

Leveraging Public Dollars

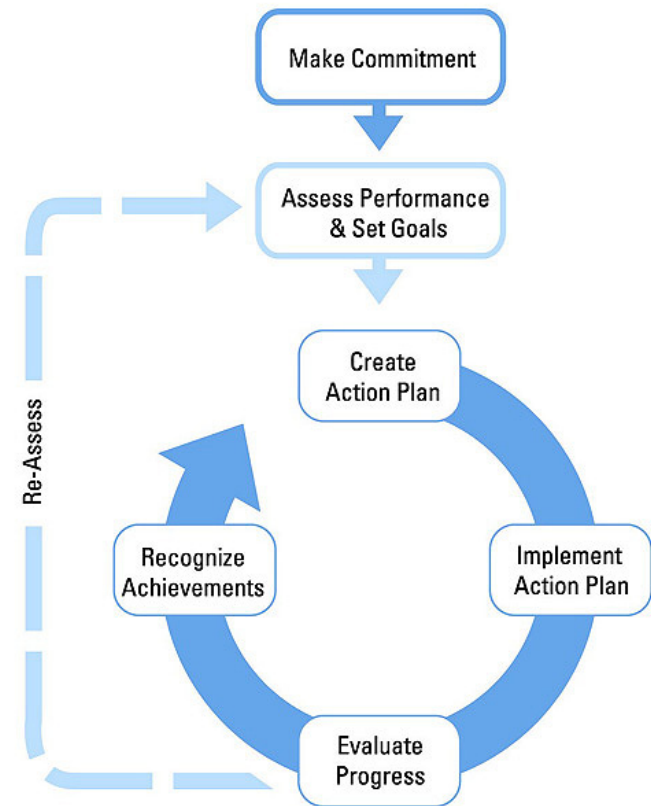
March 17, 2004



ENERGY STAR

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**





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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.



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Today's Web Conference

- Welcome
- Marc Hoffman - CEE
- Cynthia Putnam – NEEC
- Questions & Discussion
- Announcements



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About Today's Web Conference



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**



Together We Can Change National Markets

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.



Together We Can Change National Markets

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.

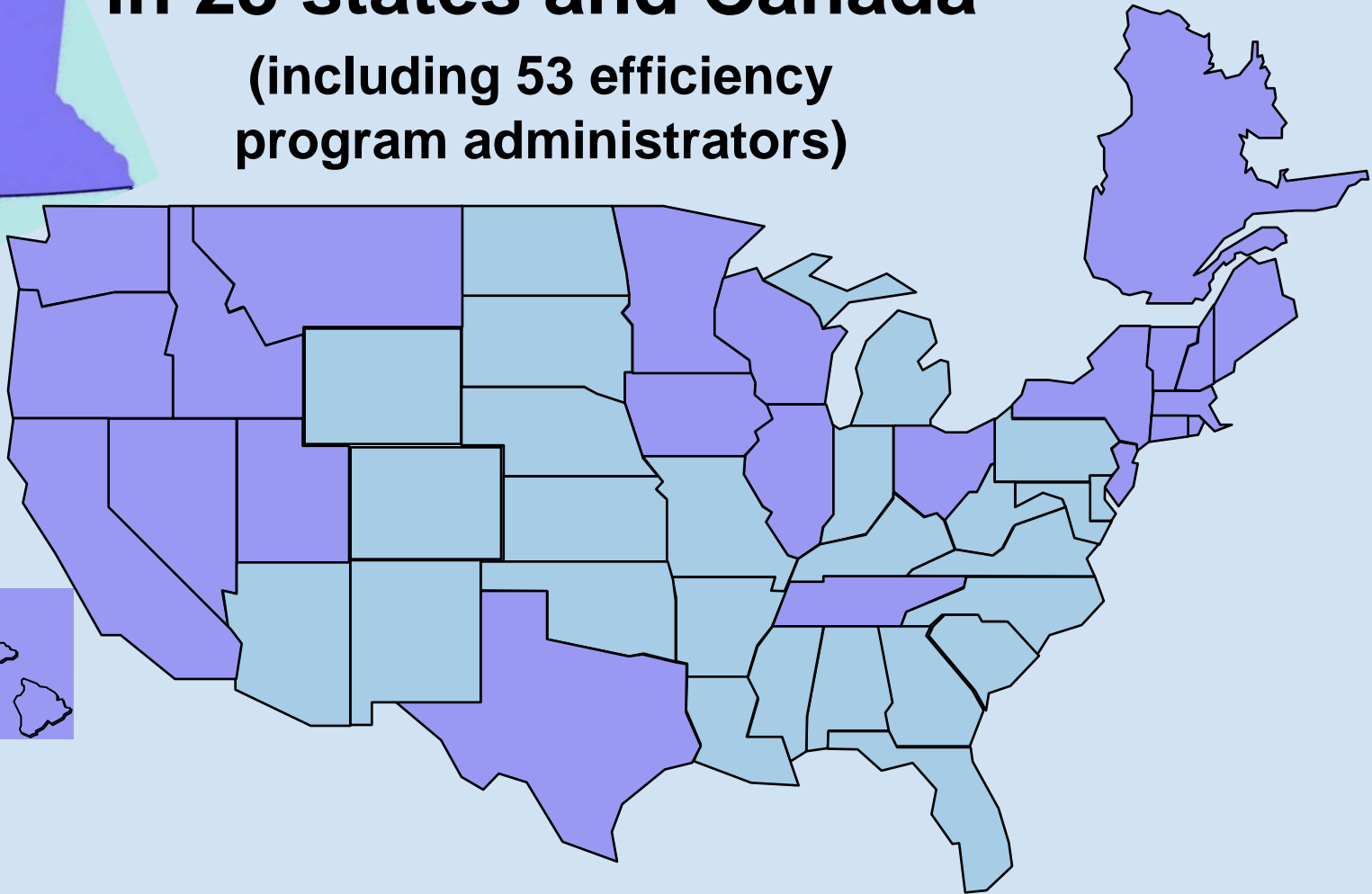
In the past, utilities ran demand-side management (DSM) programs, now there are a variety of program types and administrators.

