



# *Conditioning the C&I Market for Energy Efficiency:*

## *The Role of ENERGY STAR*

**Consortium for Energy Efficiency**

January 15, 2008

# Overview



- The ENERGY STAR Challenge
- Associations Driving Member Actions
- Climate Change Initiatives
- National Action Plan for Energy Efficiency
- Green Building Initiatives
- State and Local Legislation and Directives
- Recognition of Financial Value of ENERGY STAR Labeled Buildings
- Growth in the Use of EPA Energy Performance Rating

# The ENERGY STAR Challenge

Announced in 2005



- National call to action for building owners and operators
  - Set at least 10% reduction goal
  - Benchmark and take action to improve
- Meeting this goal would
  - save *\$20 billion* a year
  - reducing GHG emissions the same amount as taking *30 million vehicles* off the road
- Participants include :
  - Over 25 industry associations
  - Over 170 state & local governments
  - A growing list of service provider organizations

A poster for the ENERGY STAR Challenge. It features a photograph of a smiling man with a young girl sitting on his shoulders, both looking out over a beach and ocean. The text on the poster reads: "The building you work in today affects their tomorrow." followed by a paragraph about the challenge. Below the text is a placeholder for a logo. At the bottom, it says "Take the ENERGY STAR® Challenge. Improve the efficiency of your buildings by 10% or more. Protect the environment." and provides information about the challenge's administration by the EPA and a website to visit.

The building you work in today affects their tomorrow.

(Association) is proud to be a part of the ENERGY STAR® Challenge to improve our nation's energy efficiency. In partnership with EPA, we've (insert assoc. actions, e.g., created the Building Energy Efficiency Program to bring our members the support you need and the recognition you deserve for sustained operational excellence. I Join with us to improve your buildings' energy efficiency and your bottom line while we protect the environment for generations to come. To start making your buildings work harder, visit (assoc. website).

LOGO

Take the ENERGY STAR® Challenge. Improve the efficiency of your buildings by 10% or more. Protect the environment.

The ENERGY STAR Challenge is administered by the U.S. Environmental Protection Agency. Visit [energystar.gov/challenge](http://energystar.gov/challenge) to learn how you can increase energy savings.

The ENERGY STAR logo, featuring a stylized white star with the word "energy" in a script font inside it, set against a blue background with a white arc above the star. Below the star, the words "ENERGY STAR" are written in a white, sans-serif font.

# Local Government and the 10 % Challenge



- Challenge extended to local and county government in June, 2007
- Cities and counties play a vital dual role in the Challenge:
  - Lead by example and improve own buildings
  - Promote energy efficiency to constituents
- Over 140 local governments have joined the Challenge.
- Key local government associations are helping promote the Challenge to cities and counties:
  - U.S. Conference of Mayors (USCM) June 2007 Annual Conference
  - National Association of Counties (NACo) July 2007 Annual Conference
  - Public Technology Institute (PTI) July 2007 Annual Conference

# State Government and the 10 % Challenge



- More than 15 state governments including CA, GA, MA, MI, MN, NC, NH, OH, SC, TX, and VT are actively benchmarking
- California is benchmarking over 1,600 state facilities (over 7,000 buildings)
- Ohio is benchmarking almost 6,000 state buildings and also helping 3,500 K-12 schools
- NM (state and schools), UT, and VA have begun the process



# Associations Driving Member Actions

# ENERGY STAR Partners



- Building Owners and Managers Association (BOMA)
- American Society of Healthcare Engineers (ASHE)
- National Automobile Dealers Association (NADA)
- US Conference of Mayors
- National Association of Counties (NACo)
- American Bar Association (ABA)
- National Association of Evangelicals (NAE)
- International Facility Management Association (IFMA)

. . . and many more

# 2007 Associations Highlights



- BOMA
  - Trained 10,000 building owners/managers through Building Energy Efficiency Program (BEEP)
  - Challenges members to 30% reductions measured using EPA rating tool
  - BOMA state associations launching initiatives with efficiency programs and cities to upgrade buildings using ENERGY STAR
    - Portland, Seattle, Austin
- ASHE Energy Efficiency Commitment
  - Benchmark facility and share it with ASHE's master account in EPA's Portfolio Manager
  - Earn recognition from ASHE for 10% or more performance improvement







# Climate Change Initiatives

# U.S. Conference of Mayors Climate Protection Agreement



- Signatories pledge to strive to meet or beat the Kyoto Protocol targets in their own communities
  - 7% reduction from 1990 levels by 2012
- As of January 2008, signatories include 754 mayors from the 50 states, the District of Columbia and Puerto Rico
  - Representing total population of almost 77 million citizens
- To support this effort, the USCM passed a resolution “adopting EPA’s ENERGY STAR Challenge to reduce energy use in public and private sector buildings”
- ENERGY STAR Challenge tools and resources are made available via the USCM Web site

