

## Climate solutions require more from energy efficiency

### 'Wider and deeper' programs are needed

"Accelerating the Pace: Broadening and Deepening Efficiency Efforts" was the theme for the 11th annual National Symposium for Market Transformation, held in Washington, D.C., March 13-14.



Joe Romm (left) and Blair Hamilton were featured speakers at the opening plenary.



and we have to do it much better.

Romm, Founder and Executive Director of the Center for Energy & Climate Solutions, served as an acting assistant secretary of energy during the Clinton administration and is a recognized expert on global warming.

For two days, representatives from energy-efficiency organizations, industry and government agencies examined current efforts to save energy, with an emphasis on increasing the breadth and effectiveness of these programs.

The opening plenary, featuring presentations by Joe Romm and Blair Hamilton, set the tone for the conference, stressing the urgency to reduce energy consumption and carbon emissions.

It's not enough to run energy-efficiency programs, they said. We have to do much more

He detailed the ramifications of unchecked emissions, explaining what we need to do in the near and long term.

Hamilton, Policy Director for Efficiency Vermont, provided some concrete solutions for program administrators who want to ramp up their efforts to reduce energy consumption.

Throughout the Symposium, sessions focused on "broadening and deepening" the savings impacts – and thus the emission-reduction

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## Solid-state lighting: part of new CEE lighting vision

Light-emitting diodes (LEDs) have been successfully used for many years in niche applications – such as traffic signals, exit signs, dashboard lights, etc. – but expansion into more traditional applications is a work in progress.

CEE is using a variety of mechanisms to help members monitor this technology and evaluate its readiness for efficiency programs in both the residential and the commercial sectors.

To support this ongoing work, CEE recently received a three-year grant from DOE to disseminate solid-state lighting (SSL) information to members and other key stakeholders.



CEE's work with solid-state lighting comprises three main components: a "vision" for residential lighting, the solid-state lighting category of *Lighting for Tomorrow* and

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capabilities – of energy-efficiency programs.

“This conference underscores what we all believe,” said CEE Executive Director Marc Hoffman in his opening remarks. “Energy efficiency is going to be the cornerstone of every solution to global warming.”

## Why we must act now

“We have basically ignored all the warnings of global warming for three decades,” said Romm. “We have about a decade [to begin some meaningful action].”

Ten more years of inactivity, he warned, could lead to a rise in sea level of 6-12 inches per decade. Other effects of global warming can include droughts, forest fires, an increase in tropical storms and loss of tundra.

“We’re not there yet in terms of public policy [supporting measures to curb global warming],” Romm said. “Scientists are there but the public is not.”

Our current level of CO<sub>2</sub> in the atmosphere is 380 parts per million (PPM), with an increase of 2 PPM per year, according to Romm. “An increase to 550 PPM could lead to an 80-foot rise in sea level,” he said.

Quite simply, he said, we cannot let this happen. “Global emissions must peak by 2025,” said Romm. “We must cut CO<sub>2</sub> emissions by 50 percent by 2050. We must stop building traditional coal plants and we must have cars averaging 60 miles per gallon in 2040.”

Romm sees plug-in hybrid automobiles as a viable method for emission control. Plug-in hybrids use a conventional wall socket to recharge their batteries and have an “electric-only” range of 20 to 60 miles, well within the daily average of most drivers.

“Plug-ins will be the biggest new market for electricity since air conditioning,” he said. “They could displace half of our gasoline consumption.”

Summing up the urgency of the situation, Romm called the current global warming crisis “the gravest security threat to our way of life in 50 genera-

## CEE goes wider and deeper

With a steady stream of new states and provinces mandating energy-efficiency programs, and existing members stretching to meet higher targets, CEE is stepping up its efforts in new and exciting ways.

### Members cover more territory

In the past year, CEE has added nine new members, including three gas utilities. Canadian membership has increased from three to seven. CEE now has 90 members in 30 states and four Canadian provinces.

### Increased gas programming

CEE committed to ramp up gas programming and recently added two new staff dedicated to this sector. The current FTE allocation (3.0) is more than double that of a year ago. In November, CEE hosted the first Gas DSM Summit, which identified key North American opportunities that could now be pursued with increased focus and participation from gas-efficiency programs. Twenty-two member organizations from the U.S. and Canada participated.

### New opportunities, approaches

In addition to expanding the product offerings of existing initiatives and revising performance levels, CEE is pursuing new energy-efficiency opportunities and approaches. CEE committees are currently examining the energy-saving potential of efficient data centers, consumer electronics, solid-state lighting, rooftop gas packs and gas water heating.

CEE is providing support to members’ pursuit of whole-building approaches in both the residential and commercial markets. The CEE Commercial Kitchen Initiative offers a growing portfolio of electric-, gas- and water-saving equipment for this market.

“We’re all concerned about climate change,” said CEE Executive Director Marc Hoffman. “At CEE, we’re broadening our scope and deepening our reach to support the growing membership and its increasing requirements to deliver ever more energy efficiency. It’s an exciting challenge for challenging times.”

tions.” He called for a “World War II-scale effort now – or else.”

## What can we do?

Hamilton explained how efficiency program administrators can step up their efforts, noting that the biggest barrier is not technology or economics. “It’s infrastructure,” he said. “We need a wide range of high-efficiency products that are competitively priced and easy to get. And we need a competitive infrastructure of efficiency-related service providers ready and able to support energy-saving efforts.”

To reach an 80 percent reduction in carbon emissions by 2050, Hamilton noted that we need to take immediate action in three areas:

- Maximizing energy efficiency
- Massively reducing energy use
- Maximizing renewable energy supply

“Efficiency is our cleanest and cheapest energy resource,” he said. “It can, should and will be called upon to provide 30-50 percent of our future energy requirements.”

In order to do so, however, a different – more comprehensive – strategy must be used. Efficiency programs need to go “wider and deeper,” said Hamilton.

“We’re going to need more energy-efficiency program participants and more savings per participant. We need to affect more decisions and produce more savings per decision.”

Many utilities have already responded, as evidenced by increases in programs and funding throughout North America. Citing CEE data on per capita energy-efficiency budgets by state, Hamilton pointed out that Vermont’s annual per capita spending for energy efficiency is tops in the nation. It has increased from \$28.16 in 2005 to \$38.31 in 2007, with \$48.89 projected for 2008.

In addition, said Hamilton, new markets should be explored. Solid-state lighting, data centers, consumer electronics, water heaters and micro combined heat and power units (for the home) are product areas that have significant, and largely untapped, potential. He

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# UPCOMING EVENTS

Date	Event	Contact
May 10	Northeast Energy Efficiency Summit PROVIDENCE, RHODE ISLAND	781-860-9177 www.neep.org
June 13-14	CEE Program Meeting BOSTON	617-589-3949, ext. 206 www.cee1.org
June 13-15	CEE Board of Directors Meeting BOSTON	617-589-3949, ext. 206 www.cee1.org
June 24-27	ACEEE Summer Study on Energy Efficiency in Industry WHITE PLAINS, NEW YORK	302-292-3966 www.aceee.org
Sept. 25-26	CEE's 4th annual Industry Partners Meeting ST. LOUIS	617-589-3949, ext. 206 www.cee1.org
Sept. 30-Oct. 2	ACEEE National Conference on Energy Efficiency as a Resource Berkeley, California	302-292-3966 www.aceee.org
January 16-18	CEE Program and Board of Directors Meetings LONG BEACH, CALIFORNIA	617-589-3949, ext. 206 www.cee1.org

## CEE meetings

### NEXT

#### CEE Program Meeting June 13-14

CEE's summer Program Meeting will be held June 13-14, followed by the Board of Directors Meeting on June 15.

Meetings will be held at the Hyatt Harborside, located at 101 Harborside Drive, just minutes from Boston's Logan Airport.

CEE's discounted room rate is \$195 per night. Call 617-568-1234 for reservations and mention CEE to obtain the discounted rate.

For further information, including an on-line registration form, see the CEE Web site ([www.cee1.org](http://www.cee1.org)).

This meeting is an excellent opportunity to meet face-to-face with your colleagues, and learn about new program ideas, strategies and technologies.



### UPCOMING

- **CEE Industry Partners Meeting**  
Sept. 25-26  
St. Louis
- **CEE Program, Board Meetings**  
Jan. 16-18, 2008  
Long Beach, Calif.

For further information about CEE meetings, contact Rachael Swain at 617-589-3949, ext. 206, or [meetings@cee1.org](mailto:meetings@cee1.org)

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# Regional Roundup: Members seeking ways to maximize impacts

The Regional Roundup at the Market Transformation Symposium, organized and moderated by CEE Executive Director Marc Hoffman, provided ample evidence that efficiency program administrators are indeed delving “broader and deeper” to maximize savings impacts in their regions.

Representatives from the Midwest, Northwest, Northeast, California, Southwest, Texas, Southeast and Canada made brief presentations about their program portfolios.

## Midwest

Three states – Minnesota, Iowa and Wisconsin – continue to increase their investments in efficiency while five others – Michigan, Indiana, Illinois, Missouri and Ohio – are making inroads.

