



Building an Efficiency Culture with ENERGY STAR Tools

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Walt Tunnessen
National Program Manager
ENERGY STAR
US Environmental Protection Agency



Learn more at energystar.gov

Background on ENERGY STAR



ENERGY STAR:

- Voluntary government program
 - Established by EPA in 1992
 - Helps companies achieve their best in energy efficiency
- Works with industry to build strong energy management programs and recognizes successes
 - Over **750** industrial corporations are partners
 - Over **28** specialized industrial sectors address their energy management issues with the program
 - **Food processing** is one the most active sectors within ENERGY STAR.
 - Over **20** years of experience promoting energy management.
- Helps reduce greenhouse gas emissions associated with energy use by encouraging companies to be more energy efficient.

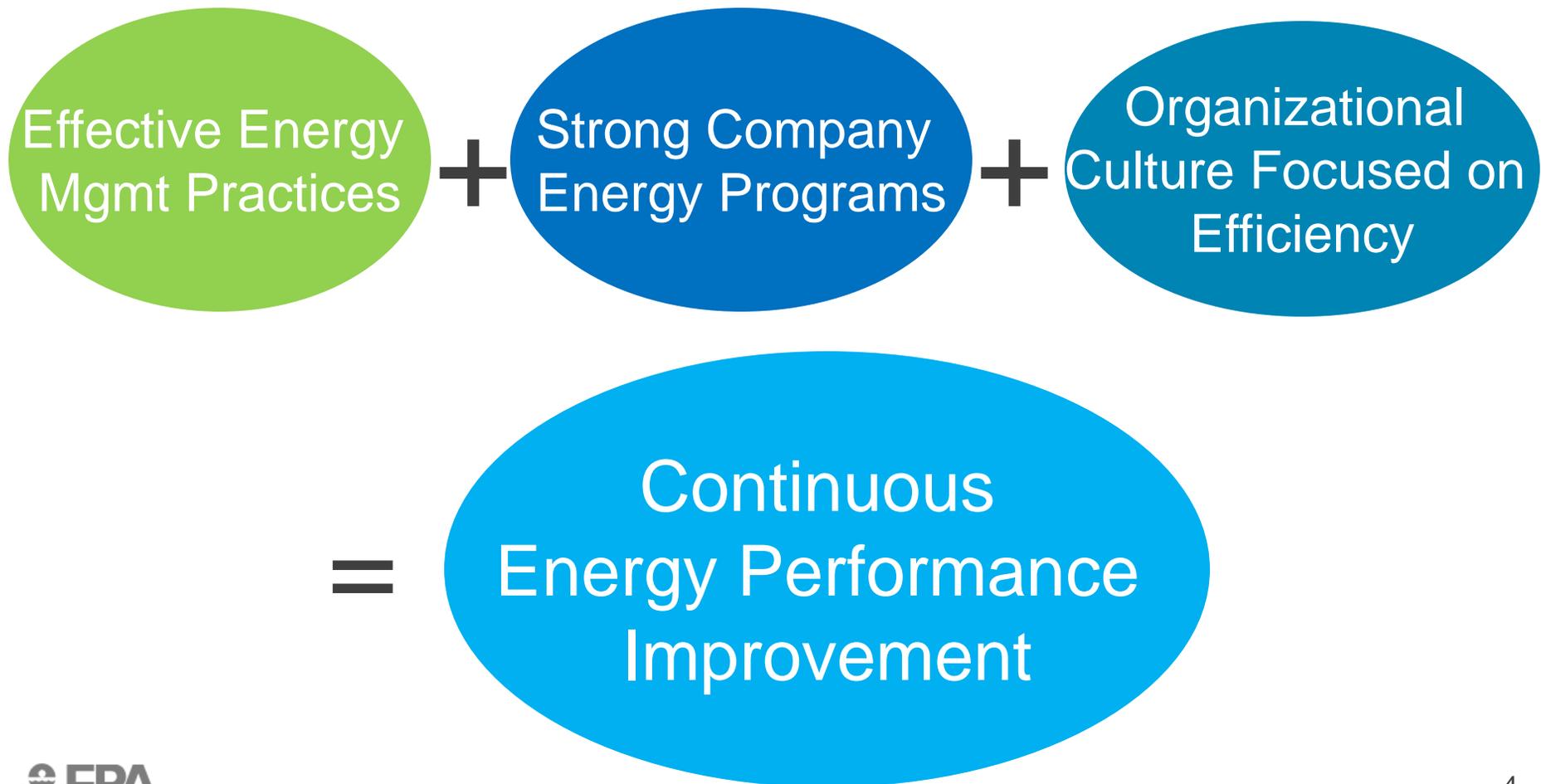
Organizational culture



Do you have a **safety** culture?

