



2009 NAA **Green** Conference & Exposition

April 28-29, 2009 • Phoenix Convention Center • Phoenix, Arizona

Save **Green** by Going **Green** with Federal Initiatives

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Preservation



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ENERGY STAR for Multifamily Housing

April 29, 2009

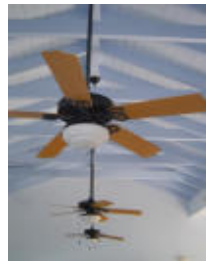
Alyssa Quarforth, US EPA

Agenda



- Overview of ENERGY STAR
- ENERGY STAR Resources
- Value of ENERGY STAR for multifamily real estate
- Benchmarking with Portfolio Manager
- New Construction for Multifamily
- Other Voluntary EPA Programs

ENERGY STAR is... Homes, Buildings, Products



ENERGY STAR is....



A voluntary public-private partnership program

A strategic approach to energy management

Energy efficient practices and products

Recognized by over 70% of Americans

An internationally recognized brand

Also recognized in Australia, Canada, Europe, and Japan



Strategic Approach to Energy Management



A roadmap to help partners:

- Assess current energy performance
- Set reduction goals
- Track savings over time
- Reward improvements



ENERGY STAR for Buildings



- Over 1,700 Partners operating more than 11 billion square feet of space (nearly 20% of space in the U.S.).
- Over 3,000 small business and congregation network participants.
- Nearly 100 utility and energy efficiency program sponsors.
- Over 1,600 service/product providers.
- Over 70,000 buildings, representing more than 9 billion square feet of space, measure and track their energy performance with ENERGY STAR.



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Why Partner with EPA?

- ***Unbiased:*** EPA is a trusted, unbiased source of research and technical analysis
- ***Best Practices:*** EPA coordinates with the commercial sector supply chain for identification of best practices
- ***Environmental and Financial Benefits:*** EPA brings to market tools and resources that result in verifiable, sustainable, and easily communicated environmental and financial benefits
- ***Carbon Mitigation:*** EPA can help to reduce your organization's environmental footprint and carbon impact

ENERGY STAR Website



- Central hub for ENERGY STAR tools and resources for the multifamily industry
- News and events

The screenshot shows the ENERGY STAR website interface. At the top left is the ENERGY STAR logo. To its right is a banner for 'SUPERIOR ENERGY MANAGEMENT CREATES ENVIRONMENTAL LEADERS' by the U.S. Environmental Protection Agency. Below the banner is a navigation menu with buttons for 'Products', 'Home Improvement', 'New Homes', 'Buildings & Plants', and 'Partner Resources'. A search bar is located to the right of the navigation menu. The main content area is titled 'ENERGY STAR for Multifamily Housing' and includes a photograph of a modern building. Below the photograph is a 'What You Can Do' section with a list of actions: 'Join ENERGY STAR to show your organization-wide commitment to energy management' and 'Establish a comprehensive energy management program using ENERGY STAR's Guidelines for Energy Management'. On the right side of the page is a 'Quick Finder' section with links to 'Portfolio Manager Login', 'Target Finder', 'ENERGY STAR Challenge', 'ENERGY STAR Leaders', 'Earn the ENERGY STAR', 'Purchasing & Procurement', 'Service Providers Directory', and 'Find Labeled Buildings and Plants'. A left sidebar contains a 'Getting Started for...' section with links for various sectors: Government, Healthcare, Higher Education, Hospitality/Entertainment, Industrial, K-12, and Real Estate.

http://www.energystar.gov/index.cfm?c=multifam_housing.bus_multifam_housing

ENERGY STAR

Communications Toolkit



- Co-brandable posters and print advertisements
- Templates for press releases
- Brochures
- Fact sheets
- Key messages
- Web banners

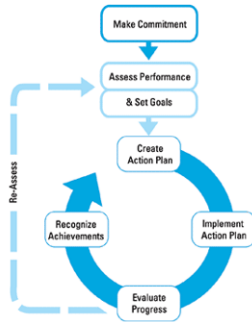
[Home](#) > [Buildings & Plants](#) > [The ENERGY STAR Challenge](#) > [Use the Challenge Toolkit](#)



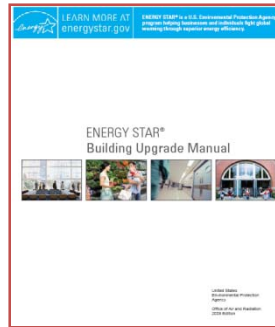
The screenshot shows the Energy Star Challenge Toolkit website. The main heading is "The ENERGY STAR Challenge Use the Challenge Toolkit". Below this is a sub-heading "Communications Materials" and a paragraph: "Use the Challenge Toolkit communications materials to learn about energy efficiency, find creative ways to communicate your commitment to energy efficiency, grow your participation with ENERGY STAR, and celebrate your success." A photo of a child holding a globe is visible. To the right are three buttons: "Learn About the Challenge", "Take the ENERGY STAR Challenge", and "Use the Challenge Toolkit". Below the main content is a box with the text: "Take a look inside to find dozens of new communications materials! From brochures to posters to news releases to fact sheets, the new ENERGY STAR Challenge Toolkit has it all!". At the bottom are two links: "Get Started" and "Learn More".

