



Leveraging Energy Management

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Learn more at energystar.gov

ENERGY STAR



- Voluntary government partnership introduced by EPA in 1992
 - Enables companies to achieve their best in energy efficiency
- The national symbol of energy efficiency and environmental protection
 - Awareness exceeds 70% of U.S. households
- Focused on improving energy efficiency of:
 - Products
 - Homes
 - Buildings and Industrial Plants
- Over 3000 Companies Participate
- Helped Americans save over \$16 billion in utilities costs
- Help prevented over 40 MMTCE in GHG Emissions

Background & Context



Evolution of role of “energy management” in EPA programs

Early '90 - Greenlights – Technology Focus



Mid '90s - ENERGY STAR - Performance Standards & Labeling

- Shift towards Whole Building Focus



Late '90s - ENERGY STAR Building Benchmarks & Labels

- Partner of Year Award focuses on “Program” vs. “Project”
- Emphasis on corporate & portfolio-wide strategy



Early '00s - ENERGY STAR Guidelines for Energy Management

- Excellence in Energy Management Award



Mid '00s - Industrial Plant Benchmarks / Multiple Building Benchmarks



EPA & Energy Management



Organizations with strong energy management programs:

- Achieve greater results
- Identify & implement better projects
- Focus on continuous improvement
- Have greater access to capital
- Establish energy efficiency cultures
- Sustain energy savings over time

Most organizations do not have strong programs.