# Example: Louisville and the ENERGY STAR Challenge



- Platform for Louisville to achieve quick, low-cost reductions in GHG emissions
- Louisville initiative launched in December, 2007 with cooperation of all sectors of the city's economy
- ENERGY STAR tools will be used to track and report progress toward meeting goals of the Mayors' Climate Protection Agreement



# National Action Plan for Energy Efficiency

# National Action Plan for Energy Efficiency



- Released July 31, 2006 at National Association of Regulatory Utility Commissioners meeting
- Goal: To create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations
- 50+ member public-private Leadership Group developed five recommendations and commits to take action
- As of November 2007, over 90 public statements and commitments by 120 organizations have been made to advance energy efficiency under the National Action Plan
- Facilitated by EPA, and DOE

[www.epa.gov/eeactionplan](http://www.epa.gov/eeactionplan)

# National Action Plan on Energy Efficiency

## Sector Collaborative



- First workshop in summer of 2007 included over 100 participants from utilities and energy-using organizations
- Sector and utility design team participants
  - City of Austin, Texas
  - Cushman & Wakefield\*
  - Duke Energy\*
  - Food Lion, LLC\*
  - Great Plains Energy
  - Hilton\*
  - Marriott Corporation\*
  - New Jersey Natural Gas\*
  - Pacific Gas and Electric\*
  - Seattle City Light\*
  - Staples, Inc.\*
  - Target Corporation\*
  - Transwestern\*
  - USAA Realty\*
  - Wal-Mart Stores\*
  - Whole Foods Market\*
- Key Finding: Lack of readily available, consistent utility data hinders benchmarking and other energy management efforts.
- Proposed Solution: Develop a *Best Practices Guide* to standardize utility information on building energy use and cost

\* Indicates an ENERGY STAR partner

# National Action Plan on Energy Efficiency

## Sector Collaborative: Participant Commitments



- Diverse organizations from public and private sectors controlling billions of square feet of floor space made commitments to increase energy efficiency
- Commitments include one or more of the following action steps:
  - Reduce energy consumption substantially over the coming years (goals range from 10 to 30 percent)
  - Conduct energy benchmarking for all properties above 5000 sq. ft.
  - Implement all cost-effective strategies to improve energy efficiency
  - Create and/or increase energy efficiency education and awareness within and outside each organization
  - Pursue bulk purchasing of energy efficient products and services
  - Support expanded efficiency program offerings across states and utilities
  - Support development of standardized electronic utility billing data access by large customers for benchmarking
  - Explore energy efficiency programs offered by federal, state, and local agencies and sector-based associations



# Green Building Initiatives



# ENERGY STAR and Green Building



- Growing recognition that Green Ratings do not ensure energy efficiency
- Regardless of the green building certification being considered (LEED, Green Globes, etc.), it is important to ensure that buildings are energy efficient
- Requiring new construction to be “Designed to Earn the ENERGY STAR” provides an energy efficiency “insurance policy”
- Requiring benchmarking after new buildings are operating ensures they are performing as designed

# ENERGY STAR and LEED



- LEED for Schools
  - Energy & Atmosphere prerequisite: Minimum Energy Efficiency Performance
    - Projects must establish an energy performance rating goal for the facility design using EPA's Target Finder tool
- LEED for Existing Buildings
  - Energy & Atmosphere prerequisite: Minimum Energy Efficiency Performance
    - Buildings eligible for an EPA energy performance rating must achieve a rating of at least 69
    - Buildings not addressed by EPA rating must demonstrate energy efficiency at least 19% better than the national average source energy data provided in Portfolio Manager
  - Additional Energy & Atmosphere points are earned through higher EPA ratings or reduced source energy intensity



# State and Local Legislation and Directives

# California – Moving the Market



- Executive Order S-20-04 signed Dec. 2004
  - Requested the California Energy Commission adopt a benchmarking methodology to track energy efficiency improvements in state buildings
  - CEC recommended EPA's Portfolio Manager
  - By 2015, state buildings must reduce consumption by 20% using 2003 base year and benchmarking using Portfolio Manager
- Assembly Bill 1103 signed October 12, 2007
  - By 1/1/09: All utilities shall maintain records of energy consumption data for all non-residential buildings in a format compatible for uploading to Portfolio Manager, for at least the most recent 12 months
  - By 1/1/10: All commercial building owners or operators shall disclose Portfolio Manager benchmarking data and ratings for the most recent 12 months to a prospective buyer, lessee, or lender

