ENERGY STAR – What's new? What's next?

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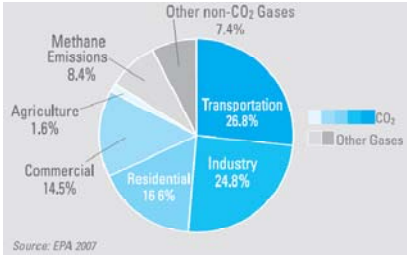
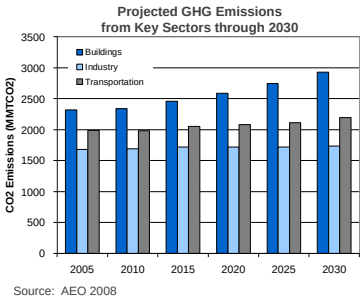
Learn more at energystar.gov

ENERGY STAR

- GOAL: Reduce greenhouse gas (GHG) emissions through large win-win-win opportunities with today's energy efficient technologies and practices.
- Achieve 30% savings possible in many buildings, homes, and facilities
- Provide credible information to buyers
- Work with the marketplace to capitalize on motivations of individual actors





Source: AEO 2008

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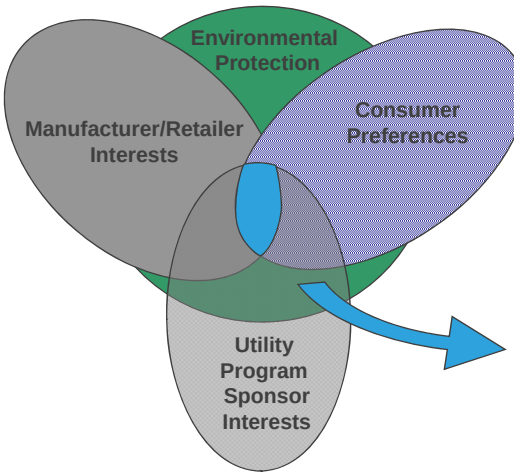
Builds Upon Intersection of Interests



- Cost-effective
- No sacrifice in performance
- Govt backed

Consumer is Key

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ENERGY STAR Strategies

Residential

Labeled Products

-- 60+ products / 2000 manufacturers

-- 10-60% more efficient

Labeled New Homes

-- 20-30% more efficient

Home Improvement Services

-- beyond products

-- ducts / home sealing

-- whole home retrofits

Commercial / Industrial

Corporate energy management

-- benchmarking, goals, upgrades (mgmt & systems --not widgets)

-- whole building labeling for excellence

--technical assistance

Labeled Products

-- for plug load, not system components

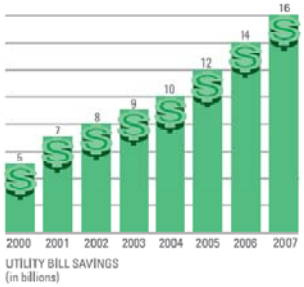
Industrial

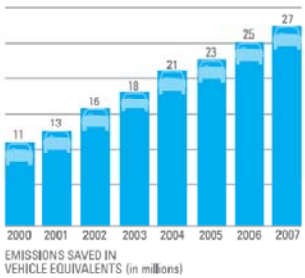
Small business initiative

EPA **International partnerships – Canada, EU, Japan, etc**

Success: 2008 Accomplishments

- Americans with the help of ENERGY STAR prevented 40 million metric tons of GHG emissions– equivalent to 29 million vehicles and saved $19 billion on energy bills
- Over 75% consumer awareness
- 15,000 partners
- More than 2.5 billion qualified products sold since 2000
- 940,000 new homes are ENERGY STAR
- Tens of thousands buildings benchmarked and thousands upgraded