C & I Program Framework



Recognition

POY
Award

Leading
Organizational
Programs

Facility Label

Qualifying
Facilities

Core Offering

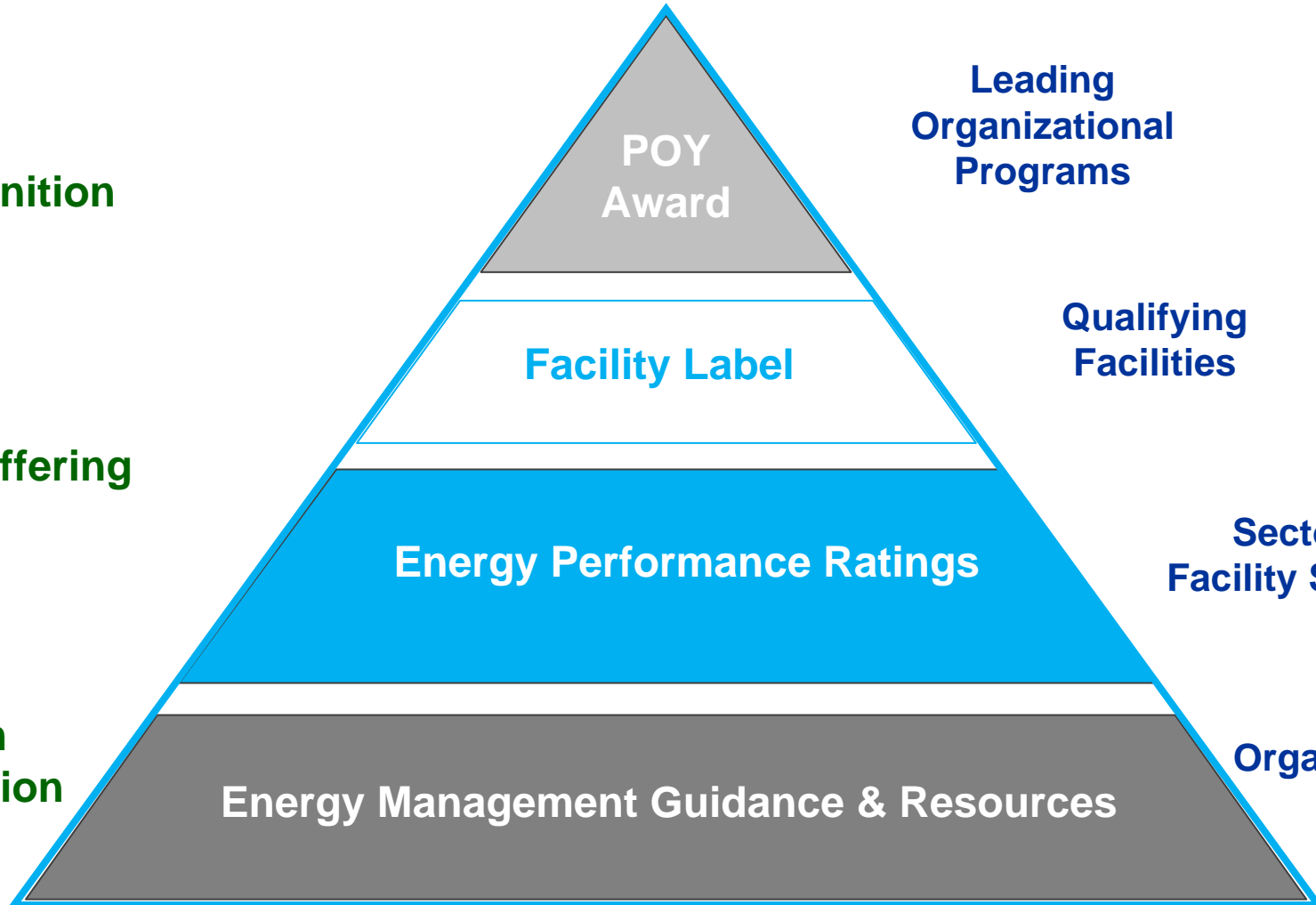
Energy Performance Ratings

Sector &
Facility Specific

**Program
Foundation**

Energy Management Guidance & Resources

All
Organizations

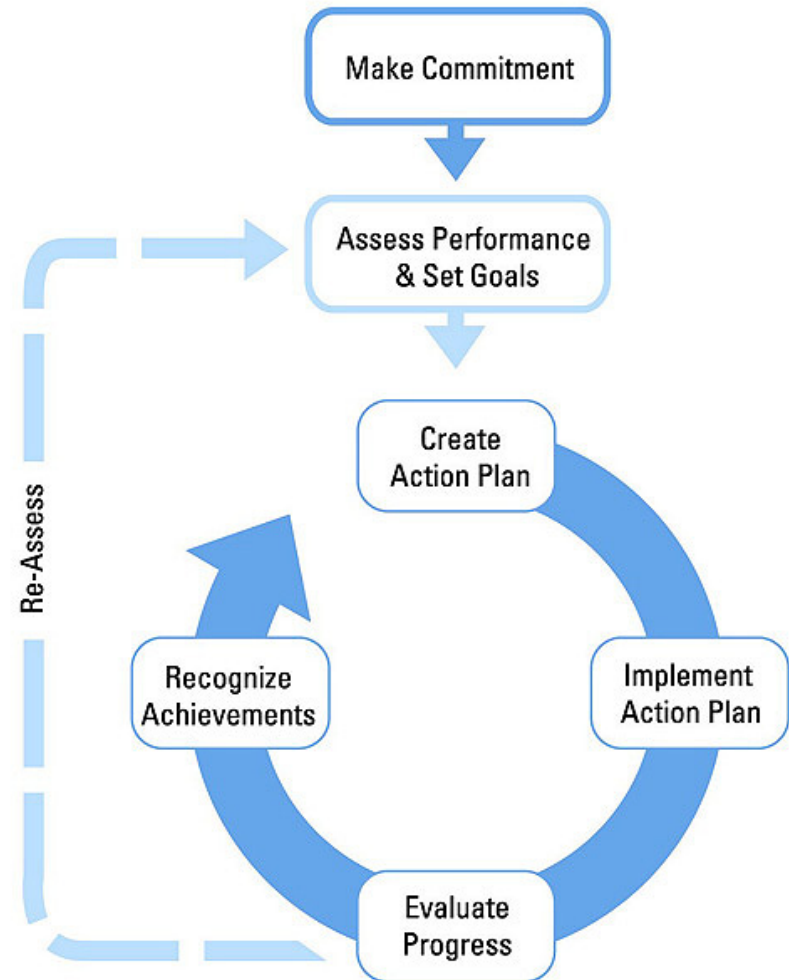


ENERGY STAR Guidelines For Energy Management



EPA's approach to energy management is offered the ENERGY STAR Guidelines.

- Based on the successful practices of leading ENERGY STAR partners.
- Identifies the key components for a successful energy management program
- On-line and combined with a best practice case studies
- Supported with a variety of other resources.
- Used and widely recognized by hundreds of companies in the US.