“The Midwest Energy Efficiency Alliance has been doing yeoman’s work in what has been a fragmented region,” said George Edgar of Wisconsin Focus on Energy. “MEEA has been offering regional programs that have been very important.”

Edgar also noted that there has been a regional movement toward savings targets, as opposed to program expenditure goals. “We’ve seen more consistent and adequately funded efforts over time,” Edgar said, “as well as increasing budgets for electric and gas programs.”

## Northwest

“In this region, we’re very active,” said Mike Weedall, Vice President, Energy Efficiency for Bonneville Power Administration and Chair of the Northwest Energy Efficiency Alliance Board. “It’s ‘all hands on deck’ to meet the challenge.”

In Washington, Initiative 937 mandates all utilities with more than 25,000 customers to achieve energy-efficiency targets set by the Northwest Power Council.

“This has come as quite a shock to some utilities,” said Weedall. “There are significant financial penalties for not meeting the targets. And Oregon is discussing and finalizing its energy-efficiency mandates.”



Included in the Regional Roundup panel were Mike Weedall (left) and Mark Gaines.

## Northeast

Susan Coakley, Executive Director of the Northeast Energy Efficiency Partnerships, noted that “current overall savings meet 20-25 percent of load growth. It’s significant but just a portion of what’s possible.”

In the eight Northeast states (New England plus New York and New Jersey), funding continues to rise. Electric-efficiency budgets in 2007 are estimated to increase 23 percent from 2005 levels. Funding for gas programs is up slightly.

Policy-wise, energy-efficient procurement has been mandated in Rhode Island and Connecticut, and is being proposed in Massachusetts, Maine and New Jersey.

## California

California, in the middle of a three-year statewide program cycle, has set extremely aggressive goals as part of the Global Warming Solutions Act:

- Reduce to 2000 emission levels by 2010
- Reduce to 1990 emission levels by 2020
- Reduce to 80 percent below 1990 levels by 2050

“It’s a big benefit to be working with a three-year cycle,” said Mark Gaines, Director of Customer Programs for Sempra Energy and a member of the CEE Board. “We’re able to focus on our programs and fine-tune them.”

A new earnings mechanism has been proposed for utilities, allowing them to recoup a percentage of “net societal benefit” gained through efficiency programs. California is also exploring the embedded energy savings in

water conservation (decrease in water extraction, transport and treatment).

## Southwest

A presentation prepared by Howard Geller, Executive Director of the Southwest Energy Efficiency Project, showed that funding has increased an estimated 350 percent over the past five years. In Arizona and Colorado, proposed legislation would create financial incentives for utilities hitting certain efficiency savings targets.

## Texas

Mike Stockard, Manager of Energy-Efficiency Programs for TXU Electric Delivery, reported that the state exceeded its 2006 goals by 16 percent and that 25-30 percent of all new homes qualified for the ENERGY STAR®. Stockard also noted that the Texas legislature filed 47 energy-efficiency bills. “It’s become much more important,” he said.

## Southeast

Kateri Callahan, President of the Alliance to Save Energy and a Board member of the newly formed Southeast Energy Efficiency Alliance (SEEA), reported that electricity demand in the Southeast is expected to grow 50 percent in the next 10 years. Although only a few of the 11 SEEA members are currently running programs, interest is increasing and states that have been historically resistant to energy efficiency are beginning to commit public funds to programming.

## Canada

The goal for Ontario, said Julie McNally, Manager of Planning and Reporting for the Ontario Power Authority, is a complete elimination of coal-fired generation plants by 2025. Coal accounted for nearly 20 percent of Ontario’s electricity supply in 2005.

“We’re replacing coal with conservation,” said McNally. The province also plans to step up renewable generation.

Incentive programs funded for approximately \$2 billion are scheduled for implementation from 2006-2010. The targets are a 1,350 MW reduction by 2010 and a 6,300 MW reduction by 2025.

# Consumer Electronics Committee readies initiative for Board

CEE is putting the finishing touches on an initiative to promote energy-efficient consumer electronics products.

"There is great interest from members," said CEE Program Associate Erica Schroeder, who is coordinating this project. "We are planning to present an initiative description to the CEE Board in June."

The proposed initiative would cover the following activities:

- Working with ENERGY STAR® (commenting on specifications, industry outreach, consumer education, etc.)
- Working with members to provide consumer education
- Development of program guidelines (potentially including upstream incentives)
- Industry outreach (in addition to the Consumer Electronics Association, CEE will begin to cultivate relationships with individual manufacturers)
- Other initiative support (research, program summaries, U.S. and international monitoring, etc.)

Pending Board approval, the initiative would initially focus on three product areas: televisions, computers and set-top boxes. Recent developments in each of these areas are provided below. The proposed initiative would also focus on the energy-saving potential of power supplies, both internal and external, as well as networking of home electronics, power management, standby power and product recycling.



At this point, the proposed initiative does not involve specification development; rather, the committee is monitoring the development of specifications and test procedures by the International Electrotechnical Commission (IEC), the Consumer Electronics Association (CEA) and ENERGY STAR.

## Televisions

IEC has finalized a draft test procedure for television energy use. CEA, manufacturers, ENERGY STAR, and other stakeholders from around the world were involved in the development of this procedure.

ENERGY STAR, which is in the process of revising its specification for televisions, is currently seeking television testing data from industry using the IEC test procedure, with the goal of using this data to set appropriate performance levels.

CEE is participating in the ENERGY STAR specification revision process through comments on specification drafts and related documents.

According to federal law, the Federal Trade Commission must use a Department of Energy test procedure in order to create an EnergyGuide

label. CEE is urging DOE to look at the IEC test procedure as a possible basis for the federal test procedure, so that the FTC can move forward with the development of an EnergyGuide label for televisions.

## Computers

CEE's Consumer Electronics Committee provided comments for an updated ENERGY STAR computer specification, which is expected to become effective in July 2007.

## Set-top boxes

When the television industry transitions from analog to digital broadcasting on February 18, 2009, it is anticipated that there will be demand for digital-to-analog (DTA) set-top boxes.

CEE and its members supported a joint proposal to incorporate an energy-efficiency requirement into the federal subsidy coupon program for energy-efficient DTAs, which the National Telecommunications and Information Administration (NTIA) will administer. It was recently announced that NTIA will provide a \$40 subsidy coupon for DTAs meeting the proposed levels.

CEE also participated in the ENERGY STAR DTA specification development process, which went into effect on January 31. ENERGY STAR DTAs will be more energy efficient than those meeting the NTIA subsidy requirements.

In addition, CEE is participating in the development of an ENERGY STAR specification for all set-top boxes, beyond just DTAs. ENERGY STAR will initiate this process with a stakeholder meeting in May, which CEE plans to attend.

# Climate solutions require more from energy efficiency

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also called for higher efficiency targets in new construction.

"Comprehensive and custom program approaches can produce greater savings in retrofits," said Hamilton. "The 'one-size-fits-all' approach goes only so deep." Other strategies worth exploring include programs focused on upstream stakeholders, community-based projects and the targeting of geographic regions.

Consumer education is another avenue that requires our attention. "It's time to focus on appropriately-sized buildings, equipment and appliances," Hamilton said. "Let's find ways

to make downsizing an attribute, making 'using less' a value rather than a sacrifice. Increased energy labeling, for consumers and businesses, and better energy controls are also very important."

Yet another energy-saving opportunity lies in the location of buildings. By making offices and other work areas accessible by public transportation, we can make further impacts on CO<sub>2</sub> emissions.

"We're going to need a big ramp-up," said Hamilton. "We'll need tens of thousands of people to implement the work. It's going to take time and we need to get going now."

# Licensing agreement for ACCA QI specification goes to CEE Board

CEE's Residential HVAC Committee and the Air-Conditioning Contractors of America (ACCA) have proposed an agreement on the licensing of ACCA's quality installation specification.

Pending approval by the CEE Board of Directors, who will consider this issue in mid-May, all CEE members will have permission to download, reproduce and use the ACCA specification in their programs – free of charge.

The licensing agreement secures the right for CEE members to use the technical requirements of the ACCA quality installation specification which attained American National Standards Institute (ANSI) recognition.

With Board approval, this specification will also be incorporated into CEE's residential and commercial HVAC initiatives later this year.

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## Hoffman speaks at ARI meeting, p. 20

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The ACCA specification represents a consensus definition of all necessary aspects of a quality HVAC installation for both residential and small commercial equipment.

In addition to identifying the necessary attributes of a quality installation, the specification stipulates acceptable verification methods and evidence that should be kept on record for possible third-party review.

"We now have a single definition for a quality installation of HVAC equipment that has been developed by a diverse group of key stakeholders," said CEE Program Manager John Taylor. "This consensus specification can be a cornerstone for industry and CEE members to transform the HVAC market."

### Two-year project

Finalization of the ACCA specification, and subsequent licensing agreement, culminates more than two years of work by CEE and its members.

In March 2005, CEE hosted a Quality Installation Workshop, bringing together



**Chris Granda of VEIC (left) and TXU's Mike Stockard described approaches used in their respective programs.**

members, industry representatives, EPA staff and other key stakeholders to develop an action plan for quality installation.

