ENERGY STAR for Industry

E3 Energy Management Web Conference
October 25, 2012

Walt Tunnessen
ENERGY STAR
National Program Manager
US EPA
What is ENERGY STAR?

• Voluntary Government Partnership Program

• Established by EPA in 1992 to help address climate change

• Focused on the energy efficiency of:
  - Products
  - Homes
  - Buildings & Industrial Plants
  - Organizations

• The national symbol for energy efficiency
What we believe

Effective energy management practices
+
Strong energy programs
+
Organizational culture focused on efficiency

= Continuous energy performance improvement
ENERGY STAR for Buildings & Plants

ENERGY STAR works with companies to develop stronger energy management programs by offering:

- Energy Management Guidance
- Energy Program Resources
- Benchmarking & Tracking Tools
- Recognition Opportunities for Achievements
- Sector Specific Tools & Resources
- Instructive Partnership Program

ENERGY STAR helps companies build a culture focused on efficiency.
Energy Management Guidance

ENERGY STAR offers proven guidance for developing strong energy management programs. Key tools include:

**Guidelines for Energy Management**
- Provides a framework for how to implement an energy program; based on a “plan-do-act-check” approach.

**Energy Program Assessment Matrix**
- Evaluates energy management practices and program to identify gaps.

**Facility Energy Assessment Matrix**
- Evaluates facilities energy management practices to identify gaps.

**Energy Strategy for the Road Ahead**
- Helps company develop long-term strategies for addressing energy risks to the business.
Energy Program Resources

ENERGY STAR offers tools and resources to support energy programs:

**Teaming Up to Save Energy**
- Guidance on how to build an energy team.

**Partner Networking Web Conferences**
- Monthly series showcasing successful energy management strategies among the partnership.

**Employee Engagement Materials**
- Information, posters, literature, and other resources to help build energy awareness among employees.

**Communication Resources**
- Posters, materials and tools to help you drive change.
Guidelines for Energy Management

ISO 50001

- Make Commitment
- Assess Performance & Set Goals
- Create Action Plan
- Evaluate Progress
- Recognize Achievements

Continual improvement:
- Energy policy
- Planning
- Implementation and operation

- Management review
- Internal audit
- Checking
- Corrective and preventive action
- Monitoring and measurement

Re-Assess
## Differences

<table>
<thead>
<tr>
<th></th>
<th>ENERGY STAR</th>
<th>ISO 50001</th>
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<tbody>
<tr>
<td>Certifies energy performance</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Certifies management practices</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Offers energy management tools</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Requires documentation of management processes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Provides guidance on energy management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Requires staffing at site seeking certification</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Requires top management to be engaged with energy management</td>
<td>For partnership only</td>
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</tr>
<tr>
<td>Cost for certification</td>
<td>Free to low cost</td>
<td>$$$ (15,000 &amp; up)*</td>
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</table>

* = Based on early estimates. Cost will depend on size of site. Does not include staff costs.
Energy Management Pathways

Interested in energy management systems?

Introduce the ENERGY STAR tools

Wants a “standardized” approach?

Wants to show that energy management is important

Recommend ENERGY STAR Partnership

Encourage ENERGY STAR recognitions

Encourage Certification

Wants to demonstrate conformance to ISO

Use 50001 as a reference

Wants recognition of energy performance
Energy Management Starting Point

Energy Program & Facility Assessment Matrixes

Used to evaluate energy program practices & identify gaps
BENCHMARKING & TRACKING TOOLS

ENERGY STAR offers tools to help companies benchmark and track their energy performance:

**Plant Energy Performance Indicators (EPIs)**
- Scores the energy performance of specific industrial sites against the sector nationally. Spreadsheet based tool.

**Energy Tracking Tool**
- Helps establish production based energy intensity metrics, set goals, and track performance. Spreadsheet based tool.

**Portfolio Manager**
- Scores the energy performance of selected commercial buildings and warehouses. Web-based energy tracking system for buildings.

www.energystar.gov/industrybenchmarkingtools
Plant Energy Performance Indicators

Data in: Production, plant & energy

Results out: Comparative metrics, Energy Performance Score
Energy Tracking Tool

- Basic energy tracking tool
- Spread sheet based
- Intended for manufacturing sites
- Tracks energy, energy costs, & production
- Fairly flexible & customizable
- Provides various energy & GHG metrics
- Designed to encourage goal setting
- Designed to support sites take the Challenge for Industry
- Dashboard feature
- Generates Reports

www.energystar.gov/industrybenchmarkingtools
ETT or Portfolio Manager?

ETT – tracks BTU/production
PM – tracks KBTU/Sq Ft

- Where are the biggest energy loads?
- Does production drive energy use?
- Is weather a key driver of energy use?