How about an ***efficiency culture***?

The ENERGY STAR approach



Culture and efficiency



Example Indicators	No efficiency culture	Efficiency culture
Management provides support for energy teams	Possibly	Yes
Plant managers have efficiency goals	Some times	Yes
Capital is earmarked for efficiency projects	No	Yes
Plants benchmark non-production energy use	No	Yes
Employees fix compressed air leaks	No	Yes

Creating an efficiency culture



Key elements for culture change:

- Active and visible energy program
- Management commitment & energy policies
- Recognized goals and performance tracking
- Employee awareness and involvement activities
- Recognition programs

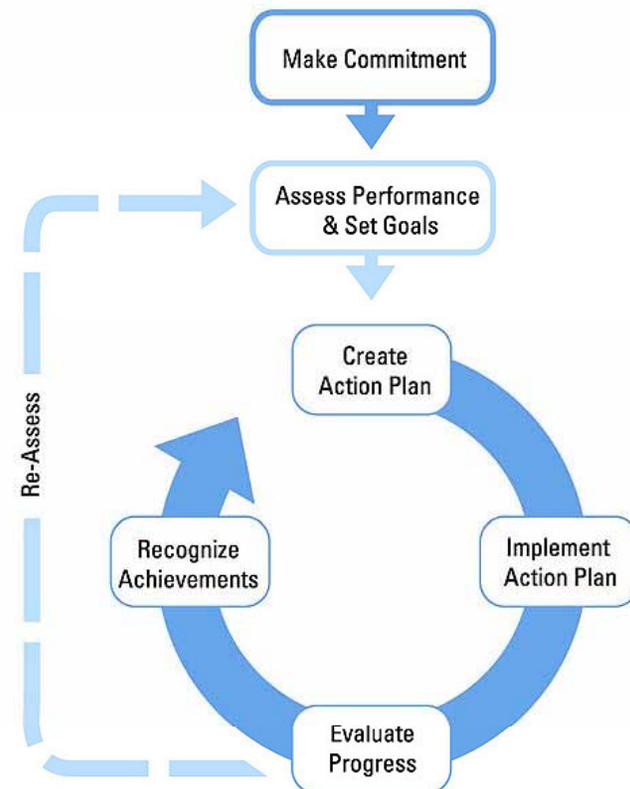
Energy management guidance



Guidelines for Energy Management

- Provides a framework for how to implement an energy program.
- Outlines key activities and programmatic elements for energy management.
- Consistent with ISO 50001 and other energy management systems / strategic energy management approaches.
- Successfully used by thousands of organizations for over 10 years.

ENERGY STAR Guidelines for Energy Management



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

- Bi-monthly series showcasing successful energy management strategies among the partnership.