<http://www.energystar.gov/challenge>

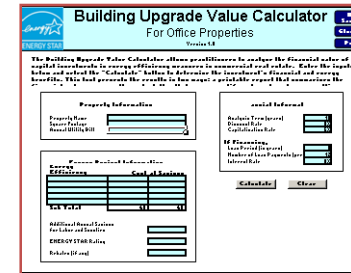
Additional Tools and Resources



[Guidelines for Energy Management](#)



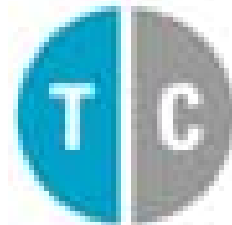
[Building Upgrade Manual](#)



[Financial Evaluation Tools](#)



[Purchasing and Procurement](#)



[ENERGY STAR Trainings](#)



[National Campaigns](#)



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Current Energy Management Landscape



- Manage operating costs in light of rising energy prices
- Proactively address public concern about climate change
- Win investor confidence
- Respond to energy performance disclosure legislation by localities and states

Energy Costs in Multifamily

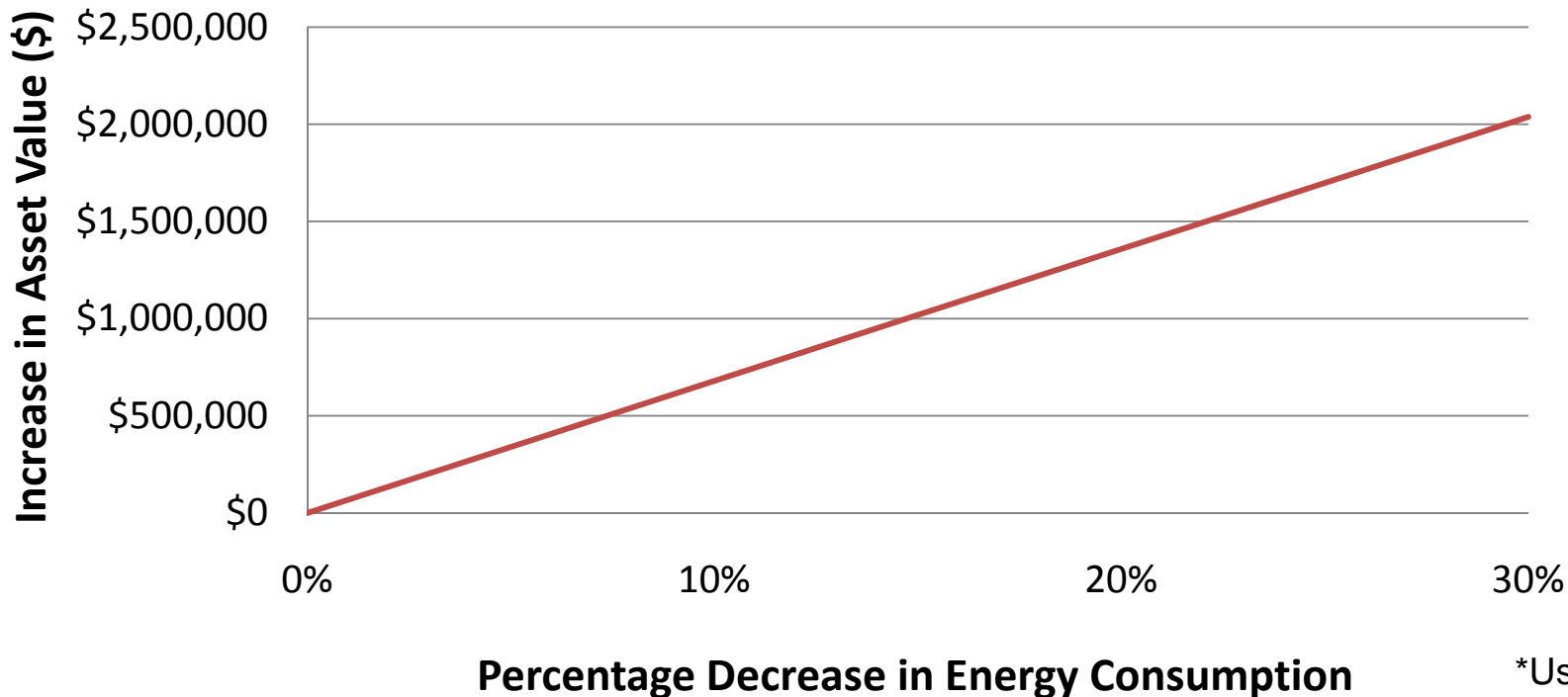


- Utilities account for 20-25% of all operating expenses at a typical multifamily property
- Energy represents the single largest controllable expense at a multifamily community—about \$1.79/NRSF
- Decreasing energy use increases net operating income and asset value.

Decreasing Energy Use Impacts Asset Value



Potential Increase in Asset Value from Reduced Energy Consumption



*Using a 6% Capitalization Rate

Why Green Starts with Energy Efficiency



- Businesses that are leaders in energy efficiency use 40 percent less energy than competitors
- Energy efficient buildings emit 35 percent less carbon dioxide into the atmosphere
- Energy efficiency provides financial returns that can support future “green” investments
- “Green” does not necessarily mean energy efficient!



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Benchmarking



A benchmark is a point of reference from which to make comparisons

Why Benchmark?



Benchmarking enables you to *make more informed decisions*:

- Identify billing errors
- Assess effectiveness of current operations, policies, practices
- Assist in planning: set goals, targets, timelines, prioritize capital improvements
- Contribute to more responsible management
- Be more responsive to residents

Is Your Building Performing Well?



Fuel Efficiency
MPG



Is 18 MPG high or low for an automobile?

Is 130 kBtu/SF/YR high or low for a building?

Energy
Performance
EPA
Benchmarking

STATEMENT OF ENERGY PERFORMANCE			
Margrave High School			
