Thanks For Joining

This is the US DOE TAP Webcast – Internal Benchmarking Outreach and Data Collection Techniques

We will begin shortly!

For the best audio quality, please dial in using your telephone and place your phone on mute. We will have a Q&A session at the end. If you have a question during the presentation, please type it in the questions window in the control panel to the right.

Toll: +1 (480) 297-0021
Access Code: 181-637-725#
Audio PIN: Shown after joining the Webinar
Internal Benchmarking Outreach and Data Collection Techniques

Technical Assistance Program
March 28th, 2013
Agenda

1. Welcome & overview
2. Strategies for Outreach and Data Collection
3. In-depth resources from ENERGY STAR
4. On the ground with the State of Delaware
5. New opportunities available for technical assistance
6. Question & answers
What is the Technical Assistance Program?

- DOE’s Technical Assistance Program (TAP) provides state, local, and tribal officials with resources to advance successful, high-impact, and long-lasting clean energy policies, programs, and projects.

- TAP supports one of EERE’s key missions – taking clean energy to scale through high impact efforts.

- TAP has been around for over a decade and handled thousands of inquiries – most recently TAP had been focused on supporting Recovery Act grantees:
  - One-on-one assistance
  - Online resource library & webinars
  - Facilitation of peer exchange
New TAP Approach

Priority Areas
- Strategic Energy Planning
- Program & Policy Design and Implementation
- Financing Mechanisms
- Data Mgmt. and EM&V
- EE & RE Technologies

Resources
- General Education (e.g., fact sheets, 101s)
- Case Studies
- Tools for Decision-Making
- Protocols (e.g., how-to guides, model documents)

Peer Exchange & Trainings
- Webinars
- Conferences
- Better Buildings Project Teams

One-on-One
- Level of effort will vary
- In-depth efforts will be focused on:
  - High impact efforts
  - Opportunities for replicability
  - Filling gaps in the technical assistance marketplace
Data Management and EM&V as a Priority Area

• Resources:
  – *Designing a Benchmarking Plan* live now on the Solution Center!
  – Rolling out a Data Management and Evaluation portal on the Solution Center in May

• Peer Exchange & Trainings:
  – National webinar trainings, including – *External Benchmarking Outreach and Data Collection Techniques*, April; *Evaluation, Measurement and Verification methods*, May
  – Long-term small group peer exchange – join the Better Buildings Alliance Project Team for Data Management Approaches, kicked-off on Wednesday, March 20th (limited space still available)

• Better Buildings Summit for State and Local Governments
  • May 30th and 31st in DC
  • Registration to follow shortly
How to Tap into These and Other TAP Offerings

- Visit the **Solution Center**

- Contact Local or State **Regional Coordinator**

- Submit an **application** for assistance
  [http://www1.eere.energy.gov/wip/solutioncenter/technical_assistance.html](http://www1.eere.energy.gov/wip/solutioncenter/technical_assistance.html)

- Sign up for **TAP Alerts**, the TAP mailing list, for updates on our latest and greatest
  [TechnicalAssistanceProgram@ee.doe.gov](mailto:TechnicalAssistanceProgram@ee.doe.gov)
What is Benchmarking?

Benchmarking is the process of accounting for and comparing
• a building’s current energy performance with its energy baseline,
• a building’s energy performance with the energy performance of similar types of buildings

Benchmarking can be used to compare performance over time, within and between peer groups, or to document top performers.
The Benefits of Benchmarking

- Proactive approach to managing energy use
- Continuous improvement as a part of a strategic energy management plan
- Identify billing errors
- Verify pre- and post-project energy use, GHG emissions, and energy costs
- Communicating results in meaningful terms
- Assess effectiveness of current operations, policies and practices
- Assist in planning: set goals, targets, and timelines
- Participation in energy challenges or benchmarking programs

Slide content contribution: EPA
Benchmarking can seem complicated

• Compiling data from multiple sources
• Associating meters with the correct facilities
• Interpreting results
• Using a Benchmarking Tool
• Reviewing the data for completeness
• Cooperation from other staff
Being thoughtful about Benchmarking

• Creating a benchmarking plan allows for a strategic approach to the benchmarking process

• Avoid pitfalls of the piecemeal process (lack of data needed for the tool or for the results), stalled out cooperation, inability to benchmark against others

• Speak the language of those interested

• Allow for room to grow capabilities

Graphic: EPA
Engaging the Right People

- Secure Top Management buy-in
  - Demonstrates the organization’s commitment to benchmarking
  - Influences the outputs and outcomes of the benchmarking program

