


ENERGY STAR

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Greening the Government

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EPA ENERGY STAR Buildings




ENERGY STAR

What is ENERGY STAR?


ENERGY STAR is ...

- More than Label
- Voluntary Partnership


Common Goal: Protect Environment for Future Generations




Products



Homes




Organizations



ENERGY STAR

Tremendous Success...

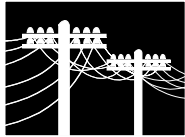
In 2002 alone, Americans, with the help of ENERGY STAR, saved enough energy to power about 15 million homes and prevented the greenhouse gas emissions equivalent to those from 14 million automobiles.



ENERGY STAR


...But Much Left To Do

- Problem:
 - Commercial buildings generate 18% of U.S. carbon dioxide emissions
- Opportunity:
 - 30% from wasted energy use






New technologies alone do not guarantee energy savings.

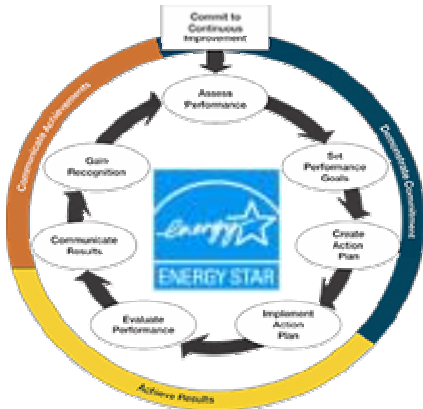


Good Management Is Critical

- 400% variation in energy use intensity (CBECS)
 - Not explained by age, technology, hours, size, climate
- Building components 30% more efficient since 1980
 - But overall energy requirement has not improved
- Systems significantly mismatched
 - 60% of building fan systems oversized on average 60% (EPA fan study)
 - Chillers oversized 50-200% (LBNL)
 - Load reduction investments make over-sizing worse



ENERGY STAR Offers Proven Management Approach



The diagram illustrates the ENERGY STAR Continuous Improvement Cycle. It is a circular process with the ENERGY STAR logo in the center. The cycle consists of the following steps: Commit to Continuous Improvement, Assess Performance, Set Performance Goals, Create Action Plan, Implement Action Plan, Evaluate Performance, Communicate Results, and Gain Recognition. The cycle is supported by three pillars: Commitment & Commitments (top-left), Continuous Commitment (right), and Achieve Results (bottom).




Organizations that partner with ENERGY STAR make a fundamental commitment to continuous improvement of their energy performance.

They also demonstrate environmental leadership.



Partners Commit To:

- Measure, track, and benchmark organization's energy performance
- Develop and implement a plan to improve energy performance by adopting the strategy provided by Energy Star
- Educate staff and public about partnership and highlight achievements



Federal Government Commitment


ENERGY STAR figures prominently in Executive Order 13123 *Greening the Government through Efficient Energy Management*.

- Building performance
- New Construction
- Product Purchasing
- Leasing




ENERGY STAR Offers Unique Tools & Opportunities

- On-line Benchmarking & Tracking
- On-line Training
- Building Upgrade Manual
- Purchasing Tool Kit
- Communications
- Recognition




National Energy Performance Rating


- Is 25 MPG high or low for an automobile?
- Is 63,800 kBtu/SF/year average for a midscale hotel?



Answer:
Common Knowledge




Answer:
Even some facility experts don't know

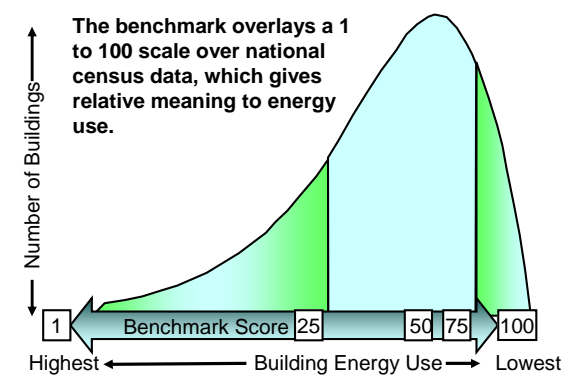


National Energy Performance Rating


- Uses actual energy consumption data
 - Whole building
 - Energy Intensity (kbtu/sf/yr.)
 - Normalizes for weather, climate, size, hours of operation, occupant density
- Benchmarks for comparison
 - 1-100 scale
 - Based on DOE CBECS data
 - Specific models for each space type
- Top performers qualify for ENERGY STAR label
- Target Finder for new construction