Building ID: 107120		Date SEP Generated: March 20, 2014	
For 12-month Period Ending January 31, 2014*			
Margrave High School 1200 Hwy 95 Longmont CO 80501		Owner: Carlson Group Contact: John Doe 1001 South Foothill Mall Drive Suite 100 Arden, VA 22009 (703) 247-6800	
Gross Building Area: 351,295 SF		Year Built: 1982	
Facility Space Use Summary			
Space Type	Area (SF)	Number of Students	Number of PCs
Computer Data Center	134	N/A	N/A
K-12 Schools	343,251	1,071	420
Site Energy Use Summary			
Electricity (kBtu)	6,649,813	Professional Verification John Doe 1001 South Foothill Mall Drive Suite 100 Arden, VA 22009 (703) 247-6800	
Propane (kBtu)	320,419	Licensed Number: 123456789 State: VA	
Natural Gas (kBtu)	0		
Total Energy (kBtu)	6,970,230		
Results			
Energy Performance Rating ¹ (1-100)	94		
Energy Intensity ²			
Site (kBtu/SF-yr)	17		
Source (kBtu/SF-yr)	49.4		
Emissions			
CO ₂ (1000 Btu/yr)	6,791		
SO ₂ (1000 Btu/yr)	206		
NO _x (1000 Btu/yr)	21		
Energy Cost			
Cost (\$/yr)	\$294,400		
Intensity (\$/SF-yr)	\$0.82		
Indoor Environment Criteria ³			
Indoor air pollutants controlled?	Yes		
Adequate ventilation provided?	Yes		
Theoretical daylight met?	Yes		
Adequate illumination provided?	Yes		



Report: SEP20140200001014542

Benchmarking with Portfolio Manager



1. Go to:
www.energystar.gov

2. Click on:
Buildings and Plants

The screenshot shows the Energy Star website interface. At the top, there is a navigation bar with links for 'About ENERGY STAR', 'News Room', and 'FAQs'. A search bar is located on the right. Below the navigation bar is a banner with the text 'PROTECT OUR ENVIRONMENT FOR FUTURE GENERATIONS' and 'U.S. Environmental Protection Agency • U.S. Department of Energy'. The main content area is divided into several sections: 'PRODUCTS', 'HOME IMPROVEMENT', 'PARTNER RESOURCES', 'BUILDINGS & PLANTS', and 'NEW HOMES'. The 'BUILDINGS & PLANTS' section is circled in red, and a red arrow points to it from the left. The 'BUILDINGS & PLANTS' section includes links for 'Enterprise Buildings & Plants', 'Guidelines for Energy Management', 'Tools & Resources Library', 'Expert Help', 'New Building Design', and 'Green Buildings'. The 'NEW HOMES' section includes links for 'Learn about ENERGY STAR QUALIFIED NEW HOMES' and 'Explore Qualified New Homes'.

