Leveraging Public Dollars

March 17, 2004
About the Web Conferences

- Monthly
- Topics are structured on a strategic approach to energy management
- Help you continually improve energy performance
- Opportunity to share ideas with others
- Slides are a starting point for discussion
- Open & Interactive
Web Conference Tips

• Mute phone when listening! Improves sound quality for everyone.

• If slides are not advancing, hit refresh or close presentation window and press the re-launch button again.
Today’s Web Conference

• Welcome
• Marc Hoffman - CEE
• Cynthia Putnam – NEEC
• Questions & Discussion
• Announcements
About Today’s Web Conference

Public Benefit $$$?
Leveraging Public Dollars: Overview of Publicly Sponsored Energy Management Programs

ENERGY STAR Web Conference
March 17, 2004

Consortium for Energy Efficiency
Marc Hoffman, Executive Director
What is CEE?

Non-profit formed by utilities and public stakeholders in 1991 to pursue nationwide strategies linking utility, state and regional programs for otherwise unachievable energy savings.
CEE Today

- 73 members
- Sponsoring 16 nationwide initiatives
- Pursuing numerous emerging opportunities
- 21 working committees
- Staff of 15
- $1.7 million budget
  - 45% from member dues
  - 55% from federal sponsors, supplemental project subscriptions
The utility industry has changed....

so have publicly-funded programs to promote energy-efficiency.

In the past, utilities ran demand-side management (DSM) programs, now there are a variety of program types and administrators.
Who administers them?

- Administrators of mandated efficiency programs (utilities and non utilities)
- Regional organizations (NW Alliance, NEEP)
- State government agencies (NYSERDA, SEOs)
- US National Labs (LRC, LBNL, ORNL, & PNNL)
- Other utilities offering efficiency to their ratepayers (TVA, Commonwealth Edison)
- Federal Government (EPA, DOE)
CEE has 73 members in 23 states and Canada (including 53 efficiency program administrators)
Over 50 Program Administrators

- All CA IOUs
- SMUD, LADWP
- Both NV IOUs
- NW Alliance, Oregon Trust
- BPA, Seattle, Tacoma, Puget
- NW Natural, UtiliCorp Utah
- Hawaii Electric Light Cos.
- TX - Austin + 3 IOUs
- WI - Focus on Energy + IOUs
- Xcel Energy (MN, WI)
- All Iowa IOUs
- IL, MN, VT, Ohio SEOs
- Maine PUC
- All MA utilities - electric and gas
- Cape Light Compact
- All NY - NYSERDA, LIPA and NYPA
- All CT utilities
- NJ electric IOUs (2003)
- South Jersey Gas (2003)
- All NH utilities
- Efficiency Vermont
- Vermont Gas
- Gaz Metro (Quebec)
- BC Hydro

Together We Can Change National Markets
Major Types of C&I Programs

- Technical Assistance
  - energy audits/training
  - engineering studies
  - design assistance

- Financial Assistance
  - equipment rebates
  - financing
  - loan fund

- Supplier Assistance
  - product providers
  - service providers

- New Construction (major rehab. or expansion)
- Retrofit (replacing existing equipment)
- Prescriptive (by equipment type)
- Custom (by project)
- Third Party (SPC)
Industrial Program Trends...

• More regional and statewide programs
• Most programs promote premium motors
  – Almost all offer customized financial incentives or technical assistance
  – About half offer financial incentives for new construction
  – More that half offer incentives for retrofit projects
• Assistance tends to be flexible by project and across technologies
• Many offer training to optimize motor systems, such as compressed air, pumps and fans
Common Elements - Industrial

- Using common specification for high efficiency motors
- Using Motor Decisions Matter℠ campaign to promote better motor management
Common Elements - Industrial

- Building relationships with motor manufacturers and service industry

- Looking for opportunities beyond motor replacement
  - motor management
  - motor system improvement opportunities
  - process efficiency improvement opportunities
  - support energy management practices
In the Future - Industrial

• Standardized approaches to motor system optimization
• Industry-focused programs (water-wastewater sector, food processing)
• Programs supporting energy management best practices
Commercial Program Trends…

• Existing Buildings
  – Most offer:
    • HVAC (heating/cooling equipment) rebates
    • Lighting rebates
    • Technical assistance
    • Audits
  – Many offer:
    • Building Operator Certification (training)
    • Chiller rebates and system optimization
    • Water heating and geothermal heat pump rebates
Commercial Program Trends…

- **New Construction**
  - *Most offer:*
    - Design Assistance
    - Technical Support
    - Capital cost assistance for efficiency measures
  - *Some offer:*
    - Covering some cost of commissioning
Common Elements - Commercial

• Using common specifications for efficient equipment
  - Unitary HVAC Equipment
  - Commercial Refrigerators/Freezers
  - Commercial Icemakers
  - High Performance Commercial Lighting (in progress)
In the Future - Commercial

- Commissioning/retrocommissioning becoming more common on whole buildings or systems (HVAC)
- Tying into the Energy Star Buildings Program (e.g. benchmarking buildings)
- Many moving to a market sector approach to offering program services
- Incorporating common standard (likely the NBIE-Benchmark) to achieve up to 30% savings beyond code
For Example: New York

New York State Energy R&D Authority

- Commercial Program Offerings
  - HVAC rebates and commissioning
  - Small commercial lighting assistance
  - Standard performance contracting
  - Technical assistance
    - Studies, O&M improvement and commissioning
    - Energy Audits and technical recommendations
  - New Construction
    - Capital cost incentives
    - Technical assistance incentives
    - Building Commissioning Services
    - Green Building Services (LEED)
    - Design Team Assistance
For Example: New York

• Industrial Program Offerings
  – Premium-efficiency motor rebates
  – Process improvement programs
  – Research and demonstration programs
How to find these programs

- CEE
- State Energy offices
  - EERE website
- DOE’s Industrial Assessment Centers
  - DOE Website
- Contact your local utility
- Consult Energy Star’s DEEP Database
Director of Energy Efficiency Programs (DEEP)

- Will be located on Energy Star’s Website
- Searchable by state via dropdown menu or through a clickable map of U.S. states.
- Will provide the EEP organization name and link to website for program details
- Scheduled to be launched in April 2004
Thank you.

