

Benchmarking Your Building's Energy Using EPA's ENERGY STAR Portfolio Manager

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



The Parker Ranch installation in Hawaii

Please call in to the audio portion:

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Pass code: 483763

Presenter: Peter Flippen

August 11, 2010

12 PM – 1:30 PM EDT

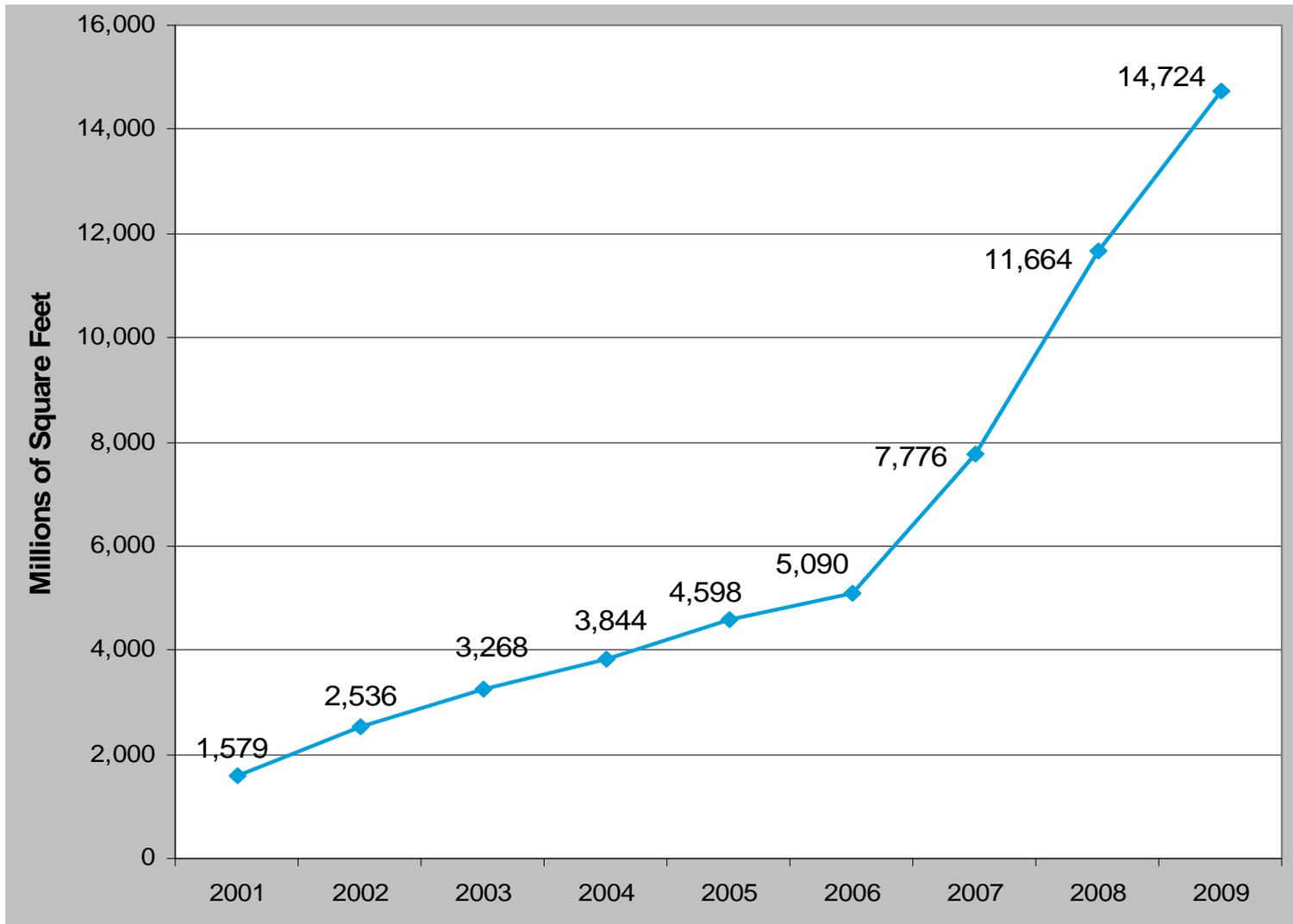
- Overview of ENERGY STAR and Portfolio Manager
- Portfolio Manager: Live Demonstration

What is ENERGY STAR?