Benchmarking with Portfolio Manager



3. Click on:
“Portfolio
Manager”

The screenshot shows the ENERGY STAR website interface. At the top, there is a navigation bar with links for 'About ENERGY STAR', 'News Room', and 'FAQs'. A search box is located on the right. Below the navigation bar is a banner for 'SUPERIOR ENERGY MANAGEMENT CREATES ENVIRONMENTAL LEADERS' by the U.S. Environmental Protection Agency. A secondary navigation bar contains buttons for 'Products', 'Home Improvement', 'New Homes', 'Buildings & Plants', and 'Partner Resources'. The main content area is titled 'Buildings & Plants' and includes a sub-header 'Home > Buildings & Plants'. The page is divided into several sections: 'Strategy' with a link to 'Guidelines for Energy Management', 'New Building Design' with a link to 'Target Finder', and 'Green Buildings and Energy Efficiency'. A 'Tools' section is also visible, mentioning the 'Tools & Resources Library'. On the right side, there is a sidebar with a 'Quick Links' section containing 'Portfolio Manager Login' (circled in red), 'ENERGY STAR Challenge', 'ENERGY STAR Leaders', 'Earn the ENERGY STAR', 'Purchasing & Procurement', 'Service Providers Directory', 'Find Labeled Buildings', 'Communications Kit', and 'Online Training'. Below this is a 'News' section with a link to 'Your Small Business Ready for Summer?' and 'Top 5 Ways to Cool Your...'. A red box on the left contains the instruction '3. Click on: "Portfolio Manager"', with two red arrows pointing from it to the 'Portfolio Manager Login' link and the 'Tools & Resources Library' link in the 'Tools' section.

Benchmarking with Portfolio Manager



Portfolio Manager Login - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://www.energystar.gov/istar/pmpam/>

Google

PORTFOLIO MANAGER
EPA's system for helping you track and improve energy efficiency across your entire portfolio of buildings.

FAQ FREQUENTLY ASKED QUESTIONS CONTACT US HELP

WHAT'S NEW IN PORTFOLIO MANAGER

New! Water Treatment and Distribution Facilities
The EPA is pleased to announce the addition of Water Treatment and Distribution Facilities to Portfolio Manager. Water Utilities will now be able to track and improve energy consumption and emissions by entering and managing data in Portfolio Manager. [Learn More](#)



New! Portfolio Manager Enhancements (Spaces Not Eligible to Receive a Rating)
Portfolio Manager now provides users the ability to manage buildings that are eligible to receive a rating as well as those that are not – all within the same online platform. [Learn More](#)

Username:
[Forgot your username?](#)

Password:
[Forgot Your Password?](#)

New User? [Register](#)

ENERGY STAR Labeled Buildings



Coleman A. Young Municipal Center
2 Woodward Avenue
Detroit, MI 48226
[Read Profile](#)

About Portfolio Manager

- [Learn](#) what Portfolio Manager can do for your organization
- [Take](#) the Portfolio Manager Tour
- [Explore](#) some Frequently Asked Questions about our October 1, 2007 Updates
- [Train](#) on how to use Portfolio Manager
- [Review](#) eligibility requirements to benchmark your facility
- [Import](#) facility data

Success through ENERGY STAR

- [Learn](#) about ENERGY STAR Leaders that have improved organization-wide
- [Take](#) the ENERGY STAR Challenge – improve your buildings' energy efficiency by 10%
- [Find](#) buildings that have earned the ENERGY STAR

Benchmarking with Portfolio Manager



Portfolio Manager - Building list - Windows Internet Explorer

https://www.energystar.gov/istar/pmpam/index.cfm?fuseaction=portfolio.portfolioView

File Edit View Favorites Tools Help

Google G Go Bookmarks PageRank 470 blocked Check AutoLink AutoFill Send to Setting

Portfolio Manager - Building list

[More about Change from Baseline: Adjusted Energy Use](#)

[Apply for the ENERGY STAR ENERGY STAR Leaders](#)

Automated Benchmarking
[Get Started Now](#)

Portfolio Averages
(for all Water Utilities and Wastewater Treatment Facilities)

Baseline Rating: 39 Facilities Included: 2	Current Rating: 52 Facilities Included: 2
Change from Baseline: Portfolio Adjusted Percent Energy Use (%): N/A Facilities Included: 0	

Averages are weighted by Average Daily Flow.
[More about Wastewater](#)

My Facilities **My Campuses**

GROUP: All Facilities Create Group View All VIEW: Multi-family housing view Create View Edit View View All

