The Pulse and Direction of the Efficiency Program Industry

ACEEE-CEE Market Transformation Symposium

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Executive Director
March 17, 2010
Washington, DC
Consortium for Energy Efficiency

- Nonprofit founded and funded by utilities to increase their efficiency program effectiveness wherever working together is needed and CEE can add value
- CEE brings together over 100 gas and electric efficiency program administrators serving all or part of 40 U.S. states and 8 Canadian provinces
- Develop and sponsor 12 CEE Initiatives
- Support 18 Program Committees
- $3.5 million primarily member-funded budget
- Staff of 24
Record $6.1 Billion Industry and Growing (All DSM budgets)
Successful 2009 Joint Data Collection

CEE worked with IEE and AGA to reduce duplication and reporting burden by using a common instrument and sharing data.

Collected more data, more consistently and more easily for our joint members.

http://www.cee1.org/ee-pe/AIRindex.php3

Paving the way to a National Efficiency Program Information Center.
All Programs Growing

- **Commercial and Industrial**
- **Residential**
- **Low Income**
- **Load Management**
- **Other**

<table>
<thead>
<tr>
<th>Year</th>
<th>Commercial and Industrial</th>
<th>Residential</th>
<th>Low Income</th>
<th>Load Management</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$3.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2008</td>
<td>$4.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2009</td>
<td>$6.1</td>
<td></td>
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</table>
Electric Budgets Reach $5 Billion
U.S. Electric Budgets—$4.4 Billion
US Gas Budgets Reach $1 B

- Commercial and Industrial
- Residential
- Low Income
- Other

2006: 250
2007: 420
2008: 520
2009: 930

MILLIONS $USD
2008 IMPACTS—CO$_2$ ABATED

Electric  60 MILLION TONS

62 MILLION TONS

Gas  2 MILLION TONS
2008 IMPACTS—Energy Savings

Electric  105,000 GWH  $9.3 BILLION

$9.7 BILLION SAVED

Gas  367 MILLION THERMS  $.4 BILLION
Top 13 States in Per Capita Energy Efficiency Budgets

Vermont: $49.38
New Jersey: $33.57
Pacific Northwest: $28.68
Connecticut: $27.64
Hawaii: $27.54
California: $27.16
Massachusetts: $27.09
Rhode Island: $22.38
New York: $19.41
Iowa: $18.52

$12.45 Mean Budget per capita for all reported

No Load Management
## 46 States Per Capita Spending

<table>
<thead>
<tr>
<th>Category</th>
<th>States</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>&gt;$20</strong></td>
<td>VT, NJ, Pacific NW, CT, HI, CA, MA, RI</td>
</tr>
<tr>
<td><strong>$9-$19</strong></td>
<td>NY, IA, WI, NV, ME, NH, TN, UT, MN, CO</td>
</tr>
<tr>
<td><strong>$7</strong></td>
<td>AZ, NM, FL, NC</td>
</tr>
<tr>
<td><strong>$4-$5</strong></td>
<td>MI, WY, IL, MD, TX</td>
</tr>
<tr>
<td><strong>$2-$3</strong></td>
<td>MO, KY, NB, SC, AR, IN, GA, OH</td>
</tr>
<tr>
<td><strong>$1 or Less</strong></td>
<td>OK, MS, AL, LA, KS, SD, ND</td>
</tr>
</tbody>
</table>
How will we continue to deliver results?

ANS: Accelerate emerging technologies from R&D to efficiency programs

- CEE Residential HVAC Committee
- CEE Commercial HVAC Committee
- CEE Commercial Lighting Committee
- CEE Data Centers Committee
- CEE Gas Committee
- CEE Motors and Motor Systems Committee
- CEE Consumer Electronics Committee
- CEE Behavior Committee
- CEE Appliance Committee
The HVAC Story
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- Efficiency Program
- Efficiency Program
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- Efficiency Program

Working Together, Advancing Efficiency
- HVAC Initiative
- Equipment Tiers
- ENERGY STAR

- Manufacturers
  AHRI
- Distributors
  HARDI
- Contractors
  ACCA
- Technician Certification Bodies
  NATE, BPI
The HVAC Story