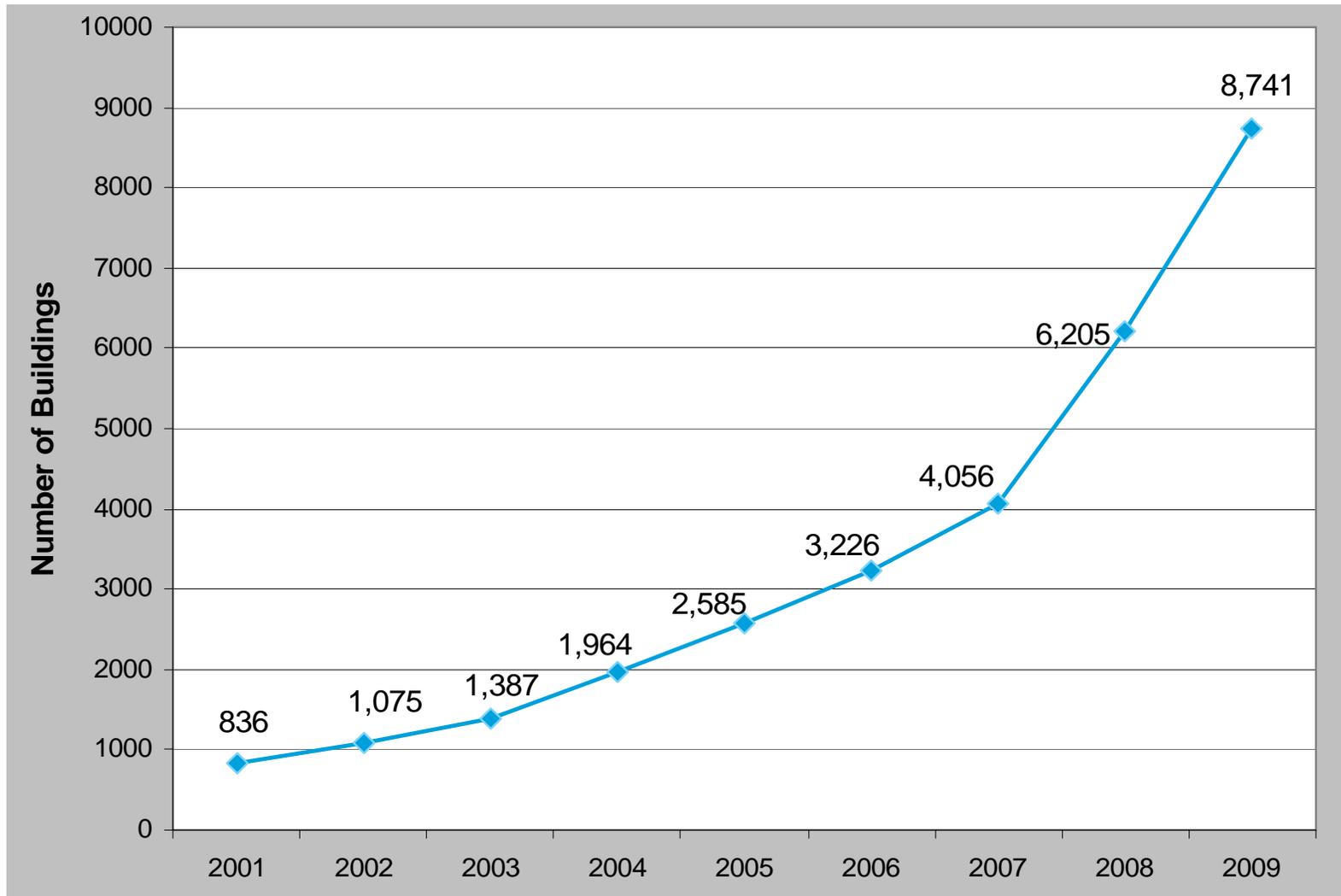
- EPA voluntary climate protection partnership with energy users and service and product providers
- Strategic approach to energy management, promoting energy efficient products and practices
- Helps organizations measure, track and improve energy performance
- Helps organizations save energy and money and protect the environment
- Brand recognition - 75% of Americans