- Build a benchmarking team
  - Helps distribute some of the work around the organization
  - Brings in the expertise of varying perspectives

- Connect with data sources
  - Understand the current process
  - Identify avenues for effective data sharing
Secure Buy-in from Leadership

• A critical element of success is the involvement of top management.
  – Secure buy in from top management for initial endorsement
  – Ensure top management is a part of regular review and communication

• Present the case for benchmarking to demonstrate the value
  – Provide list of benefits that benchmarking offers
  – Present significance of energy costs to demonstrate need for energy data management

Energy expenditures average more than $2 per square foot in commercial and government buildings, making energy a cost worth managing. By making energy performance measurable and visible, building owners can improve the efficiency of their buildings, which can drive new investment and create an estimated 5 to 15 green jobs per $1 million invested.

http://buildingsdatabook.eren.doe.gov/ChapterIntro3.aspx

www.epa.gov/cleanenergy/documents/suca/rdee_toolkit.pdf
Making the Case for Benchmarking

www.energystar.gov/publications
Build a Benchmarking Team

• Establish the Benchmarking Program Coordinator/Project Manager
  • One or more person may be required
  • Clearly define the role of the Program Coordinator
• Identify key personnel in the organization to implement the benchmarking plan
  • Involve personnel with familiarity to the energy data and whose work will be affected by the benchmarking program. Good candidates include:
    • Maintenance
    • Operations
    • Purchasing
    • Human Resources
    • Environmental, Health and Safety
    • IT
Collecting and tracking benchmarking data can be a substantial effort. When appropriate:

- Look for “pro bono” help with analysis from local stakeholders (e.g., interns or college/university expertise, non-profits, and local weatherization agencies).
- Use this part of the project as a professional development opportunity for a local government’s financial analysts or junior engineers.
- Hire consultants such as energy service companies (ESCOs) or third-party providers.
- Incorporate benchmarking into energy efficiency projects and contracts. Some ESCOs will offer free benchmarking as a way of developing business opportunities.
Connect with Data Sources

• Understand existing energy data management process
  – Engage relevant departments and staff to learn about how bills are managed (department heads, accounting, HR, facility management, general services, etc)
  – Inventory buildings and meters, map out metering configuration

• Maintain Relationships
  – Create a clear picture of how the data is being used
  – Demonstrate the value of benchmarking to existing operating practices (more than just a reporting exercise)
  – Provide open avenues for feedback from data sources
**Educate the team**

- Train benchmarking staff for consistent and accurate results
  - Kick-off meetings to lay out program overview and expectations
    - Program outcomes
    - Timeline
    - Roles
  - Provide benchmarking tool training and support
    - Live demo’s of benchmarking software
    - Product training from the manufacturer

- Provide clear instructions and guidelines on data taxonomy
  - Space type definitions (education space vs. lab space)
  - Operating characteristics (FTE’s, operating hours, ‘occupied’)
  - Asset data (predominant lighting type of HVAC equipment)
Sample Data inputs – General Office

General Building Information
• Facility name
• Year built
• Building address (ZIPCODE!)

Space Use Attributes (General Office)
• Gross floor area (SF)
• Weekly operating hours
• # of workers on main shift
• # of personal computers
• Percent of floor area that is air conditioned(>=50%, <50%, or none)
• Percent of floor area that is heated (>=50%, <50%, or none)

Determine a Data Collection Method

• Select a collection method that addresses how the data is currently managed.
• Data can be collected and aggregated in several ways.

Common techniques:

<table>
<thead>
<tr>
<th>Portfolio Manager strategies for data collection</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td>Concept</td>
</tr>
<tr>
<td><strong>Centralized</strong></td>
<td>Create a central account to host all organization benchmarking data. Department/facility data is shared with the benchmarking coordinator/team for input</td>
</tr>
<tr>
<td><strong>Decentralized</strong></td>
<td>Create a central account to host all organization benchmarking data. Create separate accounts for department or facility managers to benchmark their subset of buildings. Use the sharing function in the tool to transfer benchmarking data to the central account</td>
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General Approach Tips

- Develop a building and meter configuration map
  - Chart out meter association with facilities during outreach to the data sources
  - Ensure shared building or energy data is appropriately assigned
  - Create building inventory list to understand facility grouping

