



ENERGY STAR® Industry Partner Engagement Opportunities

Walt Tunnessen, US EPA ENERGY STAR
September 20, 2017



Agenda

- Background
- Strategic Energy Management (SEM) tools & resources
- Plant-level benchmarking tools
- The ENERGY STAR Challenge for Industry
- Leveraging ENERGY STAR recognition

By the numbers...

- 17 years of partnering with industry
- 950+ companies engaged
- 91 Fortune 500 industrial companies
- 31 sector-specific initiatives
- 15 plant benchmarking tools
- 175+ Certified industrial plants
- 426+ Challenge for Industry achievers
- 1 International partner – NR Canada



Approach

- Organizational management practices & programs
- Build energy efficiency culture
- Benchmarking & goal setting
- Recognition drives improvement
- Make it easy

Industrial Partnership

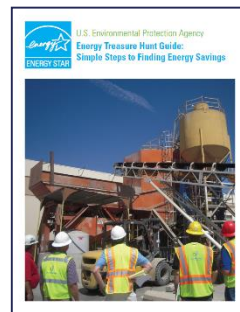
- Companies join ENERGY STAR to demonstrate a commitment to energy management
- Most are larger manufacturers
- Active participation by companies in sectors with industrial focuses
- Strong participation by companies with strong corporate energy management programs
- Increasing number of “supplier companies” joining ENERGY STAR
- ENERGY STAR partner companies are found in nearly every state



Strategic Energy Management

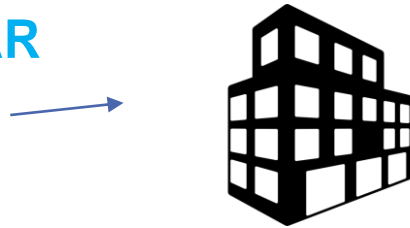
- **Guidelines for Energy Management** – Guidance for building an energy program
- **Energy Program Assessment Matrix** – Company EMS evaluation tool
- **Facility Energy Program Assessment Matrix** – Plant level evaluation tool
- **Teaming up to Save Energy** – Guidance on building an energy program
- **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



Corporate Industry

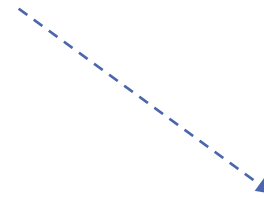
**ENERGY STAR
Industrial
program**



**Utility SEM
programs**



Small & Medium Manufacturers



Benchmarking & energy tracking tools

Plant Energy Performance Indicators (EPIs)

- Scores the energy performance of specific industrial sites against the sector nationally

Energy Tracking Tool

- Establishes production-based energy intensity metrics, set goals, tracks performance, and generates reports

Portfolio Manager

- Scores the energy performance of selected commercial buildings and warehouses. Web-based energy tracking system for buildings
- www.energystar.gov/industrybenchmarkingtools

Energy Performance Indicators (EPI)

- Sector-specific energy benchmarking tools for selected industrial sites.
- Determines the energy efficiency of a plant by comparing at against the performance of the industry.
- Uses a statistical model based on industry-wide data
- Provides a 1 to 100 rating
- Basis for ENERGY STAR Certification