Employee Engagement Materials

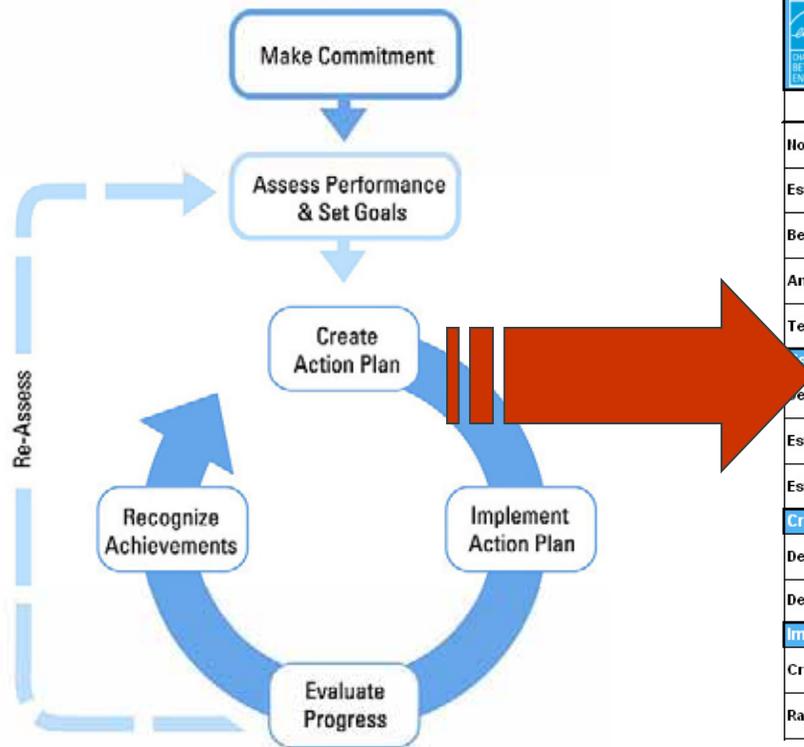
- Information, literature, and other resources to help build energy awareness among employees.



Benchmark your program



Energy Program & Facility Assessment Matrices



ENERGY STAR [®] Guidelines for Energy Management Matrix			
	Little or no evidence	Some elements/degree	Fully implemented
Normalize	Not addressed	Some unit measures or weather adjustments	All meaningful adjustments for corporate analysis
Establish baselines	No baselines	Various facility-established	Standardized corporate base year and metric established
Benchmark	Not addressed or only same site historical comparisons	Some internal comparisons among company sites	Regular internal & external comparisons & analyses
Analyze	Not addressed	Some attempt to identify and correct spikes	Profiles identifying trends, peaks, valleys & causes
Technical assessments and audits	Not addressed	Internal facility reviews	Reviews by multi-functional team of professionals
Set Performance Goals			
Determine scope	No quantifiable goals	Short term facility goals or nominal corporate goals	Short & long term facility and corporate goals
Estimate potential for improvement	No process in place	Specific projects based on limited vendor projections	Facility & corporate defined based on experience
Establish goals	Not addressed	Loosely defined or sporadically applied	Specific & quantifiable at various organizational levels
Create Action Plan			
Define technical steps and targets	Not addressed	Facility-level consideration as opportunities occur	Detailed multi-level targets with timelines to close gaps
Determine roles and resources	Not addressed	Informal interested person competes for funding	Internal/external roles defined & funding identified
Implement Action Plan			
Create a communication plan	Not addressed	Tools targeted for some groups used occasionally	All stakeholders are addressed on regular basis
Raise awareness	No overt effort made	Periodic references to energy initiatives	All levels of organization support energy goals

Evaluate your energy program practices & identify gaps

Management commitment



The ENERGY STAR Partnership letter is an **energy management tool** to:

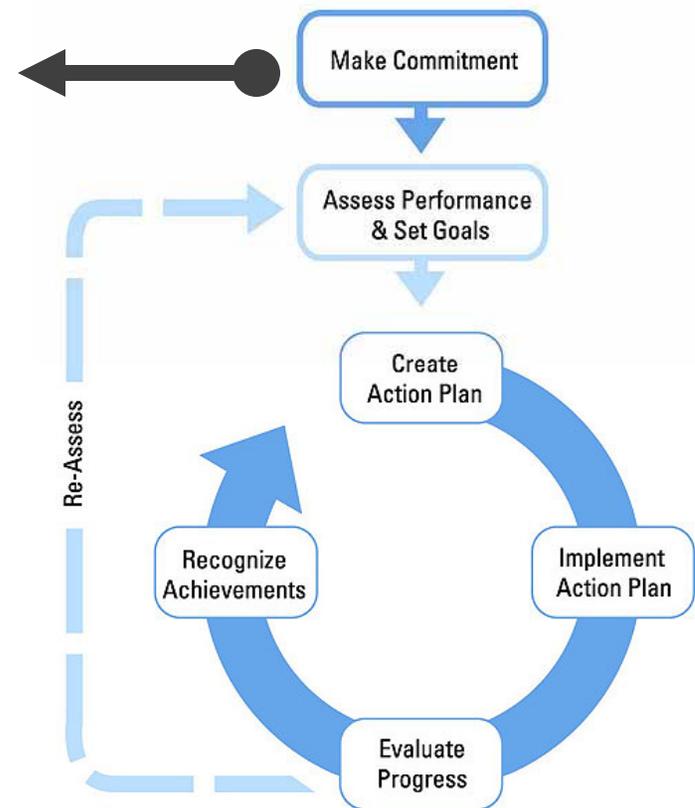
- Start a dialogue on energy management
- Kick off energy initiative
- Take existing program to next level