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)



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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



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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...

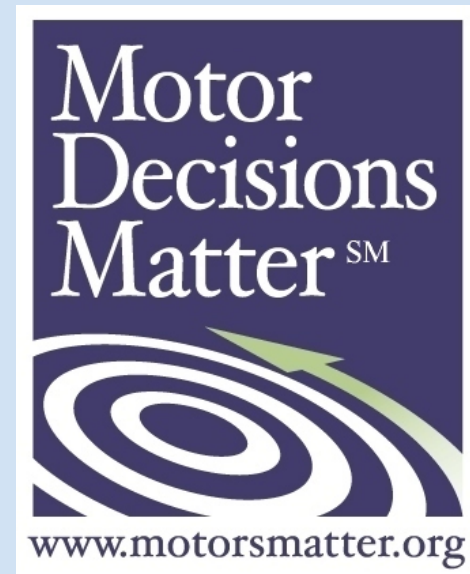
- **More regional and statewide programs**
- **Most programs promote premium motors**
 - **Almost all offer customized financial incentives or technical assistance**
 - **About half offer financial incentives for new construction**
 - **More than half offer incentives for retrofit projects**
- **Assistance 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 MatterSM campaign to promote better motor management



NEMA
Premium[™]



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 NBI E-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**



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For Example: New York

- **Industrial Program Offerings**
 - *Premium-efficiency motor rebates*
 - *Process improvement programs*
 - *Research and demonstration programs*

How to find these programs

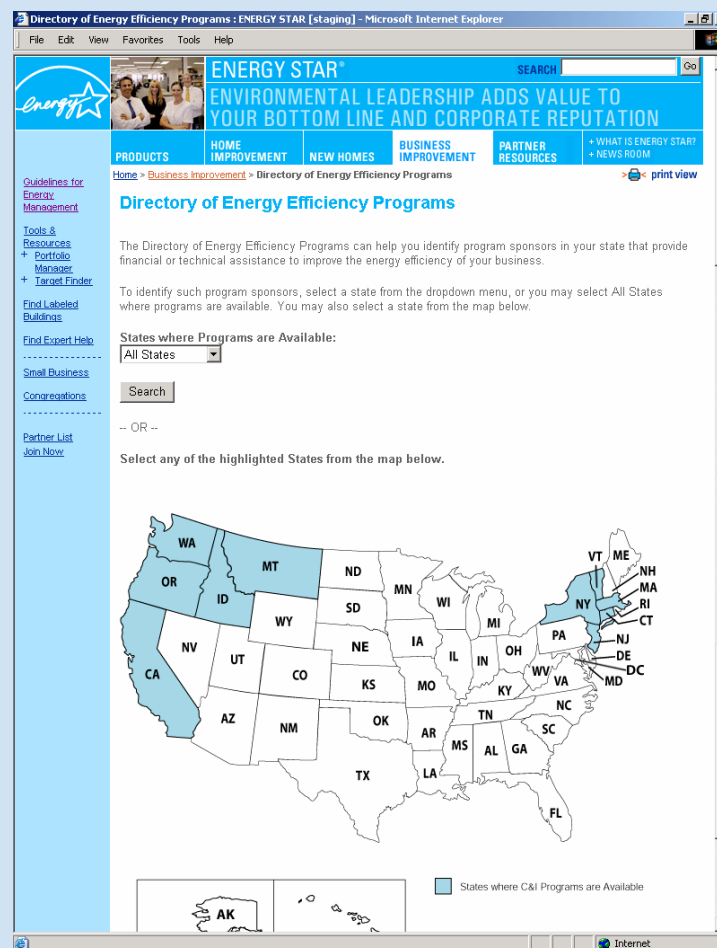
- CEE
- State Energy offices
 - *EERE website*
- DOE's Industrial Assessment Centers
 - *DOE Website*
- Contact your local utility
- Consult Energy Star's DEEP Database