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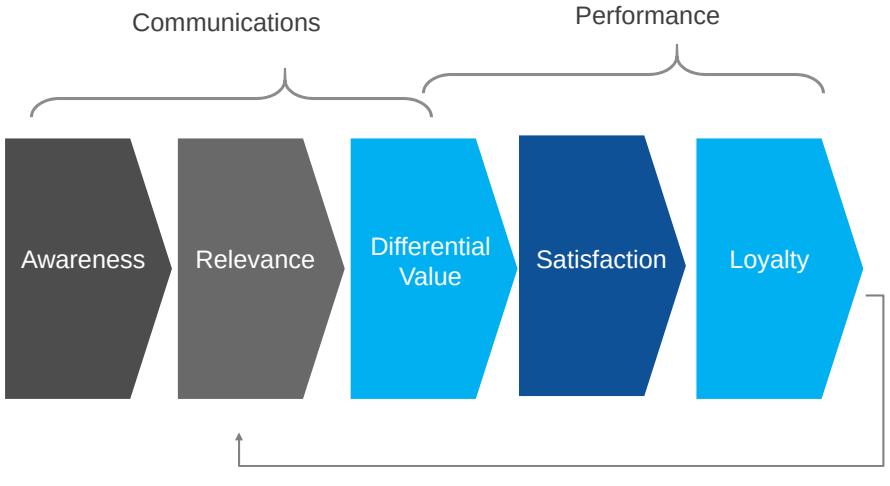
Loyalty is the goal



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The landscape and efficiency opportunities

- **Energy:** Growing demand and rising energy costs
  - Reliability issues
  - Pending, large investments
- **Environment:** Climate change
  - 25+ states have Climate plans, 17 have announced reduction targets
  - EPA's recent announcement
- **Uncertain investment world**
  - Increasing generation costs
    - Gas and coal prices
    - Building cleaner generation
  - Uncertain regulatory environment
- **Economic Issues:** Need jobs; Need spending ability

Energy Efficiency is large part of solution

Large, quick, cheap, and clean resource

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ENERGY STAR in the RESIDENTIAL SECTOR

Products

Advice and guidance

New Homes

Home Improvement – existing homes

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Datacenters and Servers

Source: Lawrence Berkeley National Laboratory

Data Centers: Key Findings of EPA Report to US Congress

Scenario	Electricity Consumption	Electricity Costs	Environmental Impact
Today (2006)	Use about 61 billion kWh Doubled since 2000 1.5% of total U.S. consumed More than U.S. TVs Equivalent to 5.8 million average U.S. households	Costs $4.5 billion annually	Peak load on power grid is equivalent to the output of 15 power plants
Current Trends (by 2011)	Use nearly doubles to more than 100 billion kWh	Costs $7.4 billion annually	Requires an additional 10 power plants, more at peak periods
EPA Scenarios (by 2011)	Annual savings of approximately 23 billion to 74 billion kWh over current trends	Reduces costs by $1.6 billion to $5.1 billion annually	Reduces peak load by equivalent of up to 15 new power plants Reduces 15 to 47 $MMTCO_2$

EPA Data Center Initiatives

EPA working with interested parties to identify ways in which energy efficiency can be measured, documented, and implemented in data centers

Three primary efforts underway:

- **ENERGY STAR Computer Servers**
- **ENERGY STAR Rating for Data Centers** (building performance)
- **Storage and network equipment**

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ENERGY STAR Server Specification

Final Spec to be announced May 15, 2009

- Effective immediately
- Will be in place 12 to 24 months

Tier 2 framework document coming soon

Next Enterprise IT specs under development: Storage equipment followed by network equipment

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Benchmarking Entire Data Centers

Data Collection Update

242 data centers expressed initial interest in participation (each to provide 12 months of data)

Almost 100 DCs are providing data on a quarterly basis

Data centers finishing data collection are welcomed to provide to EPA prior to data cut off (June 2009)

For further information and updates as tools become available:

ENERGYSTARdatacenters@icfi.com

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Looking ahead

Connected Home

- Smart Meter/Home Energy Monitors
- Occupancy Sensors/Lighting Controls

Enterprise Products

- Networking Equip for Data Centers/Telecom
- Uninterruptible Power Supplies for datacenters
- Point of Sale Devices