[Download](#) in Excel Search Facility Name: Search

Results 1 - 20 of 20 All # A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Facility Name	ZIP Code	Baseline Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Current Weather Normalized Source Energy Intensity (kBtu/Sq. Ft.)	Total Energy Cost per Sq. Ft. (US Dollars (\$))	Change from Baseline: Adjusted Energy Use (%)	Change from Baseline: GHG Emissions (MtCO ₂ e)	Indoor Water Use (kGal)
A - Multi-family Complex TEST	20037	121.6	106.4	\$5.78	-12.5	0.00	6,000.0
A2 Multi-Family Complex TEST	22980	126.2	98.2	\$5.23	-22.2	-828.41	1,200.0
A3 - Multi-family Complex TEST	20460	160.9	182.3	\$11.76	13.3	831.38	N/A

Basic Information Needed



- General Information
 - Building address including zip code
- Energy Consumption Data
 - 12 consecutive months of meter data for each fuel type
- Space Type Data
 - Square footage
 - Laundry and dishwasher hookups
 - Number of rentable units

Tracking Results



Portfolio Manager allows you to:

- Measure weather normalized energy intensity use
- Monitor energy costs and quantify energy cost savings
- Track water use and greenhouse gas emissions
- Set baselines and targets, monitor progress toward goals and efficiency improvements
- Demonstrate increased value to clients and residents

Energy Decisions are Business Decisions

Enhanced energy performance leads to reduced operating expenses and...

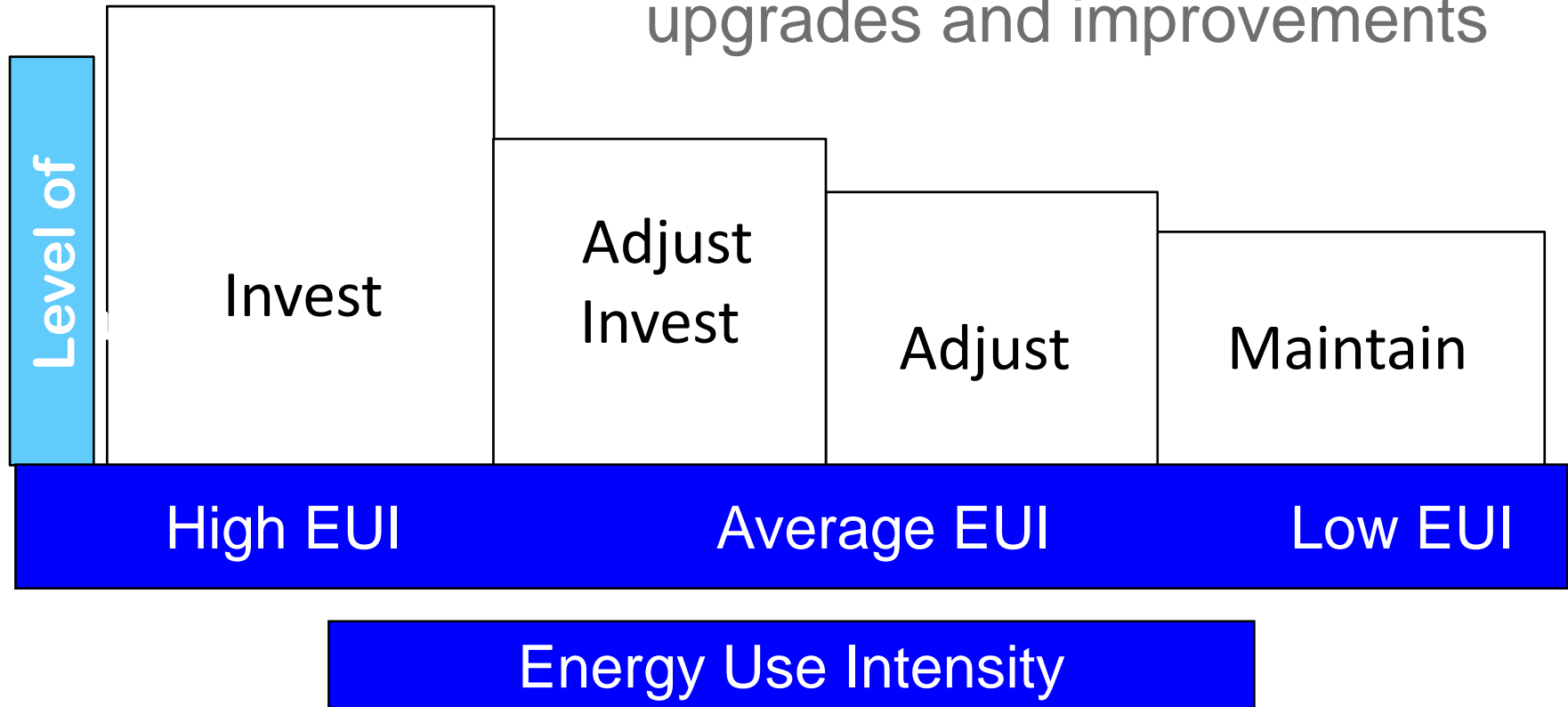
- Better equipment operation and extended life
- Potential labor cost savings
- Enhanced comfort and satisfaction
- Enhanced asset value and NOI
- Enhanced image by emphasizing climate stewardship