ACCA then formed a committee to develop and fine-tune the specification. Six CEE members served on the ACCA committee and 14 other members reviewed draft versions of the specification and provided comments.

### Implementer viewpoint

During a presentation at the Market Transformation Symposium, Chris Granda of the Vermont Energy Investment Corporation underscored the value of a quality installation while noting that a specification is just one step in the process.

"When the minimum standard [for HVAC equipment] changed, the available savings were chopped in half," said Granda, who has provided consulting for HVAC programs in New Jersey and Long Island. "The place where the savings remained was in installation. But good contractors with the right equipment and adequate training may still choose not to optimize equipment efficiency during installation."

That's because a quality installation takes more time and effort, and consumers don't always understand the benefit.

In the long run, an energy-efficient installation provides many benefits to the homeowner, including monetary savings, but contractors generally compete with low prices rather than high quality.

"In order for this to change, customers need to be educated about quality installation and ask for it," said Granda.

### Verification

Another issue, and the next step in transforming the installation market, is verification. If a customer is paying more for a higher-quality service, there must be a method to verify the increased performance.

TXU Electric's quality installation program includes contractor training, customer education and a "validation" process for the completed work.

"Inspections are done on a random basis," explained Mike Stockard, Manager of Energy-Efficiency Programs at TXU Electric.

"And we call it 'validating' not 'inspecting.' A neutral third party does the validation and the contractor is usually present when the installation is checked."

Stockard noted that the validation process is necessary but is "time and money intensive. We're reviewing alternate verification processes and technologies."

### New ACCA committee

ACCA will convene a Quality Installation Verification Committee to develop consensus protocols for verifying that installation work meets the requirements laid out in its QI specification.

Having a credible verification program that minimizes costs will also be useful for the proposed ENERGY STAR quality installation program.

ACCA has indicated it would consult with CEE when determining the composition of this committee. "We anticipate energy-efficiency program administrators will have much to offer this process, and should have a good presence on the committee," said Taylor.

ACCA will announce a request for volunteers shortly. If you are interested in serving on this committee, please contact John Taylor at [jtaylor@cee1.org](mailto:jtaylor@cee1.org).

# Energy efficiency and renewables: can they be integrated?

How do we merge energy efficiency and renewables?

Should consumers and businesses have to go to different organizations (or different branches of a single organization) for credible information about incentives and potential savings?

Or is there a way to integrate these energy-saving options into one program offering? How might this differ nationally and locally? Two sessions at the Market Transformation Symposium began to address these questions.

Program planners at Sacramento Municipal Utility District (SMUD) expressed concerns that the traditional approach – running separate programs for renewable energy technologies and energy-efficiency measures – can be counterproductive.

“Individual program goals can create competition between measures and programs,” said SMUD’s Bruce Ceniceros during a presentation at the Market Transformation Symposium. “Marketing, evaluation and administrative costs can increase, which may reduce the cost-effectiveness for the utility.”

It can also create confusion and possibly result in the customer installing renewables without first addressing all cost-effective energy-efficiency enhancements. SMUD’s answer to this dilemma is a program called “Premier Homes,” which combines energy-efficiency measures and renewable energy in new construction.

The goal is to make use of photovoltaic technology and energy efficiency in producing new homes that use 50 percent less energy by the year 2010 and 90 percent less energy by 2020.

These “net zero-energy homes” (ZEH) feature photovoltaic panels on the roof, maximum insulation levels, high-performance windows, properly sized high-efficiency HVAC equipment, tight ducts and building envelope, tankless water heaters and ENERGY STAR® lighting. Buildings are tested by a neutral third-party contractor. In addition to saving the homeowner money, these zero-energy homes can reduce annual demand by 50 percent.



**PREMIER HOMES** – SMUD’s program combines renewable technologies, such as a photovoltaic roof, with energy-efficient products, such as compact fluorescent lighting.

SMUD has provided incentives for 95 “Premier Homes” and Ceniceros is anticipating that these projects will create a snowball effect in transforming the market. The lure for homeowners is an immediate 50 percent reduction in energy costs, a hedge against future energy cost spikes and a big contribution to carbon reduction.

DOE’s Building America Program is designed to help homebuilders create a strong demand for highly-efficient homes, with a goal of “cost-neutral, zero-energy homes.”

Ed Pollock presented DOE’s “National Builders Challenge,” which utilizes a two-pronged approach for promoting highly efficient homes that incorporate renewables: 1) convincing builders that this is a sound business proposition and 2) creating demand by educating homebuyers about the benefits.

“Technologies exist today that enable builders to make cost-competitive homes that are 30 percent or more above code,” he said. “Builders can make use of whole-building system design, demand response systems, ENERGY STAR products and equipment, and renewables.”



But there are significant marketplace barriers, Pollock said, such as the lack of an objective means for consumers to differentiate – in terms of payback period and annual energy costs – between standard-efficient (meeting code), energy-efficient and super-efficient homes. The “Challenge” proposes several strategies for moving the market, including an easy-to-understand scale for energy costs, marketing and outreach, builder education and design competitions and awards.

Sam Rashkin from EPA’s ENERGY STAR Homes Program detailed ENERGY STAR’s general approach for promoting efficient new homes and explained how ENERGY STAR might eventually include renewables. One possibility, he said, would be to strive for “carbon-neutral homes” which could be attained through on-site renewable technology or by purchasing electricity generated with renewable technologies.

For information about Building America, the “Builders Challenge” or the ENERGY STAR Homes Program, contact George James (George.James@ee.doe.gov), Ed Pollock (edward.pollock@ee.doe.gov) and Sam Rashkin (rashkin.sam@epa.gov).

## NYSERDA promotes non-energy benefits in homes

In addition to energy savings, non-energy benefits – such as improved comfort, reduced noise, better indoor air quality and aesthetics – are important considerations that drive consumer investments in home retrofits. NYSERDA is working to determine the value of non-energy benefits in order to help program administrators and regulators develop more realistic estimates of program cost-effectiveness and more effective marketing messages.

At the Market Transformation Symposium, Jennifer Amann of ACEEE and NYSERDA’s Karen Villeneuve discussed the types of non-energy benefits associated with Home Performance with ENERGY STAR programs, and some methods NYSERDA is using to quantify these benefits. In addition to building the case for incorporating non-energy benefits into program cost-effectiveness tests, NYSERDA has done extensive research on finding the best way to advertise its programs.

For more information, contact Karen Villeneuve at kev@nyserdera.org.

# Members will pilot ENERGY STAR's 'Save More' with higher tiers

## EPA helps members seek more savings in appliance programs

One of the outcomes of the CEE ENERGY STAR® Board Committee work has been a decision by ENERGY STAR to pilot a label for ENERGY STAR-qualified appliances that achieve higher levels of energy efficiency.

Under this system, consumers would have the ability to identify products that meet performance requirements of CEE tiered specifications with a "Save More" designation.

The "Save More" designation indicates that the product significantly exceeds ENERGY STAR minimum requirements and is eligible for an increased rebate.

For the pilot testing, "Save More" will only be available in select areas where CEE members are promoting a tiered program for appliances that includes financial incentives using CEE specifications.

"Having consistent performance requirements for 'Save More' was necessary for us to consider this concept," explained EPA's Maria Vargas, Brand Manager for ENERGY STAR. "The CEE specifications provide that consistency."

Pilot programs are scheduled to be administered by Pacific Gas & Electric, San Diego Gas & Electric, Southern California Gas, BC Hydro and Efficiency Vermont.

Through these pilot programs, CEE members will be able to provide tiered incentives – consistent with CEE specifications – while utilizing the brand recognition, credibility and nationwide marketing of the ENERGY STAR program.

Details of the pilots were discussed at the recent ACEEE-CEE Market Transformation Symposium in Washington, D.C., where Vargas and Keith Reed, Manager of Customer Energy Efficiency at PG&E, conducted a breakout session.

ENERGY STAR's decision to go forward with the pilot programs came after months of discussion with the CEE Board Committee and after EPA conducted consumer research on



**EPA's Maria Vargas and Keith Reed of PG&E discussed ENERGY STAR's new program.**

alternative wording options.

"Our goal is to maintain an understanding of the ENERGY STAR brand while meeting the needs of program administrators," explained Vargas. "We didn't want to create a new mark because we felt it was important to make this an easy proposition for the consumer. [For testing this new concept] the best place to start is where there is a financial incentive."

Ed Wisniewski, who facilitated the session, stressed CEE's cautious approach regarding "Save More."

"Differentiating ENERGY STAR has the potential to help members meet escalating savings targets," Wisniewski said. "We are extremely sensitive to the value of the brand and therefore must be very cautious about altering its meaning and representation. Care will be taken to ensure that the core meaning is not affected or diminished with the 'Save More' approach. The pilots will be integral to evaluating whether differentiating the brand without confusion is possible."

EPA experimented with several other tag lines, conducting numerous consumer interviews and visual tests in different cities, before deciding to go with "Save More." Consumer testing revealed that developing a label that differentiated increasing levels of efficiency could be a challenge.

