AIAG: Who We are

- Globally recognized trade association founded in 1982

- Unique forum to collaborate on emerging industry threats & issues
  - OEM’s, Suppliers of ALL sizes, Service Providers, Government & Academia

- Our Strength
  - 3,900+ member companies & growing!
  - 538 Industry volunteers providing expertise
  - Many active projects and committees
  - 51 Employees

- Subject matter experts on staff in Quality, Corporate Responsibility and Supply Chain Management
Walt Tunnessen is the National Program Manager for the U.S. EPA’s ENERGY STAR program for Industry, a voluntary government program that works with hundreds of businesses and organizations to reduce greenhouse gas emissions through improved energy efficiency...
Agenda

• Background on ENERGY STAR
• Industrial program approach
• Work with Motor Vehicle Sector
• Recognition opportunities
• How to get involved
• Discussion / Questions
Program Goal

Reduce energy-related greenhouse gas emissions by promoting energy-efficiency

✓ ENERGY STAR is the oldest EPA climate change mitigation program

✓ Since 1992, ENERGY STAR and its partners have helped save more than 4 trillion kWh of electricity and prevent over 3.5 billion metric tons of CO2e
EE is a cost effective reduction strategy

- Improved energy efficiency
- Reduces fuel use
- Reduces electricity use
- Lowers direct CO2 emissions
- Lowers indirect CO2 emissions (powerplant)
- Lowers energy bills
EE in Industry – Not just technology

Key factors for affecting EE in industry:

- Organizational policies and priorities
- Operating & management practices
- Organizational culture
- Energy management *program* vs *project* mentality
Energy Management in US Industry

Huge range energy management practices:

Noticeable differences between:

- Sectors
  - Energy intensiveness
  - Seasonal vs 24/7
  - Customer expectations

- Companies
  - Organizational culture & structure plays a big role

- Geography / location

Established Energy Program at Company or Corporate level

Level of energy management

Realized energy savings
ENERGY STAR Industrial Program

Promotes Industrial EE through:
- Guidance and tools
- Sector-specific initiatives
- Recognition programs
- Industrial Partner Network

www.energystar.gov/industry
“Strategic Energy Management”

Energy Star Guidelines for Energy Management

Environmental Management System

Continuous Improvement

Certification is not a requirement!
Energy management is scalable

• Energy programs reflect company size & culture

• Energy responsibilities can be integrated into existing positions

• Energy management is a “team” activity but needs a captain
Energy Management Resources

• Guidelines for Energy Management - Guidance for building an energy program.
• Energy Program Assessment Matrix - Company EMS evaluation tool
• Facility Energy Program Assessment Matrix - Plant level evaluation tool
• Teaming up to Save Energy - Guidance on building an energy program.
• Energy Treasure Hunt Guidebook - Instructions for energy treasure hunts.
• Employee Engagement Resources - EPA offers a wide range tools and resources.
• Energy Performance Indicators - Sector-specific benchmarking tools
• Energy guides - Sector-specific guides on energy saving opportunities.
• Energy management videos - Short videos that promote energy management

www.energystar.gov/industry
**Tip – Try the assessment matrices**

Do a quick gap analysis of your company’s & site energy management practices.

www.energystar.gov/assessfacility
ENERGY STAR & Motor Vehicle Sector

- Worked with the OEM MV companies since 2000

- Developed “EPIs” for assembly, engine, & transmission plants

- Benchmark and share energy management best practices regularly

- Many OEM companies are active in the ENERGY STAR partner network
MV Suppliers & ENERGY STAR

• Suppliers are ENERGY STAR partners or participate in the program

• Several supplier plants have taken the Challenge for Industry
Recognition is a great efficiency tool!

• Engages and motivate people
• Raises awareness about energy efficiency opportunities & responsibilities
• Builds support for energy initiatives
• Makes the energy program more visible
• Makes energy less abstract to non-energy people.
• Drives additional savings
ENERGY STAR® Treasure Hunt Campaign

Leading Organizations to Uncover Energy Gold in Their Buildings or Facilities
Energy Treasure Hunts

• Process for finding no and low cost energy savings opportunities.