- Establish a consistent naming convention
  - Account for organizational hierarchy and building information as needed (i.e. Jurisdiction_Dept_buildingtype_name - CITY_DGS_MFH_CenterStreet)
  - For multiple accounts, standardize username and passwords

- Clearly define data taxonomy
  - Space type definitions, including mixed use: (CBECS Broad Building Category Definitions, Portfolio Manager Space Type Definitions)
  - Operating characteristic definitions (Criteria for Rating Building Energy Performance: Operating Characteristics)
  - Building Characteristics (Buildings Energy Data Exchange Specification)

- Standardize data collection process
  - Report templates (Data Collection Template)
  - Sharing instructions (Portfolio Manager Sharing instructions)
Centralized Approach

• Create a central account to host all organization benchmarking data.
• Department/facility data is shared with the benchmarking coordinator/team for upload into the tool.
• Reports can be generated at the portfolio level and sent back to the appropriate staff.
Centralized Approach

• Benchmarking team or coordinator role
  – Organizes training and instructions to staff for consistent sharing
    • File types/templates
    • Benchmarking definitions
    • Period ranges
  – Establishes and communicates program timelines
  – Uploads data into account (manual, bulk, direct exchange)
  – Performs final data scrub and reconnects with staff for clarification
  – Monitors progress and analyzes trends
  – Provides portfolio wide reports to top management and benchmarking staff

• Benchmarking staff responsibilities
  – Complete reporting templates and performs basic QA/QC
  – Shares data with benchmarking coordinator
  – Resolves issues with data quality
Decentralized Approach

- Create a central account to host all organization benchmarking data.
- Create separate accounts for department or facility managers to benchmark their subset of buildings.
- Use the sharing function in the tool to transfer benchmarking data to the central account.
Decentralized Approach

• Benchmarking team or coordinator role
  – Organizes training and instructions to staff for consistent sharing
    • File types
    • Benchmarking definitions
    • Date ranges
    • Access privileges
  – Ensures proper grouping and aggregation and final data scrubbing
  – Establishes and communicates portfolio wide timelines
  – Monitor overall progress and analyze trends
  – Provides portfolio wide reports to top management and benchmarking staff

• Benchmarking staff responsibilities
  – Individually maintain account of unique facilities
  – Complete reporting templates for upload or manually enter data
  – Perform basic QA/QC
  – Share facility information to appropriate group accounts
  – Resolves issues with data quality
  – Monitors progress for their subset of buildings
Management Tool – Helps business and organizations by offering a platform to:
- Assess whole building energy and water consumption
- Track changes in energy, water, greenhouse gas emissions, and cost over time
- Track green power purchases
- Share/report data with others
- Create custom reports
- Apply for ENERGY STAR certification

Metrics Calculator – Provides key performance metrics to integrate into a strategic management plan
- Energy consumption (source, site, weather normalized)
- ENERGY STAR 1-to-100 score (available for 15 building types)
- Greenhouse gas emissions (indirect, direct, total, avoided)
- Water consumption (indoor, outdoor)

Accessible in a free, online platform: www.energystar.gov/benchmark
Establish Top-level Commitment

- Secure buy-in from management by demonstrating concrete savings potential using financial metrics
- Adopt a policy that establishes a commitment to benchmark all public buildings
- Policy should include activities that match stated goals:
  - Manage energy performance in a standard platform
  - Identify opportunities to improve performance throughout your portfolio
  - Measure progress towards established energy or GHG reduction goals
  - Report savings (energy, cost, GHG) internally and externally
- Refer to existing state and local policies
  - Connecticut, Delaware, Washington, New York City, Minneapolis, and more at www.energystar.gov/government
Plan

Plan a reporting strategy
- Determine a baseline period based on established goals
- Plan to capture reporting metrics available in Portfolio Manager
- Set a timeline to share results and plan to integrate benchmarking data into EE project development
- Set schedule for public reporting

| Whole Building Energy Use                      | Change from baseline: total energy use |
|                                   | Weather-normalized energy use intensity (Kbtu/square foot) |
|                                   | 1-100 Energy Performance Score (where available) |
| Electricity                        | Electricity saved per year (kWh) |
|                                   | % savings of kWh per year |
| Natural Gas                        | Natural gas savings per year (therms or CCFs) |
|                                   | % savings natural gas per year |
| Other Key Metrics                  | Comparison to the national average (CBECS) |
|                                   | Total on-site renewable energy production |
|                                   | Total green house gas emissions |
|                                   | Energy cost (total and per square foot) |
Plan