"Consumers did not always understand the offering," said Vargas. "They understood that ENERGY STAR means higher efficiency but did not always understand that this was a further differentiator."

According to EPA, the market research

suggested that "Save More" was the best option of the phrases considered. ENERGY STAR then developed specific guidelines for using this differentiator. "We wanted quality assurance," said Vargas. "We want to make sure it is used properly."

Thus the "Save More" tag line, combined with the ENERGY STAR logo, must be used:

- by participating energy-efficiency program administrators that commit to a quality assurance component to ensure signage is used properly
- only where these administrators offer incentives for efficiency levels that exceed ENERGY STAR
- in conjunction with established CEE tiers
- with appliance programs initially

Reed explained how, and why, PG&E will pilot ENERGY STAR's "Save More."

"We have a long history of supporting ENERGY STAR and working with CEE," he said. "We think there are many benefits to this tiered approach."

One of them is increased customer participation. "The customer will have more options," Reed said. "Linking an established brand to a tiered program will be good for both."

PG&E will be piloting "Save More" at 10 stores belonging to a chain in the San Francisco area. These stores have actively promoted ENERGY STAR in the past and have worked with PG&E on tiered appliance rebates. The pilot study will examine the impact of "Save More" on the number of rebates for higher-tiered products.

"By the end of 2007, we should have most of the pilot results," said Vargas. "We're hoping that 'Save More' will continue to drive people to ENERGY STAR."

Please contact CEE's John Taylor (jtaylor@cee1.org) if you have any questions about "Save More" or would like to be added to a distribution list to receive a summary of the pilot results.

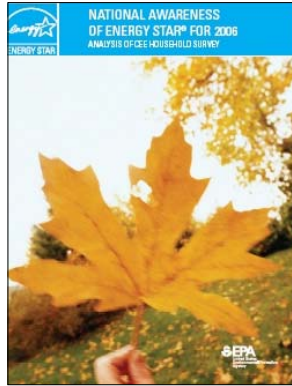
# ENERGY STAR survey report: increased recognition, understanding

The recently released 2006 ENERGY STAR Household Awareness Survey report shows continued increases in label recognition, understanding, and other important indicators of the value of the ENERGY STAR label in the eyes of consumers.

Since 2000, CEE and its members have conducted this annual survey. For the 2006 survey, 16 members sponsored the data collection.

To view the report, see the link on the home page of the CEE Web site.

In 2006, the number of households recognizing the ENERGY STAR label was 68 percent, an increase of 5 percentage points from 2005. By comparison, when the survey was first fielded in 2000, label recognition was



only 41 percent. Other key findings from the report include:

- 73 percent of households demonstrated a “high” or “general” understanding of the label’s meaning. This represents an increase of 3 percentage points from 2005.

- 57 percent of households associated the ENERGY STAR label with “efficiency or energy savings.”
- 63 percent of the households that knowingly purchased an ENERGY STAR-labeled product reported that the label influenced at least one of their purchase decisions “very much” or “somewhat.”

The 2006 survey shows that ENERGY STAR partner publicity efforts continue to make a difference. Unaided recognition was 63 percent in areas where ENERGY STAR partners did a large amount of publicity compared with 45 percent in low-publicity areas. For aided recognition, recognition was 76 percent in high-publicity areas and 61 percent in low-publicity areas.

## Solid-state lighting: part of new CEE lighting vision

Continued from page 1

monitoring test procedure development.

### CEE’s vision

CEE has engaged lighting manufacturers and retailers to work with the Residential Lighting Committee to develop a draft “vision” to guide members in program design and facilitate collaborative work through common goals. The vision encompasses the main three technologies that offer efficiency benefits to the residential sector: screw-based CFLs, pin-based CFL fixtures and LEDs.

The Lighting Committee work on the vision statement is the first time the group has considered these technologies, as well as other energy-saving options, comprehensively.

The draft vision is:

*Reduce lighting energy use per square foot in the average U.S. residence by 50 percent by 2020 through ...*

- Promotion of ENERGY STAR-qualified products
- Increased use of daylighting
- Promotion of enhanced lighting design
- Other approaches (to be determined)

The committee continues to fine-tune the vision statement through monthly meetings, and plans to develop a detailed list of program approaches to accompany it. The aim is to present a near-final version of the work outcome at CEE’s September Industry Partners Meeting.

### Lighting for Tomorrow

CEE is addressing LEDs through the *Lighting for Tomorrow* competition. In this effort, CEE is working with DOE (represented by Pacific Northwest National Laboratory) and the American Lighting Association (ALA) to build awareness

and understanding in the market about potential residential applications for solid-state lighting (SSL).

For the 2007 competition, manufacturers are encouraged to submit SSL prototypes, with the winning entries promoted through press releases and media placements. Winning designs will be named at the ALA Annual Conference on Sept. 11.

In addition, CEE, ALA and PNNL will host a solid-state lighting workshop in conjunction with the ALA Conference. The objective is to educate ALA-member manufacturers and lighting showrooms about the technology. A similar event was held last fall.

### Test procedures

Responding to one of the main challenges in the commercialization of SSL – there are not yet industry-accepted test procedures – CEE is monitoring efforts to develop these.

The work of the American National Standards Institute (ANSI) and the Illuminating Engineering Society of North America (IESNA), among others, will be critical in providing a basis for comparison among products as the technology develops.

“Solid-state lighting is not quite ready for widespread program promotion,” said CEE Senior Program Manager Rebecca Foster, “but things are moving fast. Test procedures could be finalized by the end of this year, and there are ongoing discussions about the development of an ENERGY STAR specification for LEDs.

“We are keeping members informed about the latest developments and holding conference calls to exchange information. When the time is right to start thinking about program development, we want to be ready.”

# 2007 ENERGY

## Nineteen CEE members are honored at annual banquet

Since 1993, ENERGY STAR® has hosted an annual awards ceremony that acknowledges outstanding work – by utilities, energy-efficiency organizations, manufacturers, retailers and others – in promoting and marketing ENERGY STAR products, equipment and programs.

Once again, CEE members made their presence felt at this year's ceremony, held in Washington, D.C., on March 21. A total of 19 members were honored for their efforts in promoting the ENERGY STAR brand.

Four CEE members received awards for Sustained Excellence in Program Delivery, a category that recognizes both current and past efforts. Four members were honored as ENERGY STAR Partners of the Year for Energy-Efficiency Program Delivery and 11 others also received awards.

### SUSTAINED EXCELLENCE – PROGRAM DELIVERY

#### Austin Energy

For the third year in a row, Austin Energy was recognized for its successful Home Performance with ENERGY STAR program, which utilizes the whole-house approach. In 2006, the utility offered certification and accreditation through National Comfort Institute and Building Performance Institute training. Austin Energy also conducted outreach to realtor groups and the Spanish-speaking community. Nearly 2,000 households participated in the program in 2006, saving more than 4.4 megawatts of electricity.

#### NYSERDA

Honored for its work in new and existing homes, residential lighting and HVAC as well as industrial and commercial programs, New York State Energy and Research Development Authority became a five-time winner. In 2006, nearly 15 percent of new homes built in New York during 2006 earned the ENERGY STAR and more than 13,000 existing homeowners participated in Home Performance with ENERGY STAR.

NYSERDA actively promotes the use of ENERGY STAR-qualified products in commercial settings and leveraged ENERGY STAR in its industrial program offerings.

#### TXU Electric Delivery

Providing energy savings to businesses and consumers in the Dallas area, TXU Electric Delivery became an award-winner for the sixth consecutive year. In 2006, TXU conducted 45 homebuilder training courses and trained more than 100 real estate agents. Approximately 31 percent of all new homes in the Dallas-Fort Worth area qualified for the ENERGY STAR, a 6 percent increase over 2005.

#### Wisconsin Focus on Energy

Wisconsin Focus on Energy, a partnership of organizations that promotes energy efficiency in the state, was honored for its continued work with ENERGY STAR New Homes,



**AUSTIN ENERGY** – EPA's Bill Wehrum (right) congratulates Daena Bruce and Jerrel Gustafson.



**LIPA** – DOE's Rich Karney (far right) and Kathleen Hogan of EPA (second from left) present awards to Dan Zaweski and Sharon Laudisi.

Home Performance with ENERGY STAR and ENERGY STAR-qualified products. The Wisconsin ENERGY STAR Homes Program was launched in 1999.

In 2006, more than 1,300 ENERGY STAR new homes were built and 1,600 improved their energy performance through Home Performance with ENERGY STAR. The Focus also continues to promote qualified lighting and appliances.

### PARTNER OF THE YEAR – PROGRAM DELIVERY

#### Northwest Energy Efficiency Alliance

A longtime supporter of ENERGY STAR, the Northwest Alliance completed a three-year effort that promoted premium-efficiency ENERGY STAR-qualified clothes washers. The Alliance worked with industry partners to provide special discounts, incentives and self-funded promotions. Market share for ENERGY STAR clothes washers rose 4 percent in the Northwest, with premium-efficiency models accounting for more than 50 percent of the rebated washers.

# STAR AWARDS

## **Pacific Gas & Electric, Southern California Edison and Southern California Gas**

In 2006, these California investor-owned utilities launched a statewide program focused on energy-efficient commercial food service equipment.



