in building one of the nation's most effective energy efficiency organizations.

The Sacramento Municipal Utility District, for its long and consistent record of success in meeting customer needs and serving the public good through energy efficiency.

The Wisconsin Energy Conservation Corporation, for more than two decades of program innovation and public leadership for energy efficiency in the Midwest.

Come to Brooklyn!

The next International Energy Program Evaluation Conference will be held in Brooklyn, New York, August 16-19, 2005.

The Call for Abstracts is available in the Chapel. Abstracts are due November 1.

Presentation added to Panel 6, Friday 8:30 am session in Evergreen

Why Hungary? Lessons learned from the success of the Hungarian ESCO Industry

Diana Üрге-Vorsatz, Central European University

Calling All 2004 Panel Leaders

Marc and Aimee are hosting a wrap-up meeting for all 2004 Summer Study Panel leaders and the 2006 co-chairs on Thursday, August 26 at 5:30 pm in the Director's Cottage (aka Pinecrest). Refreshments will be served.

Job Opening in California

The Alliance to Save Energy has a job opening for a program manager for its California Green Schools and Green Campus Programs. Management, writing, and team-building skills and experience required. Specific location to be determined. See full job description at Sand and Surf or ase.org or e-mail greenschools@ase.org.

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