“60% rule” – If 60% of energy loads are tied to industrial processes, the site should use a production based EUI metric. (MMBTU / lbs of product)
## ENERGY STAR Industrial Focuses

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<tr>
<th>Focus</th>
<th>Peer Exchange Network</th>
<th>Industrial Energy Guide</th>
<th>Energy Performance Indicator</th>
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## ENERGY STAR Industrial focus - cont’d

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</table>
Small and Medium Sized Manufacturers’ Guide to Energy Management

Understanding the Basics of Successful Energy Management

Finding energy savings starts by making energy management a priority.

Sustaining those savings and driving further reductions requires building energy management into your company’s culture.

ENERGY STAR can help you get started regardless of the size of your company.

Scale Energy Management to your Company

Begin Finding Energy Savings

Locate Resources and Assistance Programs to Offset Costs

Communicate to Employees and Customers
Begin Finding Energy Savings

Is capital tight? Better operating practices and equipment tune-ups help many manufacturers achieve significant energy savings — at little cost.

Start saving now. Read our easy-to-use guide to identify energy saving opportunities that can be made in your plant.


Need some quick tips? Use our animated tour of energy savings in a manufacturing plant. Share the video with your employees to get them thinking about energy savings, too!

Tour a manufacturing plant and find ways to save energy by clicking on the icon above!

Get started on finding savings. Use the checklists below to begin to identify energy savings in your plant.

**Lighting**

Lighting is a significant energy use and cost for most manufacturers, and an area with many opportunities for savings.

<table>
<thead>
<tr>
<th>Lighting Focus Area</th>
<th>Action Items</th>
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<tbody>
<tr>
<td>Are unoccupied areas lit?</td>
<td>See Section 4.1 in Managing Your Energy: An ENERGY STAR Guide for Identifying Energy Savings in Manufacturing Plants</td>
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<tr>
<td>Are lights left on during non-work hours?</td>
<td></td>
</tr>
<tr>
<td>Are parts of the facility over-lit?</td>
<td></td>
</tr>
<tr>
<td>Is older, inefficient technology in use?</td>
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</table>
Recognition is a tool!

- Creates a “prize” for good energy management
- Helps to engage and motivate people
- Raises awareness about energy efficiency opportunities & responsibilities
- Builds support for energy initiatives
## ENERGY STAR Recognition

<table>
<thead>
<tr>
<th>Category</th>
<th>Recognizes</th>
<th>Who can participate</th>
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<tbody>
<tr>
<td><a href="https://www.energystar.gov">ENERGY STAR AWARD</a></td>
<td>World-class corporate energy management programs.</td>
<td>Companies that are ENERGY STAR Partners.</td>
</tr>
<tr>
<td><a href="https://www.energystar.gov">2011 ENERGY STAR CERTIFIED PLANT</a></td>
<td>Best-in-class energy performance.</td>
<td>Only plants / sectors where an ENERGY STAR energy performance rating has been created.</td>
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<tr>
<td><a href="https://www.energystar.gov">ENERGY STAR CHALLENGE for INDUSTRY ACHIEVER</a></td>
<td>Plants that reduce their energy intensity by 10% within 5 years or less</td>
<td>Any manufacturing plant.</td>
</tr>
</tbody>
</table>
Challenge for Industry

Challenges industry to:

- Achieve a 10% reduction in annual energy intensity achieved in 5 years or less.

- Based on an intensity metric selected by the site.

- Calculated against an internal baseline at an industrial site.
How It Works

Sites participate by:

- Selecting an **energy intensity metric**.
- Establishing a **baseline**.
- Creating an **Energy Tracking Plan** if site does not have existing data management procedures.
- Setting a **10% improvement goal**.
- **Signing-up** for the Challenge for Industry
- **Verify** savings if goal is achieved.
Results to date

- Over 530 Sites have taken the Challenge for Industry
- 172 Sites have achieved the Challenge
- Over 33 Trillion BTUs saved!
  - = Enough energy to power @ 750,000 homes for 1 yr.
- Over 1.8 Million MTCO2e avoided!
- 20% average reduction in 1.5 years
- Multiple groups promoting the Challenge

The Challenge for Industry was formally launched in May 2010. Estimates current as of October 2012.
Join at the company level.

Partnership is not a legally binding commitment or contract with EPA.

The ENERGY STAR Partnership letter is an energy management tool:

- Kick off energy initiative, or
- Take existing program to next level.

Partners commit to improve energy performance, but:

- ✓ No reporting.
- ✓ No mandatory goals.

www.energystar.gov/join
ENERGY STAR for Industry

Who
- All Manufacturers
- Specific Sectors

Main Offerings
- Energy Management Resources

Objective
- Challenge for Industry
  - 10% Reduction in 5 Years
- Industrial Focus EPI
  - Energy Guide Focus Group
- ENERGY STAR Plant Certification
  - Improve industry EE
Questions / Comments

Contact Information:

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202 - 343- 9965