Questions?

Contact Information: Marc Hoffman (mhoffman@cee1.org)
Building Operator Certification

Training for Efficient Facilities Operation

Cynthia Putnam, Northwest Energy Efficiency Council
Energy Star Web Conference: Leveraging Public Dollars
March 17, 2004
What is Building Operator Certification?

- Coherent course of study in energy efficient building practices
- Testing & facility project assignments verify competence
- Recognizes operators who earn certification
- Offers employers a means to identify skilled operators
BOC Partners

- Energy Center of Wisconsin (2001)
- Sacramento Municipal Utility District (2001)
- Northwest Energy Education Institute (2001)

California Statewide Initiative 2002-05
- PG&E, SCE, SDG&E and So. Cal Gas
- California Public Utilities Commission
Building Operator Certification

Training
Facility Projects

- Walk the facility
- Gather drawings, utility bills, and equipment design specs
- Create a preventive maintenance schedule
Why Building Operators?

• Trained & motivated O&M staff can reduce utility costs by 5-15%
• Training needs are high
  ◆ Shortage of trained staff (<10%)
  ◆ Training is fragmented (single courses, vendor equipment focused)
Ensuring Skilled Operators

• For Managers
  - IFMA’s Certified Facility Manager (CFM)
  - BOMA’s Facility Management Admin (FMA)
  - AEE’s Certified Energy Manager (CEM)
  - University FM certificate programs

• For Operators
  - BOMA’s System Maintenance Admin (SMA)
  - Building Operator Certification (BOC)
  - Vendor training
  - Technical college programs
Building Operator Certification

Audience

- **Level I: Building Systems Maintenance**
  - *Two or more years experience (5-7 yrs avg)*
  - *Outcome: Basic understanding of electrical, HVAC and lighting systems. With supervision, establish or review PM program and optimize operations*

- **Level II: Equipment Troubleshooting**
  - *Five or more years experience (8-10 yrs avg)*
  - *Outcome: Independently develop PM programs and optimize equipment operations*
Level I Topics

- BOC 101 - Building Systems Overview
- BOC 102 - Energy Conservation Techniques
- BOC 103 - HVAC Systems & Controls
- BOC 104 - Efficient Lighting Fundamentals
- BOC 105 - Maintenance & Related Codes
- BOC 106 - Indoor Air Quality
- BOC 107 - Facility Electrical Systems
Level I Projects

- BOC 101 Project: Facility floor plan
- BOC 102 Project: Energy use profile
  - Energy Star benchmarking tool
- BOC 103 Project: HVAC system operations review
- BOC 104 Project: Lighting survey
- BOC 107 Project: Electrical distribution plan
Certification

• BOC certificate
  - Wallet card, letter of recognition to employer, press release to local paper and company newsletter, and listing in BOC Bulletin

• Renewal requirement
  - Annually
  - Continuing education hours
Accreditation

• International Facility Mgt. Association (IFMA)
• Building Owners & Managers Institute (BOMI)
• CSU-San Marcos - CEUs
• Local chapters
  ♦ American Society of Hospital Engineers
  ♦ National School Plant Management Assn.
• Sponsors
  ♦ Electric and gas utilities
  ♦ U.S. Department of Energy
Major Employers

- Bayer, Boeing, Cisco, Hewlett Packard, Merck, Raytheon, Sharp, Verizon, Weyerhaeuser
- Cushman & Wakefield, Trammell Crow, Equity Office Properties, CB Richard Ellis
- Home Depot, Sears
- Marriott, Doubletree
- State universities, agencies, and municipal governments
Benefits to Employer

• “Helped my staff diversify skills -- look beyond their specialized area.”
• “It increased their confidence to address HVAC problems.”
• “He is doing more auditing and review of systems.”
• “They have a better understanding of importance of their job -- increased pride.”
Benefits to Employee

• BOC offers “one stop shop”
• “Interaction with others in facilities profession was helpful.”
• “I could apply it (HVAC) immediately and the homework made me come up with ideas right away.”
• “It made me more proficient in electrical areas. I can converse more effectively with my utility.”
Energy Savings

- Electricity: 0.5 kWh/sf
- Gas/Oil: 1.95 MMBtu/1000 sf
- Water: 0.16 gals/sf

$10-20K annually per facility
Building Operator Certification

BOC Graduates

[Images of BOC graduates in various settings]
Building Operator Certification

BOC Buildings
Accomplishments

- 17 states
- 2,500 enrolled and 1,400 certified
- 50% awareness
- 40+ utility and association sponsors
- Look for BOC credential (88%)
- Increased job opportunity (50%)
Contact Us

BOC National

- 206-292-4793 x2
- www.theBOC.info
- Email: admin@theBOC.info
Questions & Discussion
Announcements

We’re doing our part
By making our facilities more efficiently and investing in energy-efficient equipment, we deliver real results for the environment.

Our Actions Make a Difference
By saving energy at work, we help protect the environment for everyone.

For posters, contact:
Tunnessen.walt@epa.gov
Upcoming Web Conferences

April 21 – Meet the ENERGY STAR Partners of the Year

May 19 – Managing Energy Across Multiple Sites

www.energystar.gov/networking

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Thank you for participating!