Portfolio Manager Growth Cumulative Floor Space of Rated Buildings

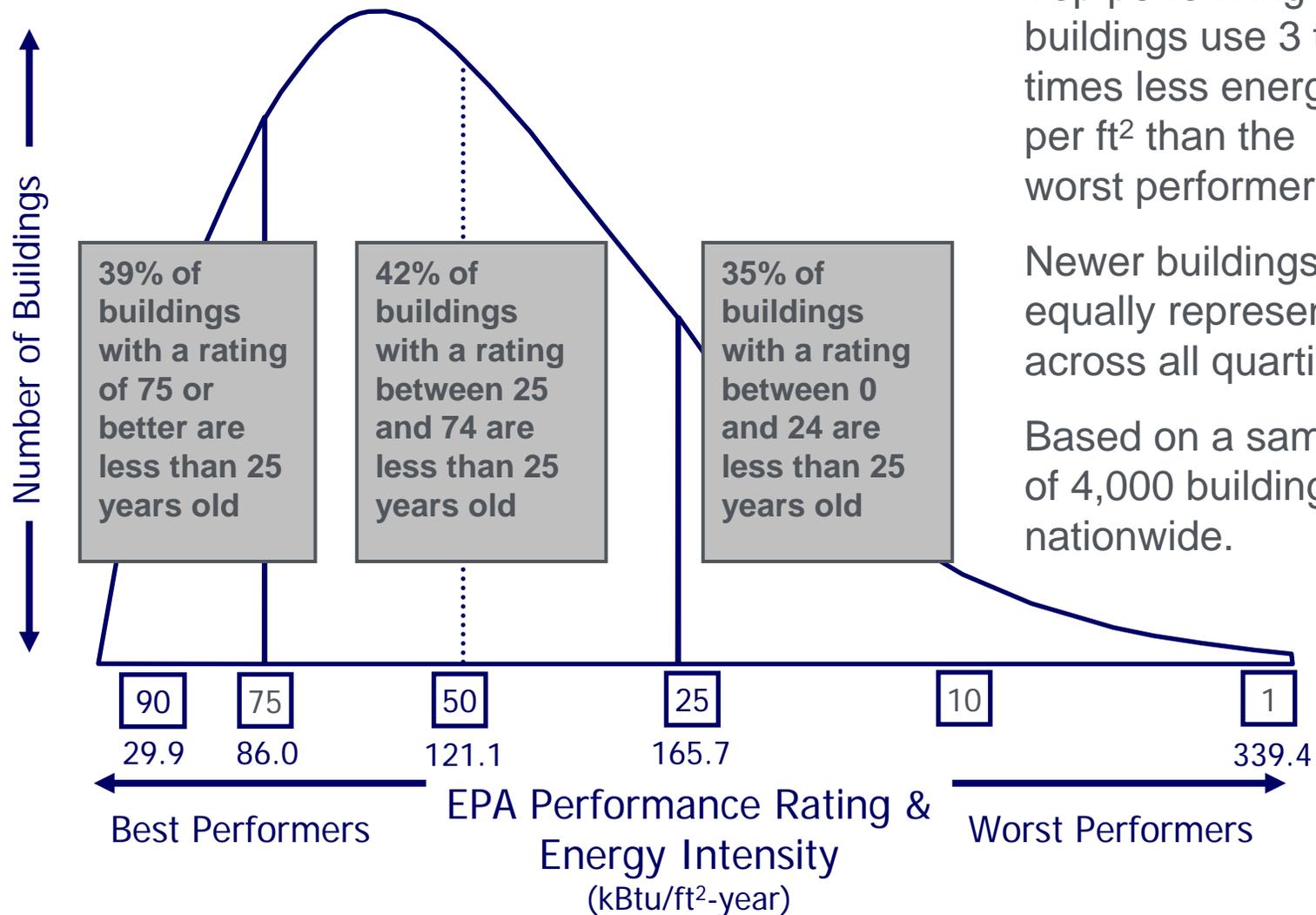


ENERGY STAR Label Growth

Cumulative Number of Labeled Buildings



“New” Doesn’t Always Mean “Efficient”



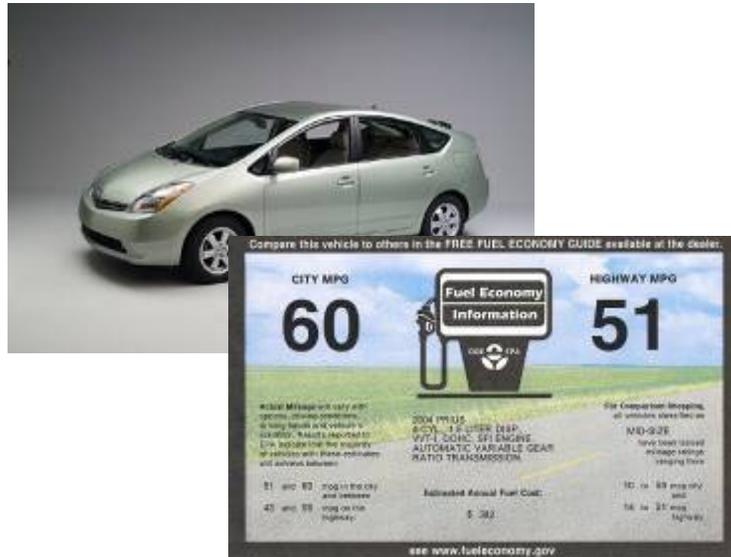
Top performing buildings use 3 to 4 times less energy per ft² than the worst performers.

Newer buildings are equally represented across all quartiles.

Based on a sample of 4,000 buildings nationwide.