# Minnesota and Illinois



- Minnesota Next Generation Energy Act of 2007
  - Establishes aggressive energy savings goals for utilities.
  - Establishes state goal of achieving 1,000 ENERGY STAR labeled commercial buildings by December 31, 2010.
  - Requires utilities to facilitate professional engineering verification for ENERGY STAR building labels in their Conservation Improvement Program (CIP) plans.
- Illinois Power Agency Act passed in August 2007
  - Requires utilities meet escalating savings targets reaching 2% of delivered electricity by 2015.
  - ComEd's DSM Plan includes comprehensive approach to the C&I market supported by benchmarking with Portfolio Manager.
  - Benchmarking positioned as first step toward whole building energy management and required element of retro-commissioning program



# Recognition of Financial Value of ENERGY STAR Labeled Buildings

- CoStar (Commercial Building Multiple Listing Service)
  - Largest commercial real estate listing service
  - Highlights buildings earning the ENERGY STAR
  - Next step: All CoStar listings to display building's ENERGY STAR performance rating, once verified through CoStar agents
- “CoStar's analysis showed that compared to average in their peer groups, buildings with the ENERGY STAR had higher increases in rental incomes and lower vacancy rates.” *Bloomberg.com*

# CoStar Analysis



ENERGY STAR Buildings outperform non-ENERGY STAR peers: two main findings:

- Office buildings that earned the ENERGY STAR outperform non-ENERGY STAR properties in occupancy rates and direct rental rates
- This gap in performance is increasing over time

	ENERGY STAR Label	No Label	Percent Difference
<b>Occupancy Rates</b> (as of 3Q '07)	90.1%	87.6%	<b>2.85%</b>
<b>Rental Rates/ft<sup>2</sup></b> (as of 3Q '07)	\$31.32	\$28.68	<b>9.2%</b>



# EPA Analysis: Across ENERGY STAR Labeled Buildings



- Across 850 ENERGY STAR Labeled Office Buildings
  - **One-third** more energy efficient than average U.S. office buildings
  - Average annual energy bills **at least \$0.50/ft<sup>2</sup> lower** per year – **35% lower** than the average building
  - Energy savings are **persistent**: buildings labeled six years in a row were **20% more efficient** in the sixth year than in the first year
  - REITs claim that **tenant comfort** and **occupancy** are **higher** in their ENERGY STAR labeled buildings
  - Higher net operating income from energy cost savings can lead to **higher building valuation**

Source: Kats, Greg & Perlman, Jeff (2006). *Summary of the Financial Benefits of ENERGY STAR Labeled Office Buildings*.

[http://www.energystar.gov/ia/partners/publications/pubdocs/Summary\\_of\\_the\\_Financial\\_Benefits\\_23June06\\_FINAL.pdf](http://www.energystar.gov/ia/partners/publications/pubdocs/Summary_of_the_Financial_Benefits_23June06_FINAL.pdf)