Efficiency Program

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Manufacturers
AHRI

Distributors
HARDI

Contractors
ACCA

Working Together, Advancing Efficiency
- Quality Installation Spec
- Verification Protocols
- ENERGY STAR Quality Installation Program
- Product Availability

Technician Certification Bodies
NATE, BPI
CEE Residential HVAC Committee

- Who: 57 Efficiency Programs
- 2010 Goal: National program strategies for regionally optimized new technologies
- What: Verification of savings/performance of:
  - Low temperature and variable speed heat pumps, ductless mini-splits, advanced dehumidification
- How: Demonstration efforts
- Future: Smart grid integration, better metrics
CEE Commercial HVAC

▶ Who: 50 Efficiency Programs

▶ 2010 Goal: Qualify new technologies for inclusion in programs

▶ What: Verified performance and better understanding of variable refrigerant flow technologies

▶ How: Demonstration project results

▶ Future: Installation & maintenance issues, industry test standards
CEE Commercial Lighting Committee

- Who: 67 Efficiency Programs
- 2010 Goal: Program guidance tools for more comprehensive approaches—systems, controls, inclusion of emerging technologies, e.g., SSL
- What: Better understanding of the market potential, energy and demand impact, performance and quality of light from advanced control systems
- How: Studies on Building Lighting Control Systems and SSL demonstrations
- Future: More technologies and integration with smart grid specifications
CEE Data Centers Committee

- **Who:** 49 Efficiency Programs
- **2010 Goal:** Pursue various program approaches by information sharing; Explore measure specification; Tackle M&E issues
- **What:** Credible information on efficiency measures for data centers
- **How:** Sharing pilot program results, technical expertise, and research on energy performance of data center components
- **Future:** Assess industry developed performance metric proposals
CEE Gas Committee Priorities for 2010

- **Residential gas water heater initiative**
  - Establish an ENERGY STAR presence for best existing technology
  - Joint marketing campaign with manufacturers
  - Work to create trade education programs for members’ use

- **Rooftop gas pack exploration**
  - Shed light on the efficiency of gas furnaces in unitary systems
  - Seek to overcome technical and market barriers to efficiency

- **Commercial boiler system exploration**
  - Working to create a guidance specification that helps facility owners capture the highest efficiency possible with their existing and new systems

- **Commercial Water Heating Exploration**
  - Seek ways to promote higher efficiency water heaters and water heating systems.

- **Residential Heating**
  - Exploring inclusion of direct heaters and integrated heating and water heating systems
CEE Motors and Motors Systems Committee

- **Who:** 55 Efficiency Programs
- **2010 Goals:** Update Motor Selection and Application tool, Expand specs beyond general purpose to Type II and advanced technology motors; Address VSD
- **What:** Market and performance research on advanced motors, motor systems
- **How:** Enhance CEE members’ program engineers and product developers with EPRI’s technical expertise; Coordinate research with program needs
- **Future:** Mutually leverage members’ programs and work of any Industrial Center of Excellence
CEE Consumer Electronics Committee

- Who: 52 Efficiency Programs
- 2010 Goal: Expand the level and depth of centrally provided program support functions as identified in the CEE Consumer Electronics Efficiency Program Center Plan in development
- What: Identifying opportunities, keeping up with changes in the technologies and markets, and overcoming M&E challenges-baseline assumptions
- How: Information exchange, advanced specifications
- Future: Identifying future technical potentials
CEE Behavior Committee

- **Who:** 54 Efficiency Programs
- **2010 Goal:** Provide a forum and clearinghouse for behavior change programs
- **What:** Survey of current programs and ongoing information exchange on program results
- **How:** Coordinate with EPRI’s research on feedback devices
- **Future:** Pool all results to support members to apply behavior change insights to improve programs
Future: CEE Appliance Committee

- Who: 68 Efficiency Programs
- 2010 Goal: Explore adding advanced technologies to portfolio of appliance programs
- What: Performance specifications for clothes dryers and heat pump water heaters
- How: Utilize results from EPRI's studies on Hyper Efficient Appliances and field demonstrations
- Future: Integrating smart grid w/ energy efficiency specifications, advanced refrigerator specifications, roadmaps for super efficiency
Thank you for your support of CEE members and the efficiency program industry working at CEE

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