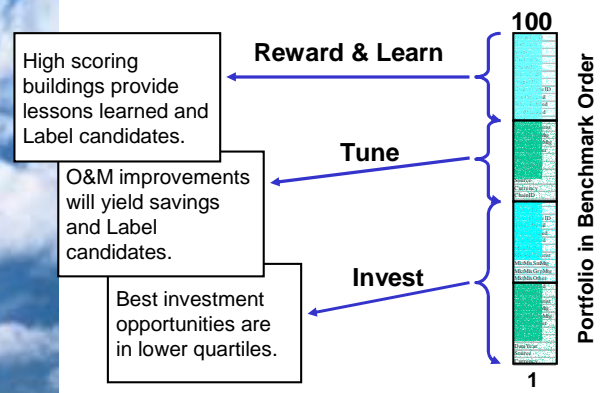
ENERGY STAR Benchmarking



The benchmark overlays a 1 to 100 scale over national census data, which gives relative meaning to energy use.



Set Priorities Across Portfolios



High scoring buildings provide lessons learned and Label candidates.

O&M improvements will yield savings and Label candidates.

Best investment opportunities are in lower quartiles.

Portfolio in Benchmark Order



ENERGY STAR Targets


Use the Score as a Performance Metric in Contracts

- Leases
- ESCO Performance Contracts
- New Building Design




Earning the ENERGY STAR Label

- Scores in the top 25% eligible to apply
- Certified by a P.E.

Buildings Earning the ENERGY STAR

- Use 40% less energy than the average building
- While no single path to ENERGY STAR, common elements are:
 - Organizational commitment
 - Good operating practices
 - Application of good practice technologies




ENERGY STAR Benchmarking

Eligible Space Types

- Office Buildings
- Schools (K-12)
- Hotels
- Hospitals
- Grocery/Supermarkets

Coming Soon

- Fast Food Restaurants
- Dorm Rooms
- Post Offices
- Other Healthcare



Benchmarking Activity

- Over 2.5 billion square feet benchmarked to date
- 15,000 Buildings benchmarked
- Almost 2,000 ENERGY STAR labels awarded

**Planning Improvements:
The Five-Stage Approach**

Focus on sizing,
operations and control

Tune up Lighting Load Reductions Fan System Plant Upgrades

Maintenance & Measuring

ENERGY STAR® Labeled Products

Over 35 Product Categories

- Lighting
- Appliances
- Consumer Electronics
- Office Equipment
- Heating & Cooling
- Water Coolers
- Transformers
- Ceiling Fans
- Ventilation Fans
- Reach-in Refrigerators

ENERGY STAR Purchasing Tool Kit

- Product listings (both ENERGY STAR labeled and FEMP designated)
- Product specifications
- Sample procurement language
- Savings calculators/LCC
- Communications resources

Communications Support

Why communicate achievements?


- Gain upper management buy-in
- Demonstrate wise use of taxpayer dollars
- Motivate and educate employees
- Strengthen stakeholder relations





Communications & Recognition




- ENERGY STAR Helps Call Out Leadership:
 - Leverage National Brand & Communications Campaign
 - 40% Consumer Awareness Nationwide
 - Recognized for Environmental Stewardship & Federal Leadership
- Recognition Opportunities
 - Partner of the Year Awards
 - Press Events
 - Milestone Recognition (coming soon)
 - Articles, web site listings, etc





Case Study



- EPA and GSA collaborating on ENERGY STAR:
 - Benchmarking
 - Central energy data collection
 - Regional building data
 - Recognition
 - Demonstrating leadership





Case Study



- **EPA and FEMP collaborated to benchmark all VA hospitals**
- Over 150 hospitals benchmarked
- VA achieved 18 ENERGY STAR labels
- High-profile event celebrated success



To Learn More...



WWW.ENERGYSTAR.GOV