✓ Determine the **number of Portfolio Manager accounts** you need and assign personnel from each division to manage each Portfolio Manager account.
Plan

✓ Determine points of contact and roles and responsibilities
✓ Determine the size of your portfolio, where the space and utility data is stored, who maintains it, and how account managers can find it
✓ Create a naming convention for buildings
  ✓ For example, if Building1 belongs to the organization’s East Region (ER), you may name it “ER_Building1.” Consistency is key in naming buildings.
✓ Agree on a benchmarking method for transferring energy and water consumption data to Portfolio Manager.
  – Single Building manual data entry: See the Benchmarking Starter Kit
  – Bulk data upload: See Bulk data upload templates
  – Data Exchange services: See Portfolio Manager Data Exchange
✓ View training resources offered by ENERGY STAR or SPPs
Collecting Benchmarking Data

✓ Create account(s)
✓ Collect and enter building characteristics
✓ Collect and input (or review) energy and/or water data
✓ Ensure accuracy of the data entered into and calculated metrics received from Portfolio Manager
✓ Share access with the upper level Portfolio Manager accounts
✓ Participate in further training once the benchmarking process begins
Collect and Enter Data with Import Templates

Portfolio Manager allows you to import data for multiple facilities using a downloadable Excel template.

To import the data into Portfolio Manager, e-mail the completed template to buildings@energystar.gov.
Collect and Enter Data with Multi Facility Meter Updates

✔️ Once you have established an account and benchmarked your buildings, you should update energy data on a regular basis.
1. Create/edit a Portfolio Manager account  
   – Basic contact information for the account owner

2. Add/edit a property  
   – Property name, actual street address, and zip code

3. Add/edit a space  
   – Focus on the building’s primary function; list as few space types as possible  
   – Include parking garages only if not separately metered

4. Add/edit energy and water meters  
   – At least 12 straight months of energy use data for all fuel types for the same period  
   – From the “My Portfolio” page, use the View, “Summary: Energy Use”: An alert may appear if there is a problem with the data
Portfolio Manager Quality Assurance Resources

- Use the **data collection worksheet** for guidance on compiling space attribute data.
- **Portfolio Manager Help** clarifies space type definitions.

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**ENERGY STAR® Portfolio Manager Data Collection Worksheet**

This worksheet was designed to help building owners and managers collect data to benchmark buildings using EPA’s ENERGY STAR Portfolio Manager. The information in this worksheet will be used to establish your building’s profile in Portfolio Manager, which is critical to calculate benchmarks of key metrics such as energy intensity and costs, water use, and carbon emissions. All building types can be entered into Portfolio Manager and receive energy and water benchmarks, as well as a comparison of performance against a national average for buildings of a similar type.

Some buildings will also receive an ENERGY STAR score. The ENERGY STAR score is a benchmark that indicates how efficiently buildings use energy on a 1-100 scale. A score of 50 indicates that energy performance is average compared to similar buildings, while a score of 75 or better indicates top performance, and means your building may be eligible to earn the ENERGY STAR label. To receive an ENERGY STAR score, the gross floor area of the building must be comprised of more than 50% of one of the following space types: bank/financial institution, courthouse, data center, hospital (general medical and surgical), hotel, house of worship, K-12 school, medical office, office, residence hall/dormitory, retail store, senior care facility, supermarket/grocery store, warehouse (refrigerated and unrefrigerated), and wastewater treatment plant.

**Use this worksheet to collect the data for all space types applicable to your facility.**

**Required Data for ENERGY STAR Benchmarking**

- **Portfolio Manager username and password.**
- **The building street address, year built, and contact information.**
- **The building gross floor area and key operating characteristics for each major space type. Use this worksheet to collect this information before logging in to Portfolio Manager.**

**Medical Office:**

- **Required:**
  - Gross floor area (SF)
  - # of workers on main shift
  - Weekly operating hours
  - Percent of floor area that is cooled in 10% increments (10%, 20%, 30%, etc.)
  - Percent of floor area that is heated in 10% increments (10%, 20%, 30%, etc.)

**General Office 1:**

- **Required:**
  - Gross floor area (SF)
  - Weekly/operating hours
  - # of workers on main shift
  - # of personal computers
  - Percent of floor area that is air conditioned (>=50%, <50%, none)
  - Percent of floor area that is heated (>=50%, <50%, none)
Complete Meter Data: All meters must have complete usage data through the entire reporting period.