Industry Leaders



2008 ENERGY STAR Sustain Excellence in Energy Management Awardees

PepsiCo

- 4% energy reduction and more than \$20 million in savings in 2007
- More than \$250 million saved since 2000.

3M

- 6.4 % energy reduction with \$10.6 million in savings since 2007
- Over \$100 million saved since 1990.
- Reduced worldwide GHG emissions by 54% from a 1990 base year.

Merck & Co. Inc.

- Reducing energy consumption by nearly 50 percent over the past 8 years.

Toyota Motor Manufacturing

- 4 % reduction in energy use in 2007
- 16 % reduction in the energy per vehicle in the last 4 years

Energy Management & Program Design



EPA does not certify ENERGY STAR Partner energy management programs:

- ENERGY STAR is voluntary and partners commit to continuous improvement, but EPA does not audit their programs.
- EPA recognizes energy performance with the ENERGY STAR label.
- Energy performance is measured through rating and benchmarking tools (EPI/Portfolio Managers)
- The ENERGY STAR Partner of Year Excellence In Energy Management award is based on the quality of the corporate energy program AND energy performance.

A Means or an End?



- Energy management resources help support improvement in facility and organizational energy performance.
- Energy management adds value to the core performance rating offerings.
- Energy management resources help ensure greater success by partners.
- Measuring benefits associated with better “energy management” can be challenging.

So what's in this for me?



- Interested in offering energy management support and guidance?
- Don't reinvent the wheel!
- Leverage existing ENERGY STAR resources.

Energy Management Resources



ENERGY STAR offers manufacturers tools to develop stronger energy management programs:

- ✓ Energy Management Guidance
- ✓ Energy Program Resources
- ✓ Sector-specific Facility Energy Performance Ratings
- ✓ Energy Strategy Development
- ✓ Recognition Opportunities

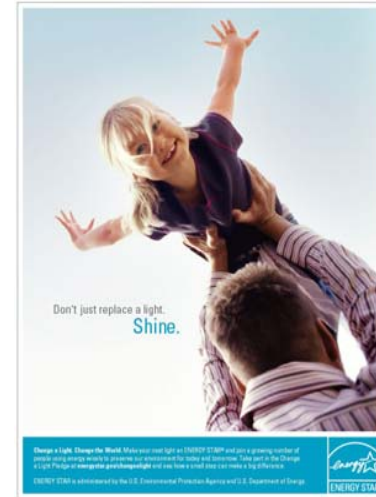
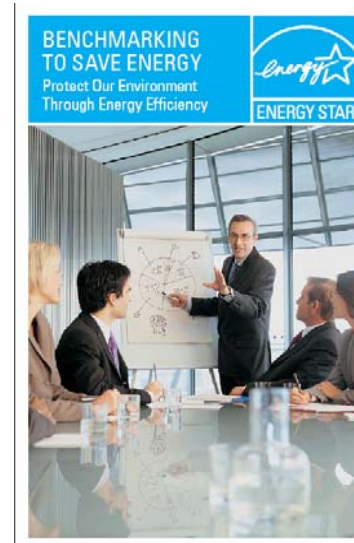


Most widely used energy management resources in US!