**CALIFORNIA** – Andy Doeschott of SoCal Edison and Melisa Marks of SoCal Gas accepted awards.

Combining promotion, outreach, training and incentives, the IOUs promoted energy-efficient technologies and processes to industry decision-makers responsible for food service equipment manufacturing, purchasing and sales.

Services included site audits, equipment testing, new restaurant plan review and seminars. In 2006, the utilities conducted 85 food service audits, provided more than 300 rebates for ENERGY STAR-qualified commercial food service equipment and held more than 100 food service energy-efficiency seminars.

## **EXCELLENCE IN HOME IMPROVEMENT Efficiency Vermont**

In 2006, Efficiency Vermont promoted the value of Home Performance with ENERGY STAR to Vermont homeowners and building contractors. Efficiency Vermont, which has promoted energy-efficiency best practices in homes for the past three years, sponsored four eight-day contractor training sessions, which have resulted in the certification of eight contractors (by the Building Performance Institute) to deliver whole-house services across the state.

## **National Grid**

Using Home Performance with ENERGY STAR as a program platform, more than 1,100 home improvement retrofits have occurred in the National Grid service territory since 2002. The estimated savings from these retrofits, through the end of 2006, are projected to be close to 50,000 MMBTUs. Program strategies include a broad energy awareness campaign, targeted mailing, low-interest financing and strong commitment to customer service.

## **EXCELLENCE IN ENERGY STAR PROMOTION Long Island Power Authority**

In 2006, the Long Island Power Authority made use of several innovative strategies to promote ENERGY STAR-qualified lighting. The promotion of ENERGY STAR's "Change a Light, Change the World" campaign was supported by a unique and creative partnership between LIPA and the National Hockey League's New York Islanders.

Tying into spring's Earth Day festivities and continuing into the fall, LIPA conducted retail training, cooperative advertising, in-store promotions and community events to



**NEEA** – Mike Weedall of Bonneville Power Administration and NEEA's Marci Sanders are congratulated by Kathleen Hogan.

support the campaign. More than 780,000 ENERGY STAR-qualified compact fluorescent lamps (CFLs) were sold by area retailers. LIPA also laid the groundwork for expanding its efforts with Home Performance with ENERGY STAR and ENERGY STAR New Homes.

## **Northeast Lighting and Appliance Initiative**

Sponsors: Cape Light Compact, Connecticut Light & Power, Efficiency Vermont, Long Island Power Authority, National Grid, NSTAR Electric, United Illuminating, Unitil and Western Massachusetts Electric

In the fourth quarter of 2006, Northeast ENERGY STAR Lighting and Appliance Initiative sponsors implemented a fully integrated advertising and marketing promotion at more than 200 Shaw's Supermarkets in support of ENERGY STAR's "Change a Light, Change the World" campaign. In addition, sponsors conducted outreach events and on-line pledge hosting.

The promotion secured nearly 80,000 pledges, with estimated savings of more than \$22 million in energy costs.

## **Rocky Mountain Power**

Rocky Mountain Power, which operates PacifiCorp's Utah service territory, conducted a comprehensive consumer education campaign to promote ENERGY STAR New Homes. The campaign included television, radio and theater advertising; direct mail; and transit and billboard ads. Rocky Mountain Power also facilitated cooperative grand opening events with builders.

In 2006, more than 1,750 new ENERGY STAR-qualified homes were built in the Rocky Mountain service territory, with resultant savings of nearly 3.5 million kWh.

## **COMMERCIAL FOOD SERVICE PROGRAMMING**

### **Energy Trust of Oregon**

A new program by the Energy Trust of Oregon promoted ENERGY STAR-qualified commercial food service equipment. The program delivered impressive early results through a strategic marketing approach involving market leaders and local electric and natural gas utilities. Other Oregon utilities are now considering adopting this program model.

# CEE takes the first step toward data centers initiative

As an important first step in pursuing a North American initiative for energy-efficient data centers and servers, CEE convened a committee conference call on March 29. During this call, the Data Centers and Servers Exploration Committee discussed the opportunity, examined current program options and looked at developing an overall strategy for addressing this sector.

Before going any further, let's take a brief look at what we know about data centers and servers.

**The opportunity is large.** According to Lawrence Berkeley National Laboratory scientist Jonathan Koomey, data centers used about 45 billion kWh in 2005. The number of servers is expected to increase by 75 percent between 2005 and 2009.

**There is great interest.** Energy-efficiency organizations, manufacturers, information technology (IT) professionals, EPA and DOE, software developers and many others are not only interested, but highly motivated, to take action. The media has also created a "buzz" about the potential for saving energy in data centers, especially in light of the groundswell to reduce harmful emissions.

**There are several factors to consider: energy consumption by the equipment, cooling and space requirements.** All of these components are interrelated. For example, adding more servers takes up more space and increases energy consumption, which creates more heat, and thus requires additional cooling.

Thus there is ample motivation and widespread support – from industry, the energy-efficiency community and government – to develop programs that address data centers. There are also a number of hurdles that must be cleared before meaningful action can be taken.

## Where to begin?

Data centers are complex, space is limited and there is pressure to keep the systems running. To holistically address enterprise data centers, which can include whole buildings larger than a football field, a strategic management approach is necessary.

The approach would account for all building systems and industry management processes, addressing equipment procurement and planning, building cooling and power supply systems, as well as communication patterns between IT specialists and facility managers.

A simpler approach, which CEE's committee is seriously considering as an initial step, would involve improving the efficiency of the server itself. Servers account for about 50 percent of the energy usage in a data center, with cooling (closely related to electricity consumption) right behind at 35 percent. A strategy that focuses on server efficiency might lend itself more readily to program design and could accelerate action.

Another option, "virtualization," involves reducing the number of server units through advanced software applications.



Currently, there are at least four available software packages that provide this service. Through virtualization technology, as many as 10 computer operating systems can be run through one server.

Many other efforts are underway, including projects undertaken by Lawrence Berkeley National Laboratory, EPA's ENERGY STAR, DOE, ASHRAE, Green Grid (a non-profit IT industry consortium) and The Uptime Institute (an association that represents and advises Fortune 500 companies about data centers).

## Server specifications

CEE may choose to focus on server efficiency as a starting point. There is no current, accepted definition of an efficient server, however. The Standard Performance Evaluation Corporation (SPEC), a nonprofit corporation representing several dozen computer and information system manufacturers, is in the process of developing a benchmark metric for server efficiency.

A SPEC subcommittee – which includes representatives of CommuniGate Systems, HP, Intel, IBM and Sun Microsystems – is hoping to finalize the specification by the end of the year.

In addition, EPA is developing a specification for the in-box server power supply, which accounts for about 25 percent of the server's energy usage.

## Current efficiency programs

Pacific Gas & Electric is running the only known program for data centers. PG&E's "High Tech Program" is offering financial incentives for local businesses to reduce energy consumption through virtualization, computer and data storage management, efficient power supplies and upgraded cooling systems.

PG&E is not providing incentives for server replacements until a viable specification is finalized.

Austin Energy is setting up the corporate infrastructure for a formal program by convening quarterly meetings that include technical experts, IT specialists and facility managers.

## Building Performance Committee focuses on commercial real estate

One of the “next steps” emerging from January’s Commercial Buildings Workshop in Long Beach, Calif., was to learn more about the commercial real estate (CRE) sector and how members can engage this group in their programs.

The CRE sector, where the property generates income for the owner, is quite diverse and often involves numerous stakeholders for any given property.

For energy-efficiency program administrators, these market features can make it a challenge to reach this audience with traditional approaches.

“It is important to find ways of communicating energy-efficiency messages to CRE professionals, owners, managers and real estate agents in terms they understand that will motivate them to take action,” said CEE Program Manager Jason Erwin.

To achieve these objectives, CEE’s Commercial Whole-Building Performance Committee hosted Webinars in March and April to help members learn the nuances and complexities of commercial real estate.

These events were also an opportunity for members to share information about their programs, with the goal of designing (or revising) programs that target this market.

Each Webinar featured a guest presenter, who was followed by a group



discussion.

In March, Mark Jewell, consultant to Xcel Energy (Minnesota), provided an overview of the CRE market and described Xcel’s efforts in this area.

April’s Webinar featured Cliff Majersik from the Institute for Market Transformation (IMT), a nonprofit environmental group that promotes energy efficiency and green buildings.

Majersik presented information about the commercial real estate sector from the perspective of appraisers and real estate agents.

### A-B-Cs of CRE

Jewell started off with some definitions of commonly used terms in the CRE sector and described the decision-making chain. He explained how improving energy efficiency can create value for the landlord, the tenants, or both.

Jewell pointed out that it’s very important to know how the lease is

structured: how and when savings will accrue and to whom, landlord or tenant (based on lease types).

The most popular appraisal approach for commercial real estate, the “income approach,” can create opportunities to make a good business case for energy efficiency, he said.

By reducing energy costs, repairs and maintenance, the owner’s share of operating expenses decreases and the corresponding net operating income (NOI) increases.