Gaps and Overlaps in Meter Data: Gaps or overlaps in the meter data of more than one day will cause errors.

Length of meter entries: No individual electrical meter entry can be for a period longer than 65 days.

Extreme Energy Use Intensity (EUI) or Water Use Intensity (WUI) values, or Extreme Fluctuations:
- Mismatched units
- Missing digits
- Extra digits Transposed digits
- Swapped cost and consumption information
Fold EPA Training Resources

✓ **Train your team** using the following no-cost training resources available online at:
  
  www.energystar.gov/buildingstraining
  
  – ENERGY STAR Overview / Portfolio Manager Overview
  – Arrange an internal Portfolio Manager detailed training
  – Portfolio Manager FAQ (portfoliomanager.supportportal.com)

✓ Homework for account managers—After they have completed the basics of benchmarking training, encourage all account managers to view a detailed training session and benchmark at least one building

✓ For more information, visit www.energystar.gov/benchmark
Portfolio Manager Upgrade – coming in June!

✓ New features throughout
  - Completely new look and feel
  - Streamlined data management
  - Improved reporting

✓ All data currently in existing Portfolio Manager accounts will be transferred

✓ Register for EPA’s next webinar (4/11 and 4/15) to get ready for the launch in June at: www.energystar.gov/pmupgrade
Additional Information

Visit [www.energystar.gov/buildings](http://www.energystar.gov/buildings)
E-mail [buildings@energystar.gov](mailto:buildings@energystar.gov)

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Benchmarking: Outreach and Collection

State of Delaware – March 2013
Delaware began benchmarking in 2010.
  - Requirement for executive agencies
    - Executive Order 18: Leading by Example
  - Baseline for benchmarking was 2008.
  - We continue to report through 2015.
  - Data is used extensively for planning.
    - Ongoing maintenance & operations
    - Energy conservation & efficiency projects
    - Greenhouse gas mitigation
    - Opportunities for renewable energy
Outreach – Top-Down Approach

Governor – EO 18

Cabinet

EO 18 Workgroup

Executive Branch Agencies

Utility Providers
Outreach – EO 18 Kick Off

- Issued February 17, 2010
  - Media blasts from Governor’s Office and agencies
    - Press releases, fact sheets, posters
      - Many can still be found on agency websites today.
  - Cabinet-level support and oversight
    - Cabinet Committee on Energy
  - EO 18 Workgroup
    - Sustainability Managers from each department
      - Division Directors, Bureau Chiefs, other managers
Outreach – Management Buy-In

- EO 18 Workgroup prepared a plan for Cabinet approval within 3 months.
  - Presented to the Cabinet with Executive branch agencies in attendance
    - Slide show, discussion, implementation guide
    - Included deliverables for:
      - Identifying owned facilities/gathering insurance reports
      - Identifying facility managers
      - Selecting a benchmarking program
      - Entering/maintaining data

- Cabinet approved the plan.
Outreach – Accountability

- Workgroup met monthly, reported to the Cabinet quarterly.
  - Meetings convened at a central location with optional teleconference attendance
    - Mostly teleconference since 2012
  - Reports emailed to the Chair of the Cabinet Committee on Energy
    - Compiled from decentralized reports provided by each agency on the EO
      - Standardized template
    - Drafted by the co-chairs of the EO 18 Workgroup
Outreach – Promoting Value

- Workgroup maintained momentum with agencies through decentralized communications.
  - Email blasts to agencies
    - Overall desired outcomes of the EO
    - Ways to benefit from energy-wise thinking at home
  - Green committees made up of agency staff
    - Participation in the EO
    - Fiscal benefits of energy initiatives
  - Posters and signs throughout owned facilities
    - Ways to conserve energy
    - Energy efficiency projects
Collection - Foundations

- Workgroup identified facilities through state property lists.
  - Specific to each department
  - Included age, sq footage, physical address

- Workgroup contacted fiscal offices for utility providers and account numbers.

- Reporting staff contacted utility providers for usage reports and/or invoice copies
  - Some preferred to work through their fiscal offices.
  - Most documents were/continue to be emailed.
Collection – Gathering Techniques

- Manual Requests
  - Agency-to-Fiscal
  - Agency-to-Utility

- Streamlined Periodic Reports
  - (Typically monthly)
  - Fiscal-to-Agency
  - Utility-to-Agency
  - Online
EO 18 Workgroup learned ENERGY STAR’s Portfolio Manager.

Each Sustainability Manager trained his/her agency staff.