Industrial Focus Sectors

Ammonia Fertilizer

Breakfast Cereal

Cement

Concrete

Commercial Baking

Cookies & Crackers

Breads & Baked

Goods

Corn Refining

Dairy Processing

Fluid dairies

Ice Cream

Fruit & Vegetable Processing

Juice

Potato Products

Tomato Products

Glass

Fiberglass

Flat glass

Container glass

Motor Vehicles

Assembly Plants

Engine Plants

Transmission

Metal Casting

Ferrous

Aluminum

Petrochemical

Manufacturing

Petroleum Refining

Pharmaceuticals

Printing

Pulp & Paper

Integrated Mills

Pulp Mills

Steel

Primary Steel

Mini Mills

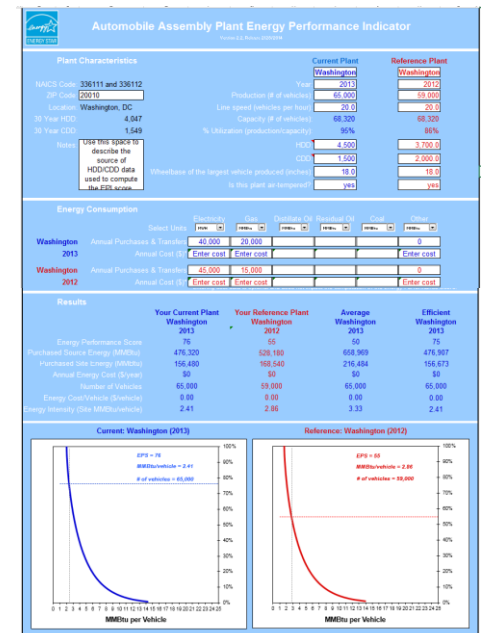
Current EPIs & Ratings

www.energystar.gov/epis

- Automobile Assembly
 - Cement Manufacturing
 - Commercial Bread & Roll Bakeries
 - Container Glass Manufacturing
 - Cookie and Cracker
 - Flat Glass Manufacturing
 - Frozen Fried Potato Processing
 - Integrated Pulp & Paper Mills
 - Integrated Steel Mills
 - Juice Processing
 - Metal Casting:
 - Aluminum Casting
 - Iron (FE) Casting
 - Pharmaceutical Manufacturing
 - Pulp Mills
 - Wet Corn Mills
- Recognized by EPA for ENERGY STAR Ratings:
- Petroleum Refining – Solomons

To be released this fall:

- Fluid dairies (Milk)
- Engine Plants
- Transmission Plants



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 cannot have major Clean Air Act violations
- Energy performance must be reviewed and certified by a Professional Engineer (PE)



175+ Industrial Plants have earned Certification since 2006

87 plants certified in 2016:
✓ 63 trillion BTUs in savings

Certification numbers as of December 2016

Ways Program Sponsors can use EPIs

Account managers:

- Ask if plant benchmarks; if not, provide EPI
- Ask about the plant's score:
 - If low – opportunity to engage on efficiency offerings
 - 75 or higher – work with plant to get certified

SEM programs:

- Provide as a benchmarking & goal setting resource
- Reinforces continuous improvement

Resource Acquisition:

- Use to evaluate sites for opportunities
- Low score plants = greater savings potential

Challenge for Industry

10% reduction in energy intensity within 5 years or less.

- Open to any manufacturing plant
- Reduction is based on the change from annual intensity baseline registered with ENERGY STAR
- Intensity metric (MMBTU/unit or MMBTU/sq ft) is determined by the plant or company
- No annual reporting
- Plants outside of the US can participate
- Verification process required for recognition

www.energystar.gov/industrychallenge

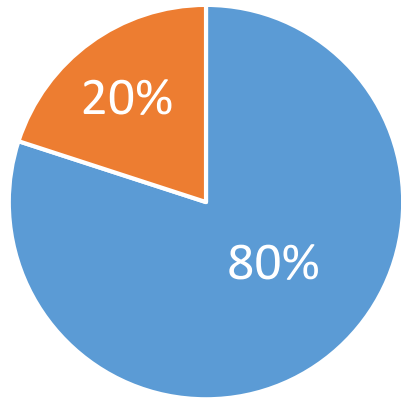


1330+ Challenge “takers” since 2010

426+ plants have achieved the Challenge.

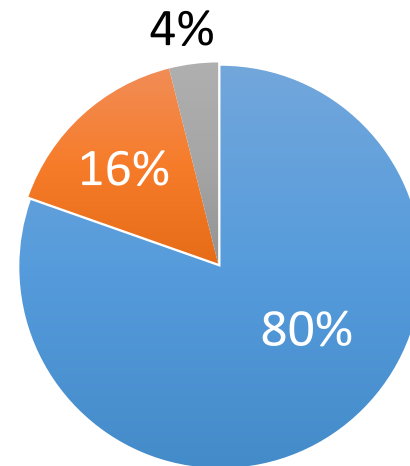
- ✓ 73 trillion BTUs of energy saved
- ✓ 19.6% average reduction in 2 years

Taking the Challenge helped drive additional savings



■ Agree ■ Neutral

Energy performance after achieving the Challenge



■ Continued to improve ■ Remained flat ■ Deteriorated

Before & After

Established program & teams - Before %: 70

After - Est. Program %: 90

Informal program & teams - Before %: 16

Limited focus or projects - Before %: 14

After - informal program %: 10

| Impacts on energy program | Weighted rank |
|---|---------------|
| Generated positive external communication. | 1 |
| Increased corporate management support for energy management initiatives. | 2 |
| Increased awareness and interest in energy efficiency among facility staff. | 3 |
| Increased plant management support for energy management initiatives | 4 |
| Drove additional energy savings. | 5 |
| Reinforced better energy management practices at the plant level. | 6 |
| Engaged more staff to participate in the energy program. | 7 |
| Helped build an energy efficiency culture at the plant(s). | 8 |

| Tactic | All achievers | Achievers with sustained improvements |
|---|---------------|---------------------------------------|
| | Rank | Rank |
| Equipment or technology upgrades (small capital or expense budgets) | 1 | 1 |
| Process improvements | 2 | 3 |
| Operational & behavioral measures | 3 | 1 |
| Major capital investments | 4 | 4 |
| Production increases | 5 | 5 |
| Other | 6 | 6 |