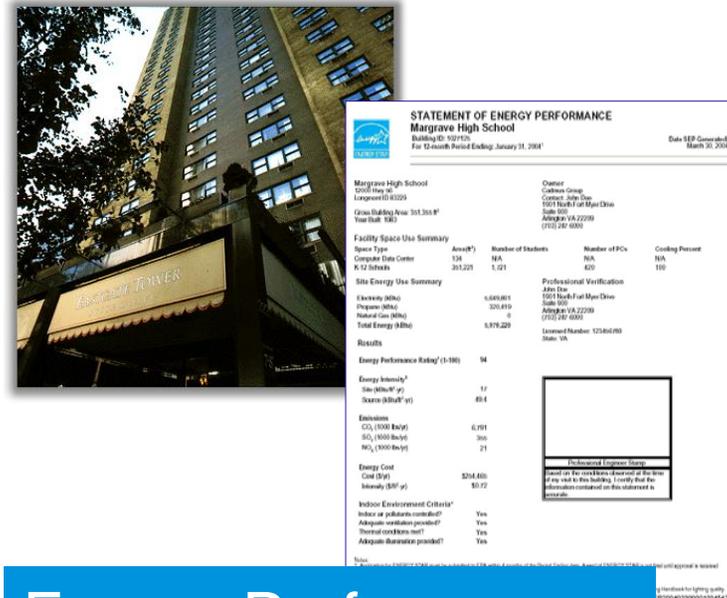
- Free, online, benchmarking tool for existing buildings
- Whole-building ACTUAL Energy Performance Score and benchmarking data
- Measures and Tracks energy intensity, cost, emissions
- Normalizes for weather, operating hours, occupant density, plug load
- Provides ENERGY STAR Label for Buildings

Is 60 MPG high or low for this automobile?



Fuel Efficiency:
MPG

Is 90 kBtu/SF/YR high or low for this building?