- Building data
  - Year built, square footage, occupancy, space uses
- Utility data
  - Number of meters, types of energy sources, account numbers, who pays, billing frequency
- Actual utility invoices and/or spreadsheets
  - Energy units (kWh, ton-hours, gal, ccf)
  - Energy costs (total versus just distribution or supply)
Agencies report directly into Portfolio Manager.

OMB is the central sharing point for aggregation and analysis of the State portfolio.

- Sends analyses through:
  - Email communications
  - Secure file-sharing cloud

OMB helps agencies work through Portfolio Manager.

OMB reaches out to the Workgroup for:
- QA/QC of data & energy use

OMB reports publicly on its agency website.
Collection – Lessons Learned

- **Manual Requests**
  - Work best when used for a small pool of accounts and when executed regularly (1-3 months)

- **Streamlined Periodic Reports**
  - Work great for larger groups of accounts
  - Relationships matter!
    - Educate your contacts on what you need, why you need it, and thank them often.
    - Chances are, they are providing a unique service specifically for you.

- **Be prepared to offer ongoing training and support**
Questions?

Rachel Emerson, Co-Chair of the Executive Order 18 Workgroup
LEED AP O+M
Energy Resource Manager
Office of Management and Budget
State of Delaware

Rachel.emerson@state.de.us
Better Buildings Alliance

- Opportunity for governments to work collaboratively with DOE to advance their clean energy goals
- Helps members sustain success of ARRA funded work
- Leverages DOE expertise
- Provides forum to engage with peers around actionable steps
- Public sector Project Teams focus on strategic target areas:
  - Community Strategic Energy planning
  - **Data Management Approaches**
  - Finance Strategies
  - Energy Savings Performance Contracts (ESPC)
  - Technical areas (lighting, HVAC, plug loads, data centers, etc.)
Alliance Members Agree to:

- **Commit**
  - Assign a representative
  - Share energy savings goals, encouraged to be an annual goal of >2%

- **Act**
  - Work to achieve goals and monitor progress
  - Participate in at least one BBA workgroup or activity

- **Share**
  - Provide annual updates on energy savings and progress toward meeting goals
  - Share your successes and help other members replicate your results
DOE Agrees To:

- **Assist**
  - Provide information and resources to help members meet energy goals
  - Work with members to create new resources and tools

- **Connect**
  - Provide a neutral, third-party platform for peers to build solutions
  - Connect members with financial allies for financing solutions

- **Inform**
  - Keep members informed through regular BBA communications and webinar series
  - Provide access to DOE and trusted third-party resources
Data Management Approaches Project Team

- Will equip members with knowledge, tools, peer-exchange, and feedback to develop data management practices
- Leverage existing data management materials
- Sessions held via facilitated webinar
- Participants will execute data management practices in real time as they are discussed in WG sessions
- Insights participants gain through process will be shared with peers during Project Team meetings
Better Buildings Alliance

Installation of night curtains
Whole Foods Market, a BBA member, installed night curtains to cover the refrigerated produce cases when stores are closed. This strategy lowers the cooling load on the refrigeration case by about 40% during unoccupied periods.

Join the Better Buildings Alliance
Commercial buildings—our offices, schools, hospitals, restaurants, hotels and stores—consume nearly 20 percent of all energy used in the United States. We spend more than $200 billion each year to power our country’s commercial buildings. Unfortunately, much of this energy and money is wasted: a typical commercial building could save 20 percent on its energy bills simply by commissioning existing systems so they operate as intended. Energy efficiency is a cost effective way to save money, support job growth, reduce pollution, and improve competitiveness.

Through the Better Buildings Alliance, members in different market sectors identify specific barriers and work with the U.S. Department of Energy’s (DOE) exceptional network of research and technical experts to develop and deploy innovative, cost-effective, energy-saving solutions that lead to better technologies, more profitable businesses, and better buildings in which we work, shop, eat, stay, and learn.

http://www1.eere.energy.gov/buildings/betterbuildings/bba/bba-index.html
Interested in the Better Buildings Alliance?

For more information on the Better Buildings Alliance, please send questions to bba@ee.doe.gov
Question and Answer Time

If you have questions or comments, let us know what you think

Type questions in the Question box in the control box on the right
Thank you for participating

Slides will be posted on the Solution Center
http://www1.eere.energy.gov/wip/solutioncenter/

More questions? Contact Joel Blaine – Joel.Blaine@ee.doe.gov