Comparative Metric



Prioritize portfolio-wide upgrades and improvements





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ENERGY STAR and the MF Sector



- Low-Rise
 - All multi-family buildings 3 stories or less can qualify for ENERGY STAR
 - Each unit can earn the ENERGY STAR Label
- High-Rise
 - MFHR pilot buildings must be 4 stories or more
 - Each building can earn the ENERGY STAR Label

Multi-Family High-Rise Requirements

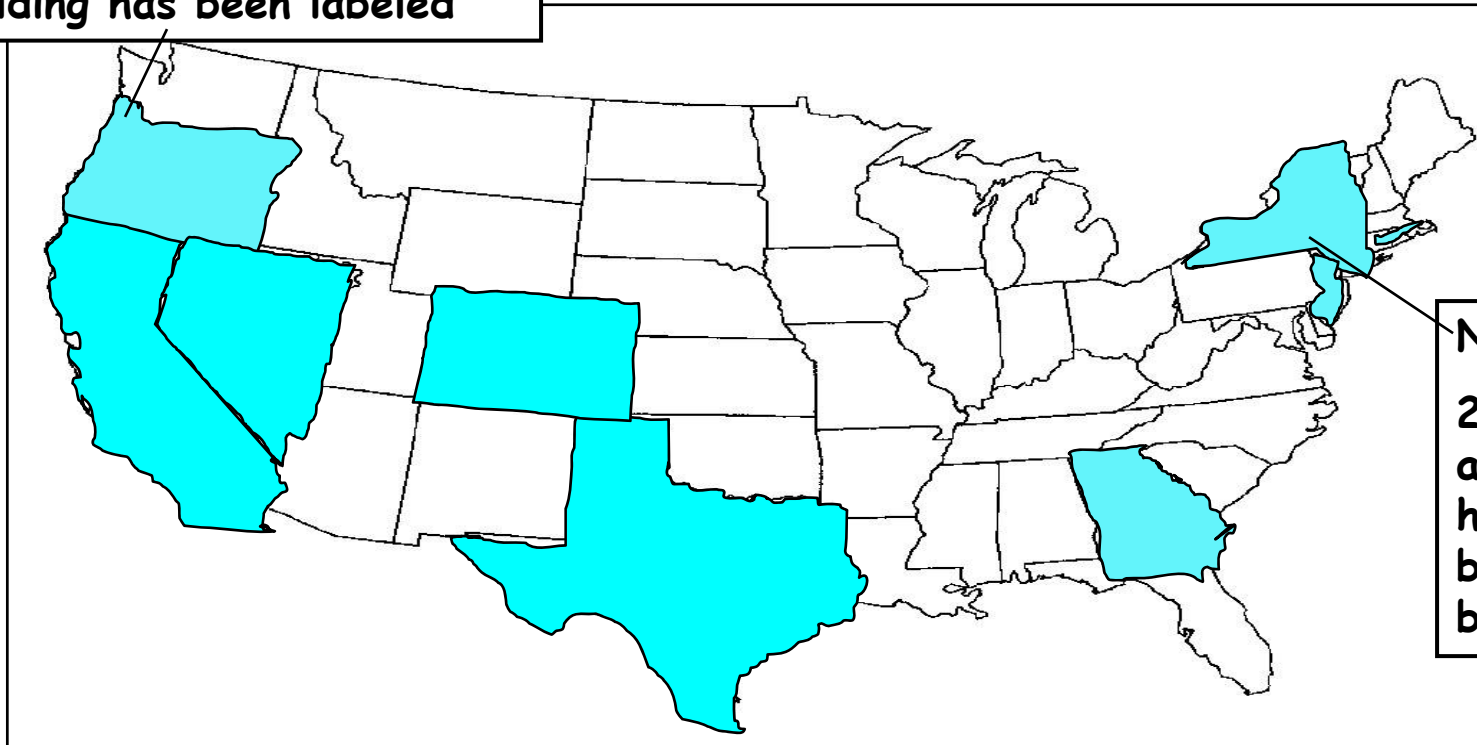


- Meet Performance Guidelines using ES Simulation Guidelines
 - 20% better than ASHRAE 90.1-2004 as defined by Appendix G
 - Top quartile of benchmarking tool
- Quality assurance through inspection and program protocols
- Incremental cost of implementing each energy efficiency measure
- Building energy performance data for a period of at least two years