Energy Performance
Rating: **1 to 100**

All Space Types	K-12 School	Office	Supermarket Grocery
<ul style="list-style-type: none">• Address• Year Built• At least 12 months energy data	<ul style="list-style-type: none">• SF• # Walk-in refrigerator freezer units• # PC's• Open weekends Y/N• Cooking Y/N• High School Y/N• % Heated• % AC	<ul style="list-style-type: none">• SF• # Workers• Op. hrs.• # PC's• % Heated• % AC	<ul style="list-style-type: none">• SF• # Workers• Op. hrs• # Walk-in refrigerator freezer units• Cooking Y/N• % Heated• % AC

Examples

ENERGY STAR Score Eligible Building Types



**Bank/Financial
Institutions**



Courthouses



Data Centers



Dormitories



Hospitals



Hotels



**Houses of
Worship**



K-12 Schools



Medical Offices



Office Buildings



Retail Stores



Supermarkets

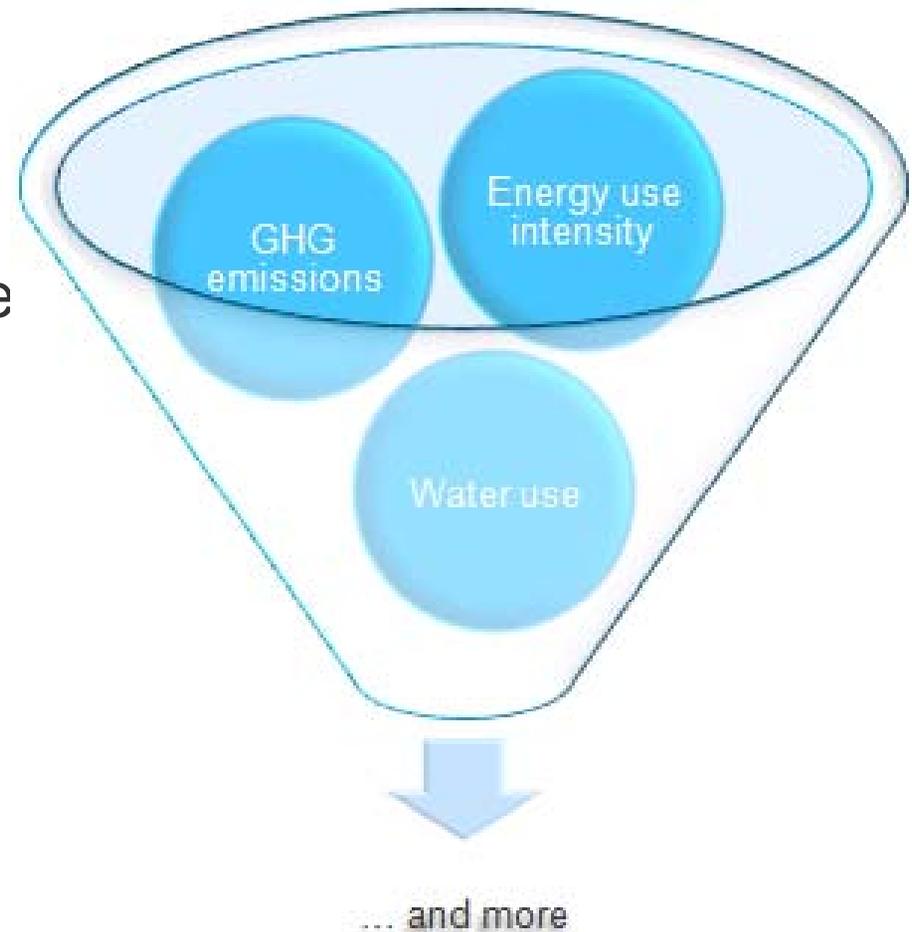


Warehouses



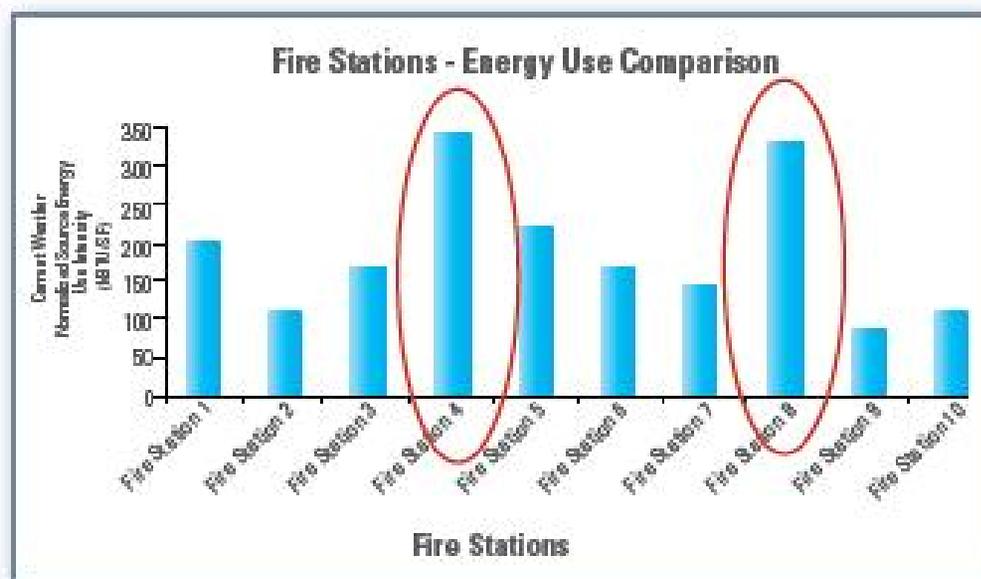
**Wastewater
Treatment Plants**

- Such as:
 - Police Stations
 - Fire Stations
 - Assisted Living Facilities
 - Convention Centers
 - Laboratories
 - Libraries
 - Malls
 - Movie Theatres
 - Restaurants
 - Stadiums and Arenas



Identify Best Opportunities for Improvements

- Identify under-performing buildings to target for energy efficiency improvements.
- Establish baselines to set goals and measure progress



Prioritize efforts by identifying under-performing buildings.

Why EPA's Rating System?

Free simple analytical tool

Web-based, no cost, easily understood, 1-100 scale, weather normalized EUI

Industry standard

More than 140,000 commercial and institutional buildings benchmarked in Portfolio Manager