• Involves internal staff who may be supplemented by outside experts

• Engages senior management / financial decision makers to authorize action on projects

• Establishes an action plan for implementation
Treasure Hunts vs Audits

- TH are less threatening to employees than audits or assessments
- TH find “opportunities,” not problems
- TH look for operational & behavioral opportunities
- TH engage employees responsible for implementation
- TH help build energy teams
- TH get management approval to implement findings
- TH can be expanded to address water, safety, and other issues.
Start Planning Your Treasure Hunt

www.energystar.gov/TreasureHunt
During an Energy Treasure Hunt, teams walk around a facility looking for quick ways to save energy. Those quick fixes can add up to big savings. Hundreds of organizations have used Energy Treasure Hunts to reduce their facilities’ energy use by up to 15 percent. Are you and your crew ready to find the treasure buried within your facilities?

<table>
<thead>
<tr>
<th>Organization</th>
<th>Potential Savings (MMBtu)</th>
<th>Potential Cost Savings (millions of dollars)</th>
<th>Potential Emissions Avoided (metric tons CO2e)</th>
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<tr>
<td>Amcor</td>
<td>4,300,000</td>
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<td>Raytheon</td>
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</tbody>
</table>

2019 Results

35 organizations

145 Teams & Hunts

Lost of potential savings!

Energystar.gov/treasurehunt
Find the Treasure Campaign

1. **Conduct an Energy Treasure Hunt**
   - Organize a treasure hunt
   - Identify potential savings

2. **Add your energy savings to the Treasure Chest!**
   - Share your savings at through an on-line form at: [www.energystar.gov/treasurehunt](http://www.energystar.gov/treasurehunt)

3. **Get EPA Recognition for participating**
   - Be featured on [www.energystar.gov/treasurehunt](http://www.energystar.gov/treasurehunt)
   - Receive a printable certificate noting their contributions
   - Be included in an EPA communications about the campaign
The challenge:
Reduce energy intensity by 10% within 5 years or less.

The prize:
Recognition from the US EPA’s ENERGY STAR program
Increased efficiency & cost savings
Reduced environmental impacts
Challenge for Industry

• Plants pledge to reduce energy intensity by 10% within 5 years or less.
• Any type of manufacturing plant can participate.
• Metric used to track energy intensity (e.g. MMBTU/production) is determined by the plant or company.
  • SEM regression models can be used
• Reduction is calculated from a baseline registered with EPA.
• No annual reporting.
• Verification of improvement only required for recognition.

energystar.gov/industrychallenge
Why take the Challenge?

• Creates an understandable “prize”
• Helps to engage and motivate people
• Raises awareness about energy efficiency opportunities & responsibilities
• Builds support for energy initiatives
• Makes the energy program more visible
• Makes energy less abstract to non-energy people.
Taking the Challenge drives results

Taking the Challenge helped drive additional savings

- Agree: 80%
- Neutral: 20%

Energy performance after achieving the Challenge

- Continued to improve: 80%
- Remained flat: 16%
- Deteriorated: 4%

Source: 2016 Challenge participant evaluation.
Who can participate?

- Any **industrial site** can take the Challenge.
  - Not warehouses or offices buildings.
  - Your company does not have to be an ENERGY STAR partner.

- International sites of companies that are ENERGY STAR Partners can take the Challenge.

- To get recognition, the site’s company should join the ENERGY STAR partnership. It’s very easy!

- A site can take the Challenge and become an ENERGY STAR partner later.

- Canadian sites must register with NRCAN.
Whose taken the Challenge?

- 1685 baselines registered:
  - 1233 individual plants
  - 452 plants have participated multiple times

- Most active sectors:
  - Motor Vehicles (432 plants)
  - Baking (181)
  - Dairy (151)
  - Consumer Products (140)
  - Ready Mix Concrete (106)
  - Glass (99)
  - Paper (84)

Results as of 12/31/19
Whose achieved the Challenge?