Misc Elec Loads

- Power Strips
- Coffee Makers
- Garage Door Openers
- Microwaves
- Vacuums
- Toaster Ovens
- Security Systems
- Home Storage

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ENERGY STAR Qualified Homes

940,000 homes qualified to-date

Expect to pass 1 million homes by end 2009/early 2010

100,000+ homes in 2008 alone

Market share at **17%** for 2008 -- despite downturn in housing market (up from 12% in 2007)

6,500+ builder partners and growing

Several national production builders recently committed to building 100% ENERGY STAR

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Raising the bar for new homes earning the ENERGY STAR

ENERGY STAR represents meaningful improvement over homes built to code and standard practices

EPA is increasing the rigor of ENERGY STAR for Homes guidelines:

- add requirements to ensure a comprehensive approach to building science
- ensure high-efficiency equipment and products
- add new, high-value on-site inspections to ensure performance at expected levels
- considers size of home; large homes meet tougher requirements

- Accepting comments now; finalize in 2009; into effect 2011

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Home Performance with ENERGY STAR

- HPwES programs in more than 25 markets
- Through 2008, more than 50,000 had been retrofitted through locally-sponsored HPwES program
- Many programs offer cash rebates and/or low-interest financing
  - typically, 10-20% of the value of the improvements (or $300 - $1,500)
  - some programs have higher incentives for low and moderate income participants.

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Commercial Sector Approach:

Whole Building Performance

- Whole Building Energy Performance
  - Integration of systems; better design
  - Management practices and capital investments
- Performance Measurement System
  - Can not manage what you can not measure
  - Provide missing market information
    - How to measure efficiency / performance?
  - Link performance to measured data (i.e., energy bills)
- Leadership in the market place
  - Recognition for superior performance
  - Integration with service providers and utility programs
  - Energy efficiency is the first step to green

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Select New State and Local Requirements Leveraging ENERGY STAR

Washington, D.C.

Mandatory Benchmarking and Disclosure for Existing Buildings Clean and Affordable Energy Act of 2008

City and County of Denver

LEED and ENERGY STAR for New Construction
Executive Order 123 October 24, 2007

California

ENERGY STAR Disclosure During Real Estate Transactions Assembly Bill (AB) 1103

New York City

Proposed Mandatory Benchmarking and Disclosure
Proposed Int 476-A announced on April 22, 2009

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Energy Performance in the Market: State and Local Voluntary Programs

Louisville Kilowatt Crackdown

Participants benchmark in EPA's Portfolio Manager and work to improve performance during the campaign period. Over 240 Louisville commercial buildings participating.

Chicago Green Office Challenge

Participants benchmarking in EPA's Portfolio Manager to track energy and water use and compile results at the end of the contest period.

New Jersey Local Government Energy Audit Program

State provides local governments with cost-subsidized energy audits for local government- owned facilities. Includes benchmarking in EPA's Portfolio Manager to target and verify savings.

Pennsylvania Small Business Energy Efficiency Grants

State makes funds available to for-profit small businesses for energy efficiency improvements. Applicants benchmark in EPA's Portfolio Manager before and after the completion of the energy efficiency upgrade.

Wisconsin Lt. Governor ENERGY STAR School Challenge

State campaign to challenge 100 new WI school districts to join as ENERGY STAR partners and reduce energy use by 10 percent or more. Participating school districts benchmark in EPA's Portfolio Manager and plan improvements based on ENERGY STAR Guidelines for Energy Management.

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Industrial Focuses

EPA runs industry-specific focuses that establish best energy management practices for these industries

- Identify and overcome barriers to energy efficiency for the industry
- Provide high-level management tools
  - National energy performance indicator (EPI) for plants
  - Energy efficiency guide for each sector
  - Engages the major companies in the industry (impacts large percentage of US production)

Industry
Motor Vehicle Assembly
Wet Corn Milling
Cement Manufacturing
Petroleum Refining
Petrochemicals
Pulp and Paper
Steel
Pharmaceuticals (NEW EPI)
Food Processing (NEW EPI)
Glass Manufacturing (NEW EPI)

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Thank you!

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