ENERGY TRUST OF OREGON:

1 - high-rise, market rate building has been labeled

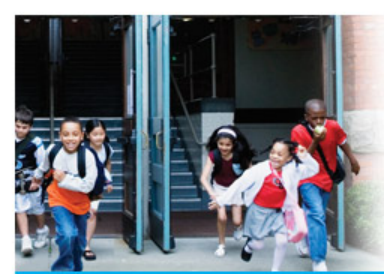
Pilot Partners



NYSERDA:

2 - mid-rise, affordable housing buildings have been labeled

Pilots approved in CA, CO, GA, NJ and TX



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EPA's Voluntary Programs: Resources to Help You Fight Global Warming



							
Energy and Climate	✓	✓	✓	✓	✓		✓
Water		✓				✓	
Solid Waste	✓				✓		
Products		✓				✓	
Education	✓	✓	✓	✓	✓	✓	✓

WasteWise

- Helps partners **implement** strategies to...
 - Achieve continuous improvement toward waste reduction and minimization
 - Measure, track, and report progress
 - Identify/promote the GHG savings attributable to waste prevention and recycling
- Sample partners
 - CB Richard Ellis
 - McDonald's
 - Target
 - Walt Disney





WaterSense

- Performance ***certification***
 - Help customers identify/choose products to achieve greater water efficiency and realize utility bill savings
 - Transform marketplace for water-efficient products and programs
- Coordinates with irrigation professionals to define and certify water efficient landscape irrigation practices
- Partners with manufacturers, retailers/distributors, utilities, and end-users





Contact Information

Further Questions?

Alyssa Quarforth

Program Manager

ENERGY STAR Commercial Markets

Climate Protection Partnerships Division, US EPA

Quarforth.alyssa@epa.gov

Email questions to: buildings@energystar.gov

Visit our website: www.energystar.gov



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HUD's Green Initiative

The Office of Affordable Housing
Preservation (OAHP)

Efficiency Efforts at HUD



- National Energy Task Force/Report to Congress
- Partnerships with DOE and EPA
- Priority Points in Competitive Grants (SuperNOFA) for Efficiency Measures
- HOME, CDBG, HOPE VI, and 202/811 Housing Programs All Give Preference for Efficiency
- Public Housing Energy Performance Contracts (over 200), Benchmarking
- Data Clearinghouse / On-Line Rehab Advisor
- Congressional Interest/Mandates



HUD's Green Initiative

Introduced in July, 2007

A pilot initiative to encourage owners of affordable, multifamily properties to rehabilitate and operate their properties using sustainable Green Building principles.



Some HUD Background

- Energy Efficiency Efforts
- Office of Healthy Homes
- The Mark-to-Market (M2M) Program
 - Created by Congress in 1997
 - Preservation of Existing Housing Stock
 - Rehabilitates Section 8 Properties
 - Restructures Mortgage Debt
 - 1,700 Properties with over 150,000 Units Completed to Date



Why pilot **Green** in M2M?

- **Challenges of greening the HUD-assisted portfolio.**
- **M2M property owner incentives to go green:**
 - Reduced Owner Contribution to Rehab (from 20% to as little as 3% of Rehab Costs)
 - Increased Incentive Performance Fee (IPF)
 - Admin Fee Allowed from Additional Funds
 - Potential Cash Flow Increase from Savings
 - Improved Property / Marketing