530+ plants have “achieved” the Challenge since 2010:

- 19% average reduction within 2 years
- 166,394 MMBtu average energy savings
- Over 88 trillion BTUs of energy saved by all Achievers
- Over 16 million metrics tons of CO2e avoided.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Count</th>
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<tbody>
<tr>
<td>Motor Vehicles</td>
<td>192</td>
</tr>
<tr>
<td>Consumer Products</td>
<td>73</td>
</tr>
<tr>
<td>Manufacturing (broadly)</td>
<td>39</td>
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<tr>
<td>Dairy</td>
<td>30</td>
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<tr>
<td>Pharma</td>
<td>28</td>
</tr>
<tr>
<td>Baking</td>
<td>26</td>
</tr>
</tbody>
</table>

Results as of 12/31/19
Recognition Materials

Achiever logo artwork

Certificate

Letter to CEO

Customizable posters

Listed on ENERGYSTAR.gov
How to sign-up

Two options:

1. On-line registration form

2. Bulk Registration form (XL)
What does this Ohio assembly plant and this refrigerator have in common?
ENERGY STAR Certification

• Distinguishes best-in-class energy performance.

• Only for industrial plants where EPA has released an ENERGY STAR scale/score.

• Facilities must score a 75 or higher on an ENERGY STAR rating system are qualify for ENERGY STAR Certification.

• Plants can not have major Clean Air Act violations.

• Energy performance must be reviewed and certified by a Professional Engineer (PE).

221+ Industrial Plants have earned Certification since 2006

95 plants certified in 2019:
✓ 84 trillion BTUs in savings

Certification numbers as of December 2019
Energy Performance Indicators

- Auto Assembly Plants
- Auto Engine Plants
- Auto Transmission Plants
- Cement Manufacturing
- Commercial Bread & Roll Bakeries
- Container Glass Manufacturing
- Cookie and Cracker Bakeries
- Flat Glass Manufacturing
- Fluid Milk & Yogurt Processing
- Frozen Fried Potato Processing

- Integrated Pulp & Paper Mills
- Integrated Steel Mills
- Juice Processing
- Metal Casting:
  - Aluminum Casting
  - Iron (FE) Casting
- Nitrogenous Fertilizer
- Petroleum Refining*
- Pharmaceutical Manufacturing
- Pulp Mills
- Wet Corn Mills

* ENERGY STAR scored offered through the Solomons Associates benchmark.

In development:
- Breakfast Cereal
- Ice Cream Plants

www.energystar.gov/epis
Industrial Focuses

Key activities include:

✓ **Energy Guide** that identifies energy efficiency opportunities.

✓ **Energy Performance Indicator** (EPI) to benchmark performance of plants in the sector

✓ **Networking** among sector’s energy managers

✓ **Round table session** at Annual ENERGY STAR meeting
ENERGY STAR Certification

• Plants that receive a score of 75 or higher are eligible for ENERGY STAR certification.

• Energy Performance must be verified by a Professional Engineer.

• Certification is awarded annually.

• Must pass compliance screen

• No application fees for certification

• www.energystar.gov/plants
Recognition materials

Letter to CEO

Decal for plaque or door

Graphics for Flags, Banners, and Clings

Certificate

Listed on ENERGY STAR web site
Some final thoughts

• Most industrial plants can cut their energy use by 10% or more through better operating practices

• Improved efficiency can help reduce emissions

• Reducing thermal energy use (scope 1) emissions will be challenging for many plants

• Having energy team will be key for making smart choices for the future
Get Involved!

ENERGY STAR Industrial Partnership:

- Free & does not require reporting!
- Over industrial 800 companies have joined to:
  - Strengthen their energy program through coaching and mentoring
  - Network with other energy programs
  - Gain access to partner events and meetings
  - Demonstrate commitment to energy management

ENERGY STAR Industrial Partner Meeting
- Week of September 21st
- Will be virtual – no registration fee anticipated

www.energystar.gov/industrial
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www.energystar.gov/industry