Over 10,000 buildings receiving a label

Comprehensive development process

Extensive research and data base

EPA, DOE, NOAA

Symbol of superior energy performance

Recognized by 75% of Americans

Streamline reporting process & quantify results in Portfolio Manager

- A consistent platform to and accurately demonstrate savings with *transparency* and *accountability*:
 - Whole building energy performance
 - Improvements over a baseline
 - GHG emissions
 - Water use
- Reporting Feature: Create custom reports and receive results through PM:
 - Create custom reports by choosing from key energy, environmental, and/or cost performance indicators
 - Easily request and collect benchmarking results from multiple building owners/grantees using the PM interface
 - Download data in Excel, CSV, PDF, and XML formats for analysis

Benefits of Portfolio Manager



- Participate in corporate or state/local energy benchmarking initiatives
- Conduct low cost “pre-audits” of building energy use
- Identify opportunities for improvement
- Set priorities, goals for upgrades
- Gain Valuable Recognition for Clients

- Measuring and reporting performance required for ARRA funded programs and some programs require or encourage the use of Portfolio Manager
 - Iowa SEP Grant Program
 - Efficiency Maine Commercial Project EECBG Grant Program
 - New York Energy Efficiency Program
 - [Pennsylvania Conservation Works! Program](#)
 - Utah Advanced Energy Efficiency Strategies for Buildings Program
 - [New Hampshire Office of Energy and Planning EECBG Grant Program](#)