Partners commit to improve energy performance, by:

- Setting their own energy goals
- Improving their energy program

Successful leverage the partnership to build organization support for energy management.

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



Goals & performance tracking



- Do your sites have energy performance goals?
- Are employees aware of these goals?
- Are energy performance metrics or energy dashboards visible to employees?

Energy goals and performance metrics can help make energy less abstract.

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.

Energy Tracking Tool

- Helps establish production based energy intensity metrics, set goals, and track performance.

Portfolio Manager

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

www.energystar.gov/industrybenchmarkingtools

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



Recognition from EPA through ENERGY STAR helps energy programs to motivate teams, develop momentum, and build support.

ENERGY STAR offers three forms of recognition for manufacturers:

ENERGY STAR Partner of the Year

Recognizes world-class corporate energy management programs.



ENERGY STAR Plant Certification

Recognizes plants that score in the top 25 percent on the ENERGY STAR energy performance scale based on use of an ENERGY STAR Plant Energy Performance Indicator.



ENERGY STAR Challenge for Industry

Recognizes sites that reduce their energy intensity by 10%.



ENERGY STAR plants



- Sector-specific recognition for best-in-class energy performance.
- Recognition is based on a site's Energy Performance Score using an **ENERGY STAR Energy Performance Indicator (EPI)**.
- The plant must have a score 75 or higher.
- The plant must also pass an environmental compliance screen.
- Plants earn the ENERGY STAR annually.



See: www.energystar.gov/buildinglist

ENERGY STAR Industrial Focuses



Focus	Peer Exchange Network	Industrial Energy Guide	Energy Performance Indicator	
Cement Manufacturing	★	Published	Released 2 nd Version – Fall 2010	✓
Concrete	★	In development	In development	
Commercial Baking • Cookies & Crackers • Breads & Baked Goods	★	Published	Released In development	✓
Corn Refining	★	Published	Released 2 nd Version in development	✓
Dairy Processing • Fluid dairies • Cheesemaking • Ice Cream	★	Published	Draft Released	
Food Processing • Juice • Potato Products • Tomato Products	★	Published	Released Released Draft	✓
Glass Manufacturing • Fiberglass • Flat glass • Container glass	★	Published	Fall 2010 Released Released	✓



ENERGY STAR Industrial focus – cont'd



Focus	Peer Exchange Network	Industrial Energy Guide	Energy Performance Indicator	
Motor Vehicle Manufacturing <ul style="list-style-type: none"> • Automobile Assembly Plants • Power train Plants 	★	Published	2 nd Version Released In development	✓
Metal Casting	★	In processes	Exploring Options	
Petrochemical Manufacturing	★	Published	Draft	
Petroleum Refining	★	Published	Private system recognized by EPA	✓
Pharmaceuticals	★	Published	Released	✓
Printing	★	In processes	Exploring Options	
Pulp & Paper <ul style="list-style-type: none"> • Integrated Mills • Pulp Mills 	★	Published	Released Released	✓
Steel <ul style="list-style-type: none"> • Primary Steel • Mini Mills 	★	In processes	Draft	

ENERGY STAR Challenge for Industry

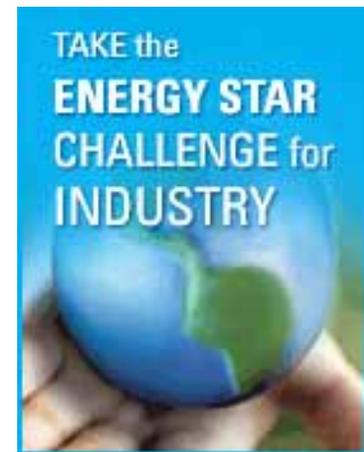


What does it recognize?