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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)



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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

- ***Northeast Energy Efficiency Partnerships (2000)***
- ***Energy Center of Wisconsin (2001)***
- ***Sacramento Municipal Utility District (2001)***
- ***Northwest Energy Education Institute (2001)***
- ***Midwest Energy Efficiency Alliance (2002)***

California Statewide Initiative 2002-05

- ***PG&E, SCE, SDG&E and So. Cal Gas***
- ***California Public Utilities Commission***



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*



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

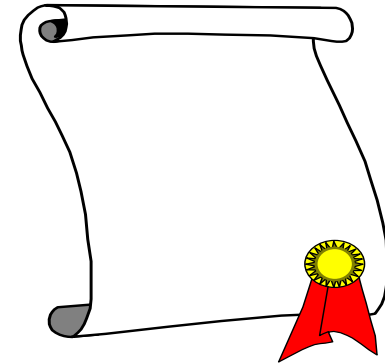
- **BOC 101 Project: Facility floor plan**
- **BOC 102 Project: Energy use profile**
 - ◆ *Energy Star benchmarking tool*
- **BOC 103 Project: HVAC system operations review**
- **BOC 104 Project: Lighting survey**
- **BOC 107 Project: Electrical distribution plan**



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***
- ◆ ***GSA, FAA, US Postal Service, U.S. Navy, Air National Guard***
- ◆ ***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



BOC Graduates



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%)**

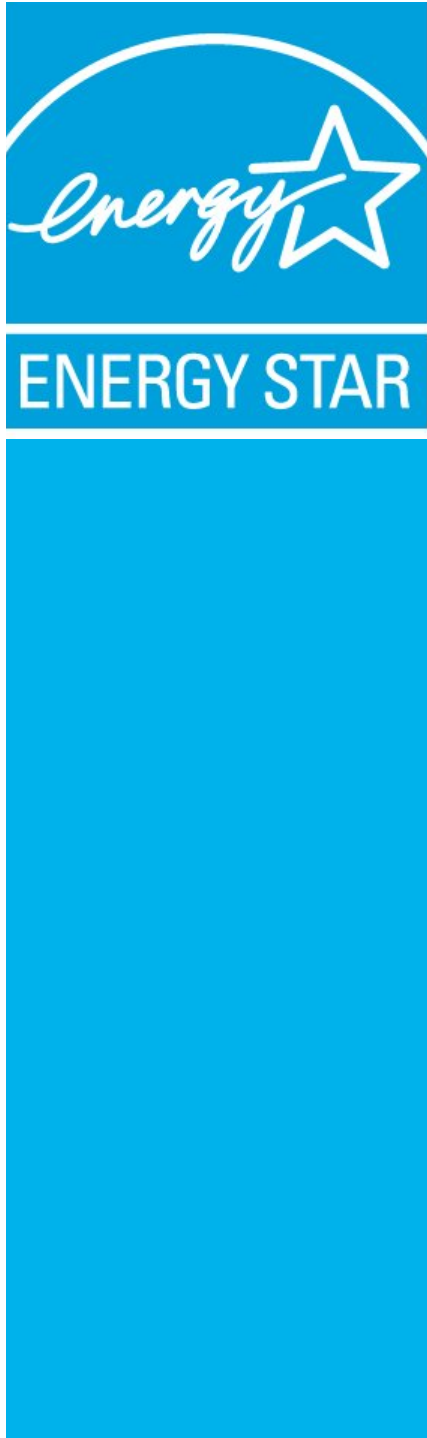


Contact Us

BOC National

- ◆ ***206-292-4793 x2***
- ◆ ***www.theBOC.info***
- ◆ ***Email: admin@theBOC.info***





Questions & Discussion



ENERGY STAR

Announcements

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



As a partner with the U.S. Environmental Protection Agency's ENERGY STAR® program, we're committed to protecting the environment through energy efficiency. This year, ENERGY STAR partners and consumers will prevent the greenhouse gas emissions equivalent to 18 million automobiles by using less energy. www.energystar.gov



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




As a partner with the U.S. Environmental Protection Agency's ENERGY STAR® program, we're committed to protecting the environment through energy efficiency. This year, ENERGY STAR partners and consumers will prevent the greenhouse gas emissions equivalent to 18 million automobiles by using less energy. www.energystar.gov



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For posters, contact:
Tunnessen.walt@epa.gov



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Upcoming Web Conferences

**April 21 – Meet the ENERGY STAR
Partners of the Year**

**May 19 – Managing Energy Across
Multiple Sites**

www.energystar.gov/networking

Tunnessen.walt@epa.gov



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Thank you for participating!