Under the income appraisal approach, increases in NOI significantly increase the building’s overall appraised value.

One of the keys to Xcel’s efforts, Jewell said, is screening properties to find the highest value projects and then designing programs and messaging that resonate with CRE decision-makers’ mindsets and needs.

He noted that Xcel Energy set up lunch meetings with the local Building Owners and Managers Association (BOMA) to communicate Xcel’s new CRE program to local owners.

In this way, Xcel immediately interested several building owners and enrolled customers in its pilot efforts.

Jewell also described other areas where program opportunities exist. Leasing professionals, for example,

**Continued on next page**

## CEE is spreading the word about commercial lighting savings

CEE’s Commercial Lighting Committee is working with its members and industry partners to spread the word about energy-saving opportunities in commercial lighting.

Recent activities include:

- A presentation by CEE Deputy Director Ed Wisniewski at a recent Edison Electric Institute (EEI) conference
- Development of lighting application reference guidance for program implementers
- Committee education regarding emerging technologies, such as commercial applications for solid-state lighting



### Presentation at Edison Electric Institute

Wisniewski detailed CEE’s North American Commercial Lighting Initiative to national account clients at EEI’s Spring Meeting in Phoenix on March 13.

Marguerite Towne of National Grid moderated the session. National Grid is an Edison Electric Institute member.

EEI, whose members include electric utilities and manufacturers, has recently devoted attention to energy efficiency’s growing role.

In his presentation, Wisniewski made the case for efficient commercial lighting as a means to significantly reduce energy consumption, with potential national annual energy savings that exceed 17,000 gigawatt hours.

**Continued on next page**

## Building Performance Committee focuses on commercial real estate

Continued from page 13

are often uninformed or do not adequately communicate the value of a high-performance, energy-efficient building to prospective buyers or tenants. There are opportunities to educate these agents and brokers to understand the business value of energy efficiency.

### Agents and appraisers

According to Majersik, appraisers and real estate agents are also key players in communicating the value of building efficiency to current and potential building owners and managers. Yet these professionals often ignore, or are uninformed about, the benefits of energy efficiency on a building's value.

He went on to say that many real estate professionals favor immediate cash returns and low first-costs. Since most energy-efficiency investments show returns over the lifetime of a particular measure, the tendency is for appraisers to undervalue efficiency.

Often, appraisers, brokers and lenders

**'By better understanding the commercial real estate market, members can design more effective programs.'**

*Jason Erwin*  
CEE Senior Program Manager

ignore the influence of energy entirely, Majersik said. Yet utility bills, which account for 30 percent of the total operating expense of a building, are the largest controllable expense.

While appraisers and lenders don't initiate energy projects, he explained, they can derail good projects. Therefore, it's important that they understand the concept of energy efficiency and its affect on a building's value. Another factor is a disconnect between real estate operations and financial personnel.

### Program support

The Commercial Whole-Building Performance Committee is working to

help members take advantage of national programs, like ENERGY STAR®, and leverage local programs and forums, such as those offered through local BOMA chapters.

ENERGY STAR provides a commercial buildings benchmarking platform, called Portfolio Manager, and maintains additional tools and guidance for specific building types, including commercial real estate.

The BOMA Energy Efficiency Program (BEEP) offers training to owners and real estate professionals about low- and no-cost efficiency opportunities.

"We want to encourage members to leverage ENERGY STAR's free resources to support their own programs," said Erwin. "There are also local options for program support. Commercial real estate appears to be a big opportunity for energy efficiency but it's a complex market. By better understanding the market and needs of these professionals, members can design more effective programs."

## CEE is spreading the word about commercial lighting savings

Continued from page 13

He noted that 4-foot high-performance T8s can reduce electricity use 40 percent when compared to the 4-foot T12s, and 20 percent when compared to standard-efficiency T8s.

"I was somewhat surprised to learn how little is known by major players about specifying high-performance lighting," Wisniewski said. "At the same time, I was encouraged to see the huge turnout by national account players interested in CEE's high-performance specification. Commercial lighting clearly remains an area worthy of continued pursuit."

Towne coordinated a survey on Wisniewski's presentation and the feedback was very positive. One survey respondent described the talk as a "real-world view of how equipment manufacturers are influenced to make design modifications in response to needs for reduced energy usage or higher efficiencies."

Another survey respondent noted that "there was good program background as well as applications for super T8s and reduced-wattage T8s. We [also learned] where the incentives were being offered."

### Application guidance

The Commercial Lighting Committee has developed an Application Guidance section for the CEE Web site ([www.cee1.org](http://www.cee1.org)) as an aid to members running T8 lighting programs. This new resource includes quick summaries and links to fact sheets, user tips, research, case studies

and links to relevant organizations.

To access the Application Guidance section, visit the Commercial Lighting home page. Members with suggestions and/or additional resources can contact CEE Senior Program Manager Jason Erwin at 617-589-3949, ext. 212, or [jerwin@cee1.org](mailto:jerwin@cee1.org).

### Solid-state lighting

On March 28, the Commercial Lighting Committee convened for a conference call to discuss commercial applications for solid-state lighting.

Mark Ledbetter of Pacific Northwest National Laboratory (PNNL) updated the group on their efforts to support the Department of Energy's work to commercialize solid state lighting technology.

Ledbetter explained the advantages and limitations of solid-state lighting. PNNL's foci include the development of product testing, industry standards and the verification of product performance. All of these areas are critical in determining the viability of solid-state lighting in the commercial sector.

Information on solid-state lighting will become increasingly important to the committee as LED technology continues to develop. CEE has received a DOE grant to help communicate information and technology updates pertaining to solid-state lighting in the residential and commercial markets.

# Water agencies lend a hand in Commercial Kitchens Initiative

The participation of water agencies in CEE's Commercial Kitchens Initiative is proving to be quite valuable.

"Many of the equipment items addressed by the initiative have a water component," said CEE Program Manager Afroz Khan, who is managing the initiative. "The water agencies have been giving us important feedback, both from a technical standpoint and a marketing perspective."

Among the 25 initiative participants are six water agencies: City of Austin, Denver Water, City of Toronto, Seattle Public Utilities and Southern Nevada Water Authority, New York City Dept. of Environmental Protection and San Diego County Water Authority.

In addition to providing feedback, several of the water agencies are working directly with electric and gas utilities in their areas to promote high-efficiency commercial kitchen equipment. For example, City of Austin Water Conservation is partnering with Austin Energy to provide up to \$40,000 to customers for installing new equipment and processes that conserve water at existing facilities.

Similarly, Seattle Public Utilities is collaborating with Puget Sound Energy and San Diego Water Authority is working with San Diego Gas & Electric to co-promote commercial kitchen programs.

The Commercial Kitchens Initiative currently provides high-efficiency specifications for steam cookers and ice-cube makers as well as guidelines for pre-rinse spray valves (the initiative also covers gas fryers, hot food holding cabinets, refrigerators and freezers). In addition, the committee is providing feedback for two ENERGY STAR® draft specifications that are water intensive, ice-makers and dishwashers.

The Commercial Kitchens Committee is hoping that ENERGY STAR will adopt CEE's Tier 2 specification for ice-makers; CEE's Tier 1 will be retired in 2008 since it represents the federal minimum standard set to become effective in 2010.



With highly useful input from water agencies, CEE is helping ENERGY STAR revise its commercial dishwasher specification. The first draft specification was based solely on the volume of rinse water but the Commercial Kitchens Committee recommended that idle energy (energy consumed while the unit is not washing dishes)

should also be taken into account. ENERGY STAR responded by asking manufacturers to report idle energy data and incorporate an idle energy threshold requirement into the latest draft specification. The committee's comments on the second draft specification are favorable.

CEE is also looking at four other potential additions to the initiative, one of which involves water usage. The new candidates are combination ovens (which include a steamer), griddles, large vat fryers and convection ovens. PG&E's Food Service Technology Center has developed specifications for these items and the committee is currently researching this work to better assess the technology.

## Committee looks at working with restaurant chains

A major focus for the Commercial Kitchens Committee in the coming months will be working with restaurant chains. Market research by the committee indicates that restaurant chains often have more resources to implement energy- and water-efficiency programs, when compared to individual restaurants.

More importantly, working with a chain offers efficiency program administrators an opportunity to make a larger impact since one decision can affect hundreds, maybe even thousands, of restaurants.

Clifton Geisler of Brinker International explained the restaurant chain's viewpoint of energy efficiency at CEE's January Program Meeting. Brinker International represents more than 1,600 restaurants worldwide.

Most restaurant chains do pay attention to energy efficiency, said Geisler, but it's not high on the list of priorities. With a high turnover rate in labor, short-term benefits are generally of greater concern. The equipment features most valued by restaurant chains include reduction in labor and/or skill level, ease of operation, improved food quality and faster cooking times.

As energy prices continue to rise, however, more importance is being placed on efficiency by restaurant managers but there are significant barriers to program implementation, according to Geisler.

"There is a local inconsistency of rebate processes and offerings," he said. "And rebates are generally focused on electricity. Gas and water opportunities are not fully explored."

Geisler also pointed out that equipment choices are almost always made during the architectural design process so it's important to get involved well before the restaurant is built.