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

Calculated against an internal baseline at an industrial site.

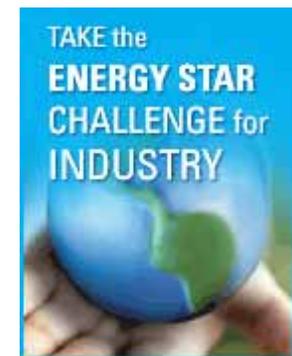
- Over 900 sites participating globally
- Over 230 sites have achieved the Challenge
- Over 50 Trillion Btu's of energy saved.



Leverage the Challenge



- Creates an objective for your energy program and sites.
- Reinforces energy management best practices.
- Opportunity to link your energy efforts to ENERGY STAR and a broader campaign.
- Opportunity to leverage the ENERGY STAR brand in communicating your accomplishment.
- Opportunity to gain recognition for your achievements from the U.S. EPA.



Raise awareness



- Use posters to raise awareness of plant energy spend, goals, etc.
- Show people how they can make a difference.
- Help people make the connection to saving energy and money at home.
- Use free ENERGY STAR resources.
- **GET PEOPLE INTERESTED!**



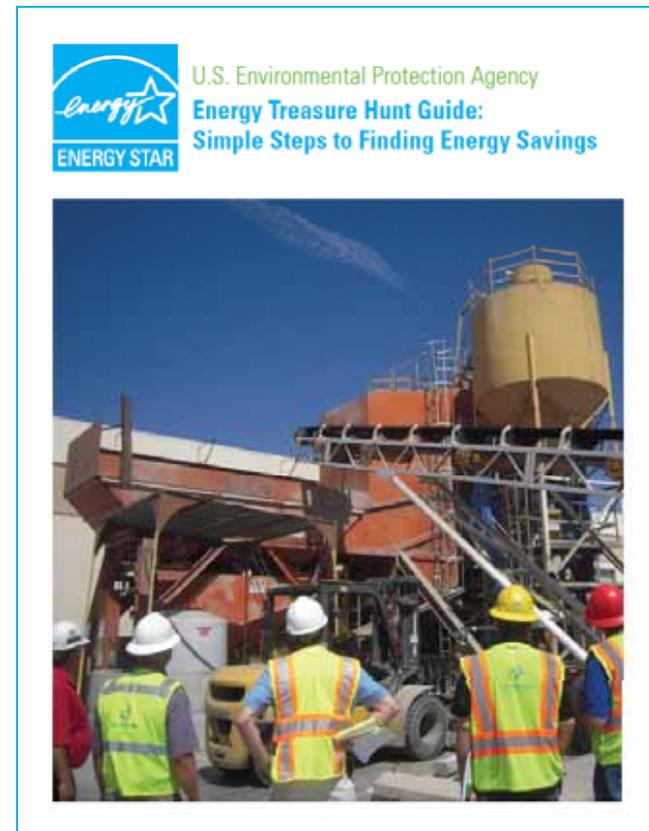
Energy bulletin boards



Energy treasure hunts



- Uses internal staff to find savings.
- Focuses on operational and low-cost upgrade opportunities.
- Teaches plant staff to find energy savings.
- Builds internal staff capability and ownership of implementation of projects.
- Helps to establish plant level energy teams.
- Generates awareness and helps to build an efficiency culture.