Energy Program Resources



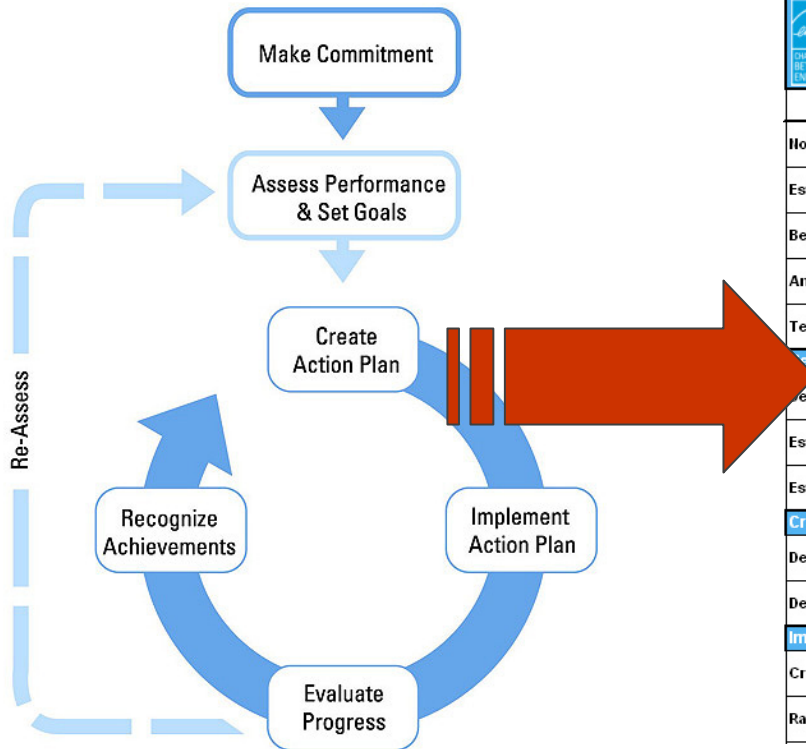
- Published Materials
 - Teaming Up to Save Energy
 - Benchmarking to Save Energy
- Sector Energy Guides
- Posters & Communication Resources
- Employee education resources
- Can be Co-branded
- Free – saves you \$\$\$
- Already “road tested”



Assessment Matrixes



Benchmark company and facility energy programs practices



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

Used in hundreds of corporate programs



Sector Specific Resources



Current Industrial Focus Industries

Industry	Energy Guide	Energy Performance Indicator (EPI)
Motor Vehicle Assembly	Published	Released 2005
Wet Corn Milling	Published	Released 2006
Cement Manufacturing	Published	Released 2006
Petroleum Refining	Published	Released 2006
Pharmaceuticals	Published	Released 2008
Food Processing	Draft	In development
Glass Manufacturing	Draft	In development
Pulp and Paper	Draft	In development
Petrochemicals	Draft	In development

Plant Recognition



- Some Industrial Plants can earn the ENERGY STAR
- Facilities must score a 75 or higher on an EPI
- 45 ENERGY STAR Industrial Plants
 - Auto Assembly
 - Cement
 - Wet Corn Milling
 - Petroleum Refining
 - Pharmaceuticals (Released December 2008)
- Industrial Plants are listed in Label Buildings Profile
- New ratings in the works:



Plants Get a flag or banner, plaque, and certificate



Non Focus Industrial Sectors Active in ENERGY STAR



- Aerospace and Defense – Boeing, Raytheon, General Dynamics, Northrop Grumman, others.
- Large Printing
- Personal Care products
- Automotive suppliers
- PepsiCo suppliers
- Other corporate programs (e.g: 3M)

Corporate programs are familiar with
ENERGY STAR – sites may be less so.

Energy Strategy



Energy Strategy for the Road Ahead

- Developed through a series of scenario workshops with senior energy managers and executives from companies such as Dow, Toyota, Merck, California Portland, HSBC, PPG, Owens Corning, and others.
- Used future energy and climate regulations scenarios to identify strategies for navigate future uncertainty.
- Report is being used by leading companies to catalyzing developing future energy strategies.

Energy Strategy for the Road Ahead



Scenario Thinking for Business Executives
and Corporate Boards

2007

GBN Global Business Network
a member of the Monitor Group



www.energystar.gov/energystategy

Leveraging ENERGY STAR



Program Activity	ENERGY STAR Offering	Benefit
Market research	ES Industrial Sector Corporate involvement Suppliers to ES Partner Co	Identify companies with potential interest in energy management support. Assist companies seeking ES recognition.
Customer Engagement	Assessment Matrixes Teaming up to Save Energy Booklet Cash Flow Opportunity Calculator	Establish better relationship with value-added resources. Engage customers in new way. Match offering with customer need.
Relationship management	Communication resources, Energy Strategy for Road Ahead, other resources.	Maintain and build relationships by offering accounts resources to grow their programs.
Program Offering	Guidelines, EPIs, Energy Guides, Recognition, other resources	Provide value-added resource for little cost. Help customers create management structures to ensure lasting savings. Enhance standard offerings to ensure greater success. Help customers implement good projects

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