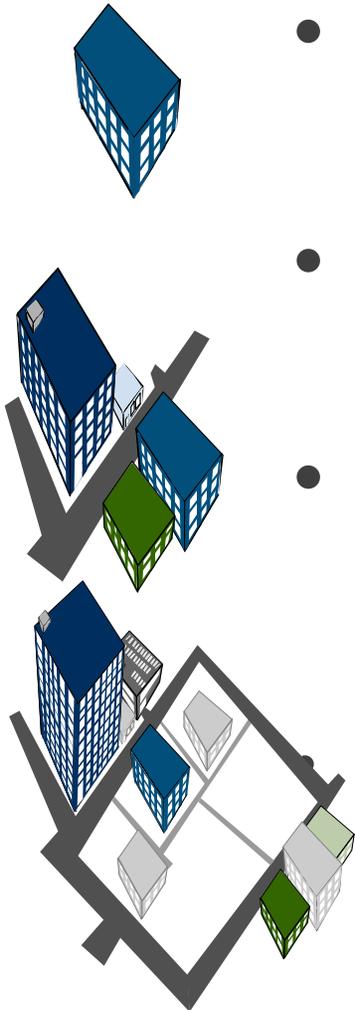
Voluntary Campaigns and Incentives

Location	Program
City of Albuquerque	Green Path Program
City of Chicago	Chicago Green Office Challenge
State of WI	Lt. Governor ENERGY STAR School Challenge
City of Louisville	Louisville Kilowatt Crackdown
City of Portland	Portland Energy Showdown
State of PA	Conservation Works and Small Business Energy Efficiency Grants
New England EPA Region 1	Community Energy Challenge
State of NM	HB 534: Sustainable Building Tax Credits
City of Seattle	Seattle Kilowatt Crackdown
State of NJ	NJ Pay for Performance and NJ Local Government Energy Audit Program
City of San Francisco	Earth Hour 24x7 Energy Challenge

- **City of Chicago** - Participants in the Chicago Green Office Challenge will use EPA's Portfolio Manager.
- **State of New Jersey** – Two programs, Pay for Performance for commercial building owners and Local Government Energy Audit Program, use Portfolio Manager to measure progress.
- **State of Wisconsin** - Challenge for 100 new WI school districts to reduce energy use by 10 percent and track in Portfolio Manager.
- **City of Portland, OR** - Holding Portland Energy Showdown for buildings to track and work to improve their building's energy use in Portfolio Manager. Winners are awarded cash prizes.
- **City of Louisville** - Participants in the Louisville Kilowatt Crackdown will track and work to improve their building's energy use in EPA's Portfolio Manager.



How is Data Entered?



- **Single Building Manual Entry**
 - Enter building and energy consumption information into Portfolio Manager.
 - **Bulk Data Upload**
 - Upload large sets of building data in Portfolio Manager using an Excel template.
 - **Automated Benchmarking Services**
 - Use Service and Product Provider to have the rating automatically integrated into your energy information and bill handling system
- ## Utility-based Automated Benchmarking
- Option 1: Provide utility data
 - Option 2: Provide automated benchmarking services

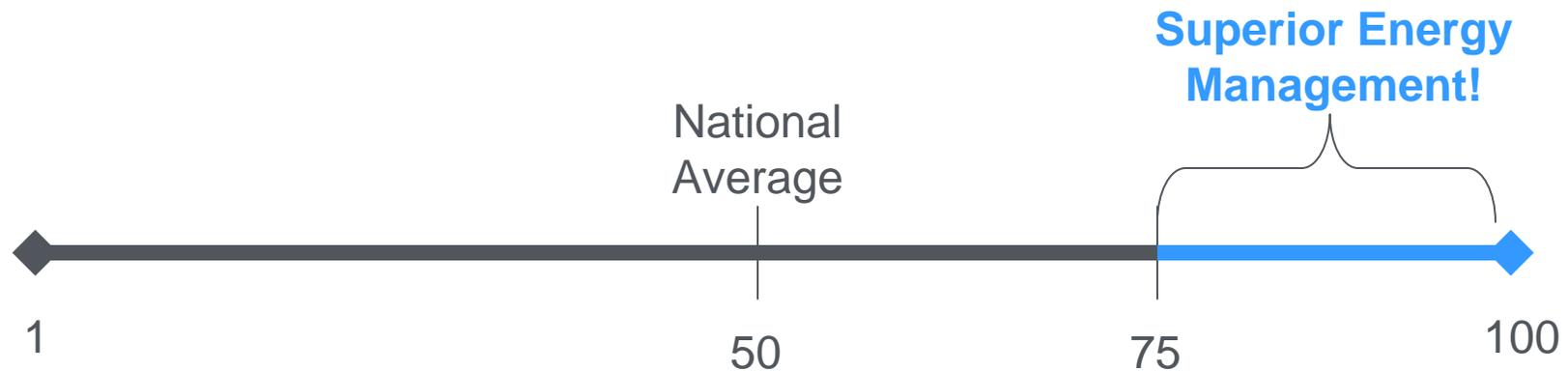
Service Providers Offer Automated Benchmarking with PM