CEE's Commercial Kitchens Initiative is addressing these concerns by providing common equipment specifications that include electricity, gas and water components. The committee is also working to develop ongoing relationships with restaurant chains. By learning about the restaurant design and procurement process, the committee is aiming to develop program elements that will have greater impact.

In order to gain information about restaurant chains and cultivate relationships, CEE Program Manager Afroz Khan will be attending the National Restaurant Association show in Chicago May 19-22. In October, CEE will be hosting a workshop at the North American Association of Food Equipment Manufacturers (NAFEM) show in Atlanta to further the committee's work with restaurant chains and manufacturers.



**CLIFTON GEISLER**  
Brinker International

## CEE committee sizes up rooftop gas-pack units

One of the “next steps” identified at last November’s CEE Gas DSM Summit was to explore opportunities in commercial rooftop (gas-pack) units. CEE’s Natural Gas Committee has begun to research existing opportunities, market status, and barriers to widespread adoption of this technology.

Another major focus for the committee is the investigation of a potential water heating initiative (see story below).

According to CEE research, the furnace portion of rooftop gas-pack units have an average AFUE of 78-82 percent but efficiencies of 89-97 percent are achievable.

Estimated savings from these units are about 15-16 percent and several major manufacturers – including Lennox, Trane, Carrier, Aeon and Air Treatment – have the ability to produce this equipment on a custom basis.

“The high-efficiency rooftop units are available,” said CEE Senior Program Manager Kara Rodgers. “They tend to be used more in custom designs. What we want to find out is why more of this equipment isn’t being sold and



how we can make it more available.”

One of the barriers is first cost. High-efficiency units cost in the \$30,000-40,000 range with a standard-efficiency model priced at about \$12,000.

Another issue is the split incentive, where the building owner buys and maintains the equipment while the company using the building is responsible for paying the utility bills. A possible solution might be to concentrate program promotion on schools and government buildings, where the building owner does pay the bills.

Virtually all of the high-efficiency models are condensing units, which raises some technical issues, such as the design challenges associated with

condensate paths and cold climate installation.

It is difficult to maintain an open condensate as the water tends to freeze. Incorporating a secondary heat coil to eliminate freezing is a design challenge and could negate some of the savings through electricity usage.

Creating a condensate path by installing drainage systems can be complex and costly. Condensate from the unit is mildly acidic and could potentially damage the roof structure.

Despite these technical issues, the savings potential is significant enough for the committee to continue its exploration.

Natural Resources Canada (NRCan), Vermont Gas, Energy Trust of Oregon and Terasen Gas are either looking into the possibility of running programs or have had some experience with the technology.

The Gas Committee will be evaluating opportunities as they vary by region, focusing on applicability, technical issues, heating loads, cost-benefit analysis, efficiency gains and other benefits.

## Gas water heating exploration is gathering steam

CEE’s Gas Committee is moving forward in its exploration of high-efficiency specifications for traditional tank-type water heaters and in the development of field-testing methods for tankless water heaters.

The committee is also working with the Gas Appliance Manufacturers Association (GAMA) in an effort to obtain shipment data on energy-efficient units.

### Tank-type heaters

For the tank-type heaters, CEE is building on work undertaken by the California Energy Commission, which had formulated a two-tier specification as part of its Super-Efficient Gas Water Heater Appliance Initiative.

The CEC initiative was aiming to create a market for water heaters that are 30 percent more efficient than models currently available on the market.

Manufacturers have stated that production of more efficient water heaters is technically feasible, but the question is whether the gas savings can justify the incremental cost for consumers. To help answer this important question, CEE is encouraging and coordinating member input on cost/benefit analyses of higher-efficiency units. Another uncertainty is the cost effectiveness of

running a program that provides incentives for this type of equipment.

At the same time, CEE’s Gas Committee is seeking input from manufacturers. Preliminary feedback indicates interest in producing the units, along with concerns about incremental cost.

### Tankless units

Tankless or “on- demand” water heaters appear to provide significant savings in certain applications but no formal study has been made to date.

To calculate the actual savings and determine the best uses for this technology, CEE is developing general guidelines for conducting field tests of this equipment.

More than 90 percent of current residential water heaters are traditional tank-type models, which heat and store large quantities of water (typically 50 gallons or more) for later use.

By keeping water hot for indefinite periods of time, this type of water heater wastes energy; according to CEC research, these standby losses can reach 15-20 percent.

**Continued on next page**

# Motors Committee finalizes recommendation for Board approval

On a recent conference call, CEE's Motors and Motor Systems Committee considered comments from a variety of stakeholders on its *Guidance Specification for Large (250-500) hp, Low-Voltage, General-Purpose Motors*.

Based on the committee's consensus response to the comments, the draft will be revised. It is anticipated that the final draft will be submitted to the Board of Directors in June as a revision to CEE's Premium-Efficiency Motors Initiative.

Among the stakeholders providing comments were four motor manufacturers, three CEE members, the National Electrical Manufacturers Association (NEMA), the Electrical Apparatus Service Association (EASA) and three other interested parties.

The Premium-Efficiency Motors Initiative currently addresses 1-200 hp, low-voltage, general-purpose motors, and aligns with the NEMA Premium® efficiency levels for this range of equipment. The *Guidance Specification* outlines an approach for including larger NEMA Premium motors (250-500 hp) in the initiative.

## Water heating

**Continued from page 16**

Tankless models heat water only as needed and can be much more efficient because standby losses are significantly reduced. Anecdotal evidence tells us that tankless water heaters, used in about 2 percent of American homes, are more cost effective in one- to two-person households where the demand for hot water is less.

There are, however, concerns about the unlimited amounts of hot water that could potentially be available through the endless hot water tankless units.

It is possible that this offer could lead to even greater water and energy consumption, especially in larger households. To date, no field tests have been conducted to determine whether consumer behavior does change with tankless units.

"Our members need to know whether the savings promised by tankless water heaters will be realized," said CEE Senior Program Manager Kara Rodgers. "By working together to create consistent testing methods, our members can compare the results across North America and gain more robust results than we could by working individually."

ASHRAE and Lawrence Berkeley National Laboratory are

### New Program Summary

CEE's 2006 Program Summary for Motors and Drives is now available on the CEE Web site ([www.cee1.org](http://www.cee1.org)). The summary includes detailed information from 48 CEE members and covers 180 programs.

The *Guidance Specification* recommends a custom (case-by-case) approach to addressing motors in the 250-500 hp range rather than the prescriptive (specification-oriented) approach recommended for 1-200 hp equipment.

Recognizing that many CEE member programs already follow a customer approach for these motors, the *Guidance Specification* has been designed to:

- 1) recommend a custom approach
- 2) highlight the potential value of NEMA Premium® motors
- 3) provide a framework for helping program administrators integrate consideration of NEMA Premium® motors in their custom programs.

"NEMA Premium motors may or may not be the best option for a given

application," said CEE Industrial Program Manager Ilene Mason, who is coordinating this project. "We are recommending that programs ensure that the opportunity not be overlooked, i.e., that NEMA Premium motors be considered as part of the standard engineering analysis for custom projects that include motors."

The technical guidance portion of the *Guidance Specification* outlines issues to consider during this analysis. "The *Guidance Specification* alerts program administrators to relevant issues that they might want to evaluate and consider. It is not intended as a checklist of items to include in custom project analyses," explained Mason.

"Development of performance and/or eligibility requirements should be left to the discretion of the program administrators.

"Educating in-house project development and evaluation teams as well as outside contractors will be an important aspect of implementation. The scope of this change would not be impacted by proposed motor standards legislation."

in the process of developing technical guidelines for the field tests. CEE is working on a consumer questionnaire that would address usage habits and product satisfaction.

Field tests would be administered to homes retrofitting with a tankless system. Monitors would determine energy usage before and after the retrofit.

### Shipment data

In past meetings with manufacturers, efficiency program administrators have explained the importance of shipment data of efficient equipment. The data can establish baseline levels of efficiency to help in planning programs.

GAMA is physically capable of collecting the data and manufacturers are generally supportive of any action that would lead to greater sales of energy-efficient equipment. CEE's ongoing negotiations with GAMA are aimed at reaching an agreement in the release of this information.

### DOE proposal

On May 2, DOE released draft criteria for ENERGY STAR residential water heaters. CEE is working with interested members to develop comments on the many aspects of this new proposal.

## More than 220 stakeholders participate in MDM Webinar

The *Motor Decisions Matter* Webinar on March 14 educated CEE members and trade allies about the opportunity to help their customers' profitability – and their own bottom line – by supporting motor management strategies in the C&I market.

This one-hour program, "Increase Profitability Through Motor Management," was organized and hosted by *Motor Decisions Matter* (MDM) project staff. The presentation, and a transcript of the question-and-answer session that followed, are posted on the MDM Web site ([www.motorsmatter.org](http://www.motorsmatter.org)).

The Webinar attracted more than 220 participants, who learned about the basics of motor management, the benefits of promoting these strategies and opportunities for cooperation.

*Motor Decisions Matter* is sponsored by CEE members, motor manufacturers and service centers, trade associations and the Department of Energy.