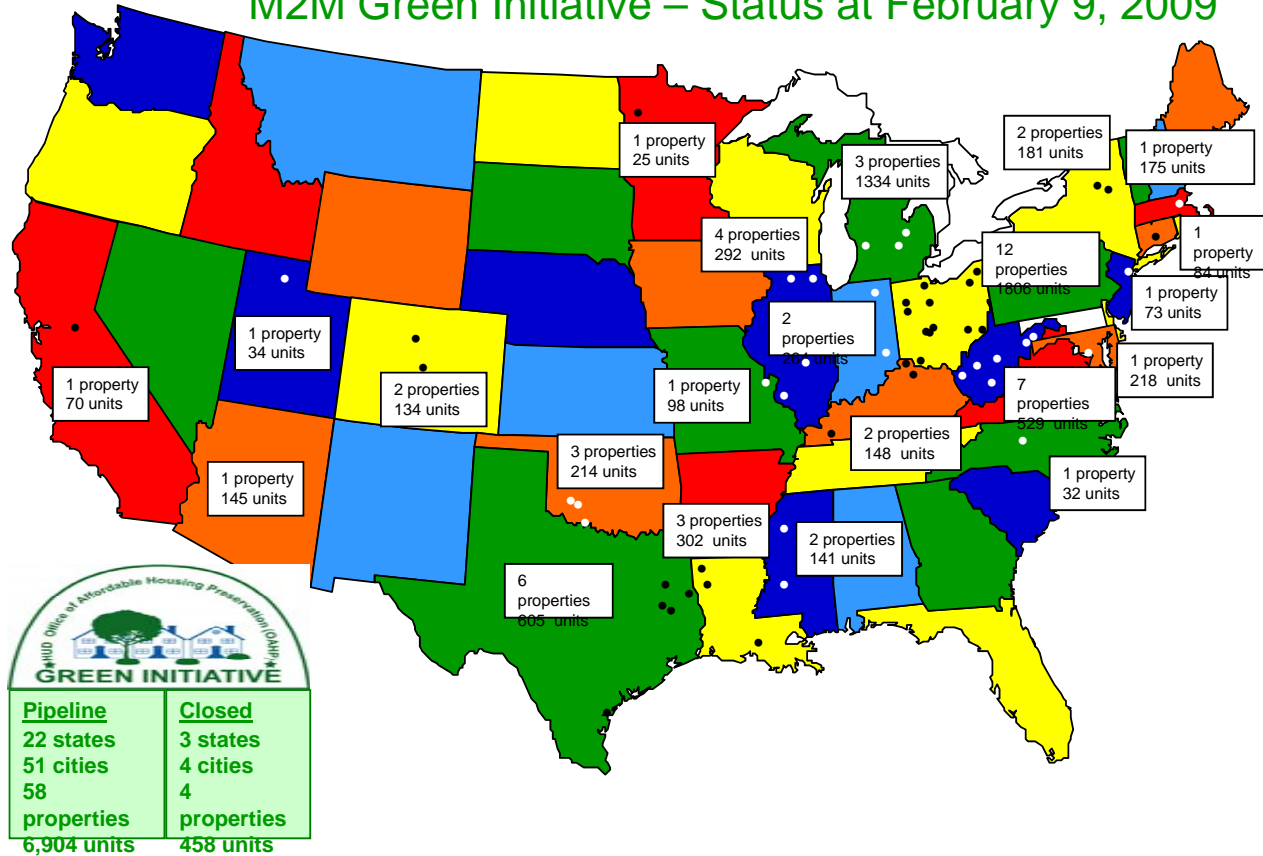
Project Eligibility for the Initiative:

- **All M2M properties are eligible**
 - Project-Based Section 8, above-market rents
 - FHA-Insured 1st mortgage
- **Requirements for a Green M2M Restructure:**
 - Physical Condition Assessment
 - Green Rehab (Baseline, Fixed, and Variable)
 - Green R4R plan – 20 Year Physical Needs
 - Green Operations & Maintenance (O&M) Plan
 - Staff and Contractor Certification Requirements
 - Monitoring of Utility Use, IEQ Factors

HUD's Green Initiative:



M2M Green Initiative – Status at February 9, 2009



HUD's Green Initiative:



- **If you build or rehab it green, you must operate it green:**
 - Management, and maintenance staff must be educated in green principles and practices
 - NAA has developed new Credential for Green Property Management. Coursework from various sources will qualify.
- **Measurement and analysis are key:**
 - Baseline snapshot of historic consumption.
 - Benchmarking to comparable properties.
 - Monitoring and measuring future consumption.

HUD's Green Initiative:



- **The American Recovery and Reinvestment Act of 2009 includes:**
 - \$250 for grants and loans for energy and green retrofits in HUD-assisted properties.
 - Administered by OAHP, following the Green Initiative outline.
 - 202 (Elderly), 811 (Disabled) and Section 8 properties are eligible.
- **Also includes:**
 - Public Housing - \$4 billion
 - Healthy Homes/Lead Abatement - \$100 million
 - Homelessness/Rapid re-Housing - \$1.5 billion



For More Information :

- HUD Recovery Website:
www.hud.gov/recovery
- OAHP Green Website:
<http://hudstage.hud.gov/offices/hsg/omhar/paes/greenini.cfm>
- OAHP Resource Desk Q&A:
www.oahp.net/ (Free Registration)
- Contact for Green Initiative Information:
Theodore.K.Toon@HUD.GOV
Carolyn.Carpenter.Porritt@HUD.GOV
Jerry.R.Anderson@HUD.GOV