More than just treasure



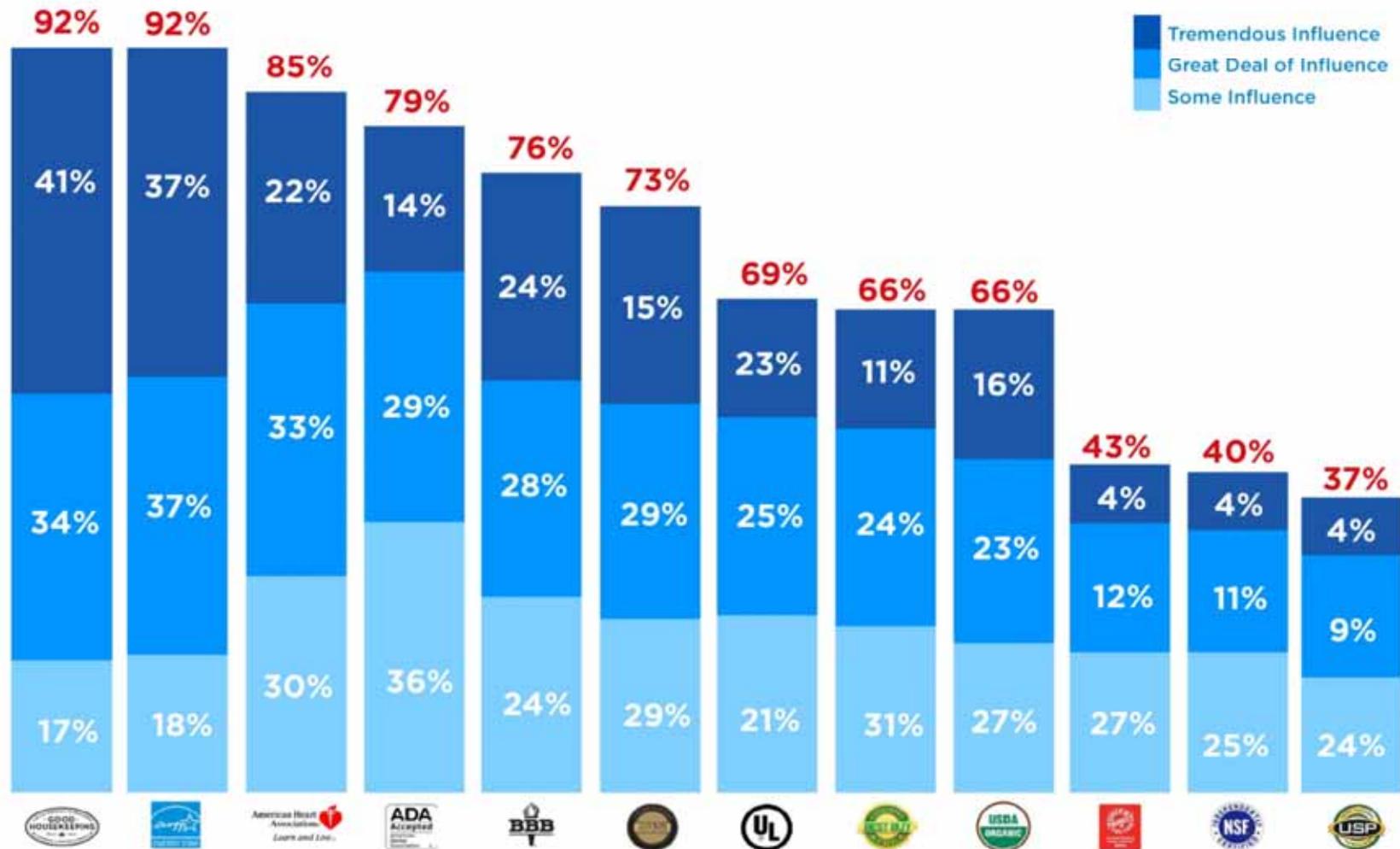
Southside Plant Performance, Danville VA

- Plant 1 (\$5 million energy spend)
 - \$200,000+ in annual savings identified
 - 3 month average payback
 - 6% reduction in energy intensity
 - Existing energy program strengthened.
- Plant 2 (\$950,000 energy spend)
 - \$62,000 in annual savings identified
 - 6 month average payback
 - 6% reduction in energy intensity
 - Energy team and program formed
- Plant 3 (\$3 million energy spend)
 - Focused on specific process area
 - \$60,000+ in annual savings identified in target area
 - 8 months or less payback for all projects
 - Energy team and program established.
 - Management support for energy program secured.

Participants have:

- Kicked started their programs.
- Are implementing projects.
- Taking steps towards the achieving the ENERGY STAR Challenge for Industry
- Planning future treasure hunts or assessments.
- Established energy management networking group.

What does America think about ENERGY STAR?



SOURCE: Fairfield Research, July 2011

Questions



Contact info:

- Walt Tunnessen
- Tunnessen.walt@epa.gov
- 202 343-9965

- www.energystar.gov/industry