- Advantage IQ
- Angus Systems
- ComEd
- EduCon
- ei3
- Energard Technologies
- Energy Print
- Energy Watchdog
- EnergyCAP, Inc.
- EnergySolve
- IBS, Inc.
- Johnson Controls
- LPB Energy Management
- New Energy Technology
- NISC
- NorthWrite
- Pacific Gas & Electric
- Performance Systems Development
- San Diego Gas & Electric
- Siemens
- Southern California Edison
- Southern California Gas Company
- Summit Energy
- The E Group
- UtilityAccounts.com

More information at www.energystar.gov/abs

ENERGY STAR Label for Commercial Buildings

- National recognition for top energy performance of commercial buildings.
 - Over 10,000 buildings have earned the ENERGY STAR to date.



Percentile of Commercial Building Population
in terms of Energy Performance

Energy Efficient Buildings – A Market Differentiator

Commercial Real Estate properties that earn the ENERGY STAR label:

- Save \$.50 sq/ft (on average)
- Consume 35% less energy

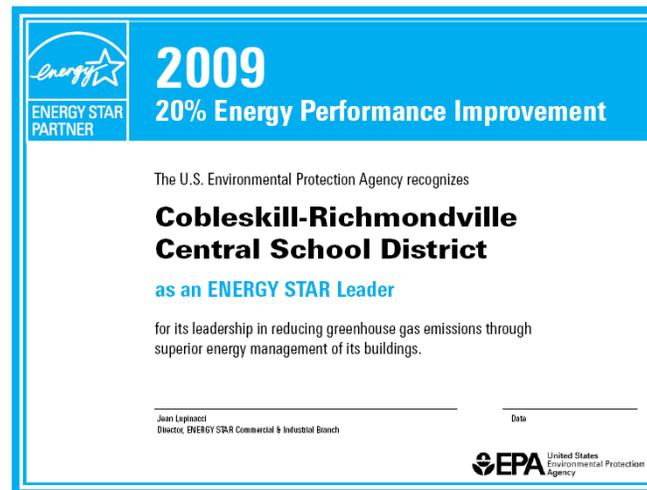
AND

- Savings persist over time
- Occupancy/tenant retention is higher
- Savings leveraged into higher asset value upon disposition



Earn Recognition for Superior and Improved Energy Performance

- **ENERGY STAR Leaders** for portfolio-wide improvements
 - Benchmark portfolio of buildings
 - Show improvement of 10%, 20%, 30%, etc.
 - Average portfolio score of 75 or higher



- Overview of ENERGY STAR and Portfolio Manager
- Portfolio Manager: Live Demonstration

Live Portfolio Manager Demonstration

www.energystar.gov/istar/pmpam

http://apps1.eere.energy.gov/buildings/tools_directory/

Thank you!

ENERGY STAR Web site:

www.energystar.gov/benchmark

DOE Solution Center:

www.eere.energy.gov/wip/solutioncenter

DOE Technical Assistance Center:

<https://tac.eecleanenergy.org/>

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