Many of these industry stakeholders took advantage of the opportunity to invite their sales and marketing staff, account representatives and other trade allies to participate.



For some in the motors industry, the Webinar was a learning experience, hearing about the benefits of motor management for the first time. For others, the Webinar served to reinforce motor management concepts and messages.

For CEE members, it was an opportunity to understand how motor management can complement more traditional motors and drives programs. The Webinar also highlighted a new MDM tool, "The How-To Guide to Bringing Motor Management to Your Customers."

One of the primary goals of MDM's new three-year extension is to create a local focus on motor management,

encouraging utilities to work with trade allies in their service territories.

The Webinar provided an opportunity for that type of collaboration. Xcel Energy, for example, hosted staff members and trade allies, incorporating a discussion about their programs and strategies for working together to reach common customers. Xcel hosted two Webinar sites, attracting more than 50 participants.

Tom Bishop of the Electrical Apparatus Service Association narrated two case studies that illustrated "real-life" motor management projects.

A panel of MDM sponsors answered questions after the presentation. In addition to Mason and Bishop, the panel included Bruce Peterson of Xcel Energy, Priscilla Richards of NYSERDA, Dale Basso of Baldor-Dodge-Reliance (and Chair of the National Electrical Manufacturers Association Motors Section) and Dave Ahlberg of MidAmerican Energy.

*Due to space constraints, this story was shortened from its original version. The full version can be found on the CEE Web site (see "Newsletter").*

## CEE's Industrial Planning Committee to broaden offerings

In order to explore opportunities for members to achieve greater energy savings in the industrial sector, CEE has created the Industrial Program Planning Committee.

The committee was created as a forum for members to conduct a broad-based exploration of industrial energy consumption patterns, national efficiency resources and innovative program models.

"We're looking at a more holistic approach," explained CEE Senior Program Manager Ted Jones, who is managing this project. "There are substantial opportunities available within specific industrial sub-sectors and across common industrial processes. We're trying to find the best ways of identifying the best opportunities and the most effective program methods."

The committee was officially launched with an April 26 Webinar that included 20 CEE members and EPA's Elizabeth Dutrow, who heads up ENERGY STAR's industrial team. Dutrow outlined ENERGY STAR's current and projected work with manufacturers.

CEE management had laid a foundation for this approach to industrial programming through research conducted last year. The research included: a) identifying energy

consumption by sector team and mapping CEE committee work against major areas of energy consumption, b) reviewing existing studies for new opportunities and establishing a set of general criteria for consideration and c) developing a spreadsheet assessment tool and applying criteria to evaluate opportunities.

The Committee also plans to review DOE's approach to the industrial sector and assess the value of DOE resources to member programs. DOE's Office of Industrial Technologies is a good source of information for industrial R&D, cross-cutting technologies, emerging technologies and best practices.

EPA's ENERGY STAR for Industry, is building an infrastructure to promote energy efficiency from within the industrial sector. Dutrow explained that energy management is often overlooked by corporate management and thus important energy savings are missed.

Benchmarking the facility through EPA's National Performance Rating System is an important first step in industrial energy management. EPA also provides tools, such as plant Energy Performance Indicators (EPIs), to assess energy usage.

# Innovative regulatory tools showcased at MT Symposium

As reliance on efficiency programs to address concerns about fuel prices, system reliability, and environmental quality has increased, states and provinces are exploring new and different ways to regulate energy efficiency. At the Market Transformation Symposium in March, CEE organized a session on innovative regulatory tools that show great promise for making energy efficiency a more robust resource.

The panel consisted of ACEEE's Marty Kushler, Jim Presswood of the Natural Resources Defense Council and Paul Peterson of Synapse Energy Economics.

Kushler opened with an overview of energy-efficiency regulatory policy mechanisms that align the incentives of utilities with the state's desire for efficiency to perform as an alternative to supply. Under traditional regulation, Kushler explained, utility profits follow sales trends.

"With the exception of the California energy crisis," he said, "I have not found one investor-owned utility running energy-efficiency programs in the absence of regulatory requirements."

Thus regulation designed to encourage efficiency programs by utilities needs to address three key economic concerns: 1) recovery of the direct costs of programs, 2) addressing the disincentive of the revenue lost as a result of programs and 3) providing an opportunity for earnings from energy-efficiency program activity.

Presswood then described one important mechanism that addresses lost revenues, rate decoupling. Under traditional regulation, utilities can under-collect revenues if sales fall below the forecasted amount (due to an unexpectedly successful efficiency program or to unexpected weather). Sales above forecast can result in over-collection of rates.

Decoupling severs the link between profits and sales by allowing for modest, regular true-ups in rates to ensure that any fixed costs recovered in kWh or therm charges are not held hostage to sales volume. If sales are higher than expected, over-collected revenues are returned to customers; if lower than expected, rates are adjusted so that utilities can cover the shortfall.

Decoupling allows energy efficiency to compete directly with supply, and encourages reduced consumption – and reduced environmental impact. Reduced demand often results in lower prices, which benefits customers.

Peterson described how energy efficiency and demand response have been incorporated into the policy of the newly formed New England Forward Capacity Market (FCM). Under the FCM, a variety of parties place an annual bid to provide electricity for a period of three years.

In this market, the provision of reduced demand is treated as equal to the provision of supply. Demand resources that can be bid include energy efficiency, load management, demand response and distributed generation. Within each resource type, the resources are categorized by hours of



**Marty Kushler, Jim Presswood and Paul Peterson described different tools for regulating efficiency.**

performance and weather sensitivity. Penalties are substantial for failing to provide either the demand or supply resource once a bid has been accepted.

During the ensuing discussion, it was emphasized that none of these policy mechanisms is a "one size fits all" solution. Each state or province's choice of policy tool needs to be appropriate for its circumstances and objectives.

## NRCan obtains wealth of market data

During a working session at the MT Symposium, Indriani Hulan described the approaches used by National Resources Canada (NRCan) in collecting and analyzing market penetration tracking data for high efficiency products.



**Indriani Hulan**  
NRCan

NRCan's Demand Policy and Analysis Division (DPAD) of the Office of Energy Efficiency is responsible for collecting and analyzing data pertaining to energy usage by sector, market penetration of energy-efficient products, demand-supply and program impacts. This information is compiled into the National Energy Use Database and posted on a public Web site ([oe.nrcan.gc.ca/statistics](http://oe.nrcan.gc.ca/statistics)), where it serves as a single source of data for all Canadians.

How are the data collected? The DPAD administers surveys and develops relationships with industry to obtain energy information across all sectors. DPAD also obtains shipment for large appliances and sales data from various Canadian industry associations. NRCan then interprets and analyzes the data.

"We not only get data that are very useful to us, but industry benefits, too," Hulan said. "We produce objective reports that are publicly available. It allows manufacturers to track our programs."

NRCan is looking to expand and improve its data collection services through new partnerships, new data sources and continued work with stakeholders.

Scott Dimetrotsky of Quantec gave an overview of the market penetration data collection efforts in the U.S. for the residential sector, and explored the pros and cons of different techniques for estimating market penetration.

At the session, CEE's Monica Nevius announced that the National Electrical Manufacturers Association (NEMA) has plans to provide CEE members market penetration shipment data for 2005 and 2006 this spring. Stacey Harrison and Ken Ayres of NEMA, who were on hand to answer questions about the data, received an ovation from attendees.



**CEE's Marc Hoffman spoke about the forces driving programs and their implications for the HVACR industries.**

### **Hoffman speaks at ARI meeting**

CEE Executive Director Marc Hoffman was a keynote speaker at the Air Conditioning and Refrigeration Institute (ARI) Spring Product Section Meetings in Reston, Va., on April 23.

In his talk, Hoffman identified implications for the HVACR industries from recent trends in the efficiency program industry – and the opportunities created to address these implications together.

“When I took the helm of CEE 11 years ago, we did not have a working relationship,” Hoffman told the 200-plus meeting attendees.

“I want to salute the management of ARI and its members

for working with us to establish trust, which has enabled us both to benefit from working together on issues common to our industries.”

Hoffman finished his presentation by identifying three specific issues that present good opportunities for the HVAC industry and CEE membership to work together:

- Credible verification of quality HVAC installation
- More efficient gas packs for rooftop units
- Addressing peak demand

Hoffman then issued a blanket invitation to ARI members to attend CEE's Industry Partners Meeting (Sept. 25-26 in St. Louis) to further examine these important issues.

“Let's get these discussions going now so we have something concrete to talk about in September,” he told the audience.

“If we can get through the preliminaries to frame these issues, it will lead to more productive discussion.”

### **ACEEE seeks nominations**

The American Council for an Energy-Efficient Economy (ACEEE) extended the deadline for nominations for its 2nd National Review and Recognition of Exemplary Energy-Efficiency Programs.

Nominations will now be accepted until May 14.

For further information, please contact Dan York at [DanWYork@aol.com](mailto:DanWYork@aol.com) or 608-243-1123, or Marty Kushler at [mgkushler@aol.com](mailto:mgkushler@aol.com) or 517-655-7037.

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