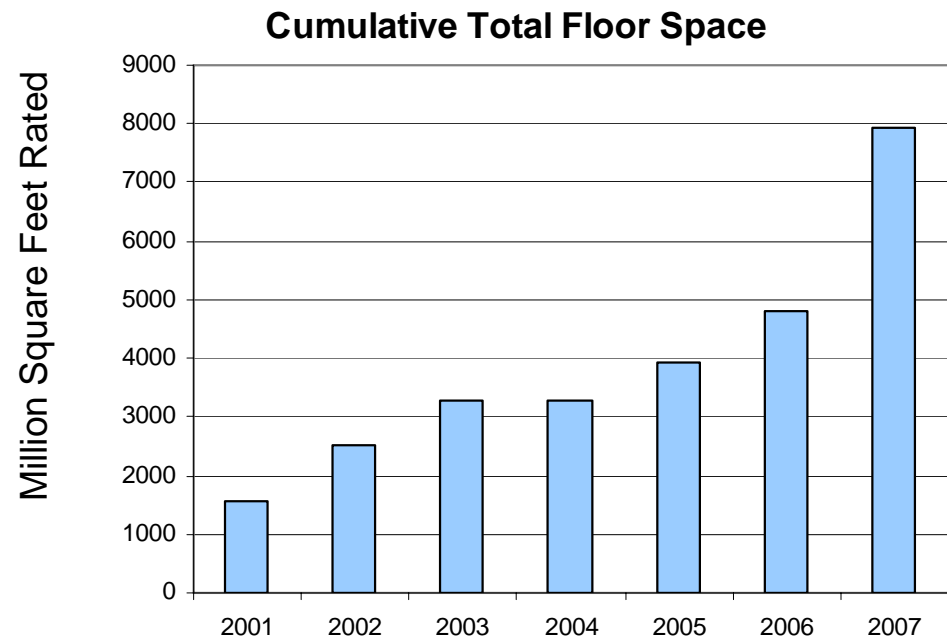


# Growth in the Use of EPA Energy Performance Rating

# Building Energy Rating is Growing Trends



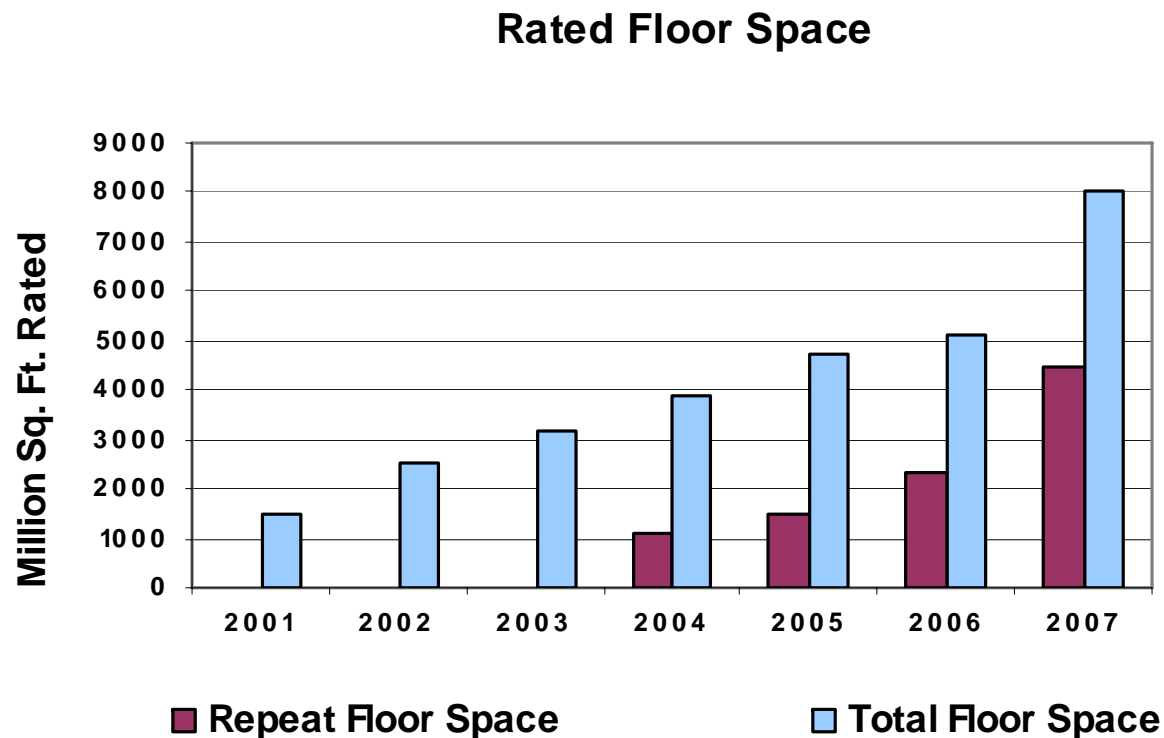
- About 8 billion square feet rated through 2007
- 65% increase over 2006
- Significant square footage rated in key markets:
  - Hospitals -- 49%
  - Supermarkets -- 35%
  - Office -- 29%
  - Schools, K-12 -- 21%
  - Hospitality -- 19%



# Continuous Improvement: Benchmarking Becomes Business Practice



- About 8 billion square feet rated
- 4.4 billion square feet (55 percent) represents buildings being rebenchmarked



# Summary



- The energy efficiency market continues to evolve and is moving at a tremendous pace
- Initiatives at both the national and state level are accelerating the market
- Numerous emerging markets
- Great opportunities for utilities to leverage ENERGY STAR resources

# For More Information



ENERGY STAR Web Site: [www.energystar.gov](http://www.energystar.gov)

National Campaigns: [www.energystar.gov/nationalcampaigns](http://www.energystar.gov/nationalcampaigns)

The ENERGY STAR Challenge: [www.energystar.gov/challenge](http://www.energystar.gov/challenge)

Commercial Food Service: [www.energystar.gov/cfs](http://www.energystar.gov/cfs)

Existing Commercial: [www.energystar.gov/buildings](http://www.energystar.gov/buildings)

New Commercial: [www.energystar.gov/newbuildingdesign](http://www.energystar.gov/newbuildingdesign)