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



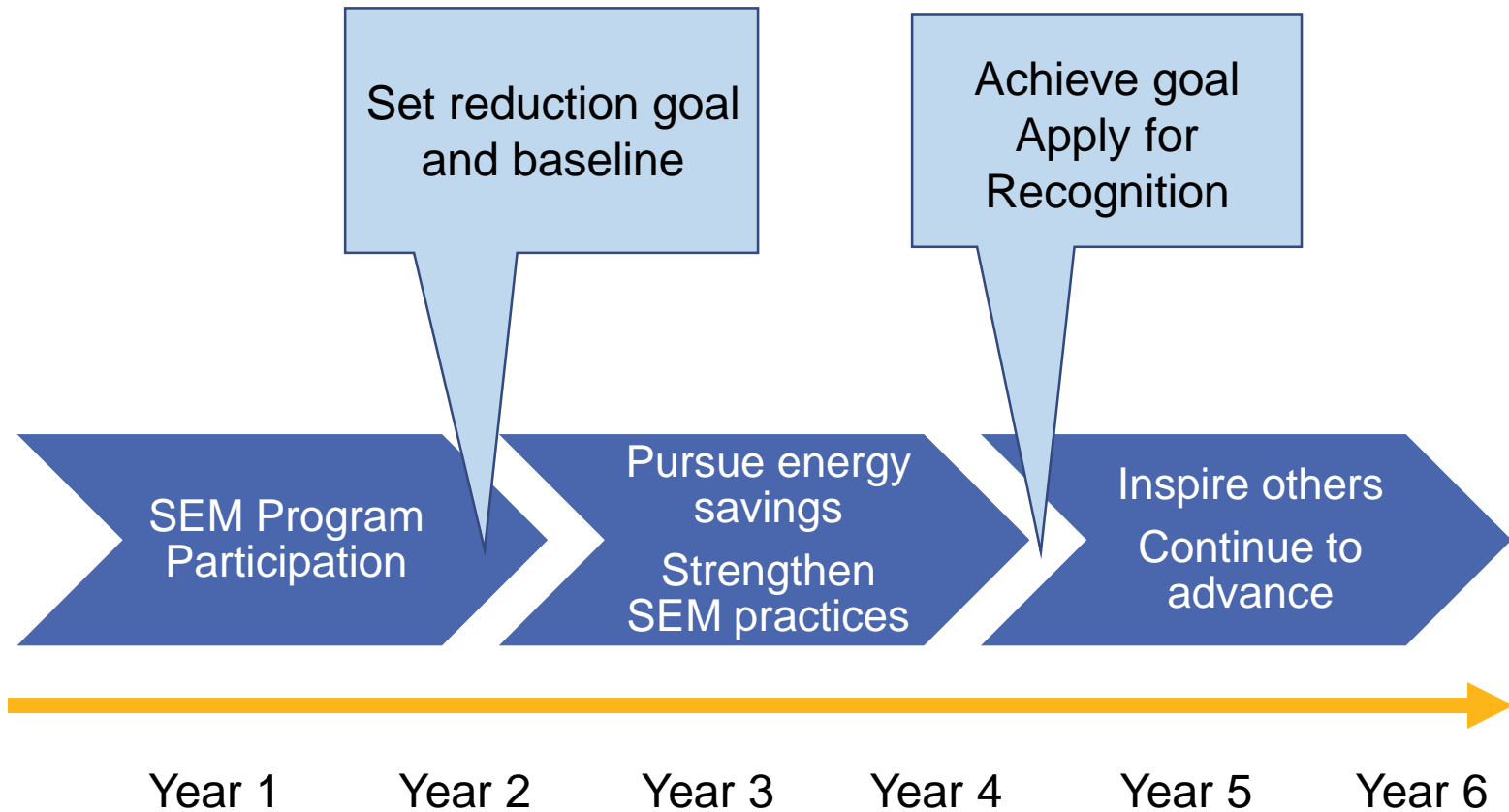
Very inexpensive to implement!

Ways to use the Challenge

Increase customer satisfaction by offering recognition!

- Encourage customers that receive rebates & incentives to sign up.
 - Your program may help them achieve the Challenge!
 - Account managers can assist customers with sign-up
- Help verify energy savings for customers without Professional Engineers
- Participate in recognizing sites that achieve the Challenge:
 - Coordinate with ENERGY STAR on offering certifications
- Work with ENERGY STAR to identify plants already in the Challenge who should be interested in your program's offering

Recognition programs can help to sustain SEM investments



What ENERGY STAR can offer

- Training for staff & account managers
- Phone support for technical questions
- Assistance with developing marketing content
- Updates and status of participants & program
- Help with promoting the Challenge through meetings / web conferences/ handouts etc.

Utility programs utilizing the Challenge

- Integrated the ENERGY STAR Challenge for Industry as part of the SEM/ Continuous Improvement program
- Promote the Challenge and offer support to customers
- Multiple customers participating



- Encouraged SEM program participants to take the Challenge

Questions / Comments

Thank you !