



EPA's Portfolio Manager Training

District Department of the Environment &
DC Sustainable Energy Utility

Presented by
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On behalf of EPA's ENERGY STAR Program



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Learn more at energystar.gov



What is ENERGY STAR?

- A government-backed, voluntary program that helps businesses and individuals protect the environment through superior energy performance by providing energy-efficient solutions for homes, businesses, and institutions.
- The national symbol for environmental protection through energy efficiency, recognized by more than 80% of all U.S. households.

Be a Leader – Change Our Environment for the Better



U.S. EPA's ENERGY STAR®

The U.S. Environmental Protection Agency (EPA) can help you with buildings and plants to:

- Reduce energy waste
- Reduce GHG emissions
- Protect the environment

ENERGY STAR Qualified Products

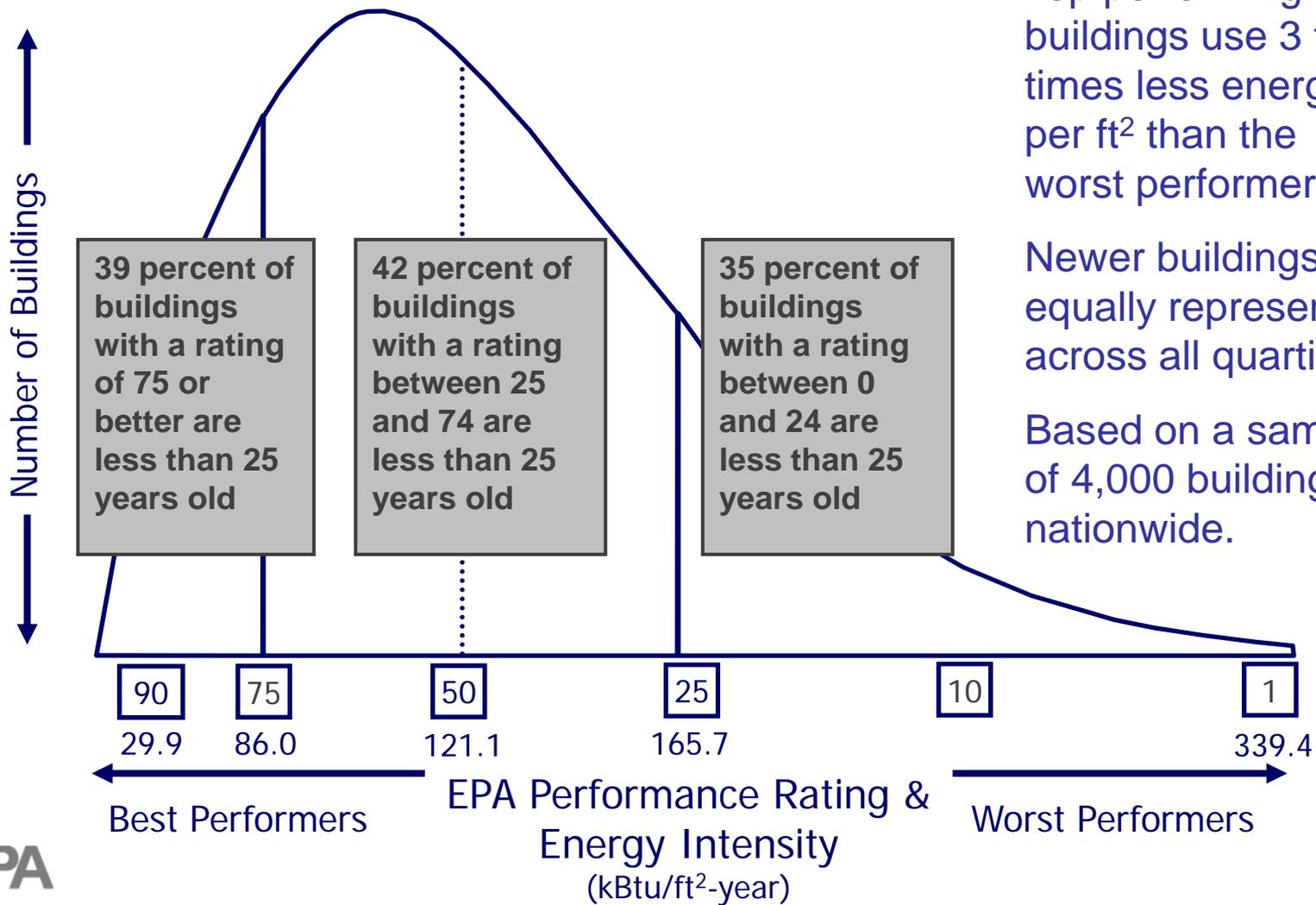




Opportunities in Buildings

- Commercial buildings and industrial facilities generate about **50 percent** of U.S. carbon dioxide emissions.
- **30 percent** of energy consumed in commercial and industrial buildings is wasted.
- Reductions of **10 percent** in energy use can be possible with little or no cost.

Energy Performance Gap



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.



Technology ≠ Performance

- 60 percent of building fan systems oversized on average by 60 percent (EPA fan study)
- Chillers oversized 50 percent to 200 percent (Lawrence Berkeley National Laboratory)
- Improper installation and poor maintenance

NEXT: So what can Portfolio Manager help us do?



Benchmarking

- Benchmarking through ENERGY STAR allows you to compare:
 - One building against a national sample of similar buildings
 - Compare your buildings against other MW COG members' buildings
 - All of your buildings of a similar type to each other
 - Your building's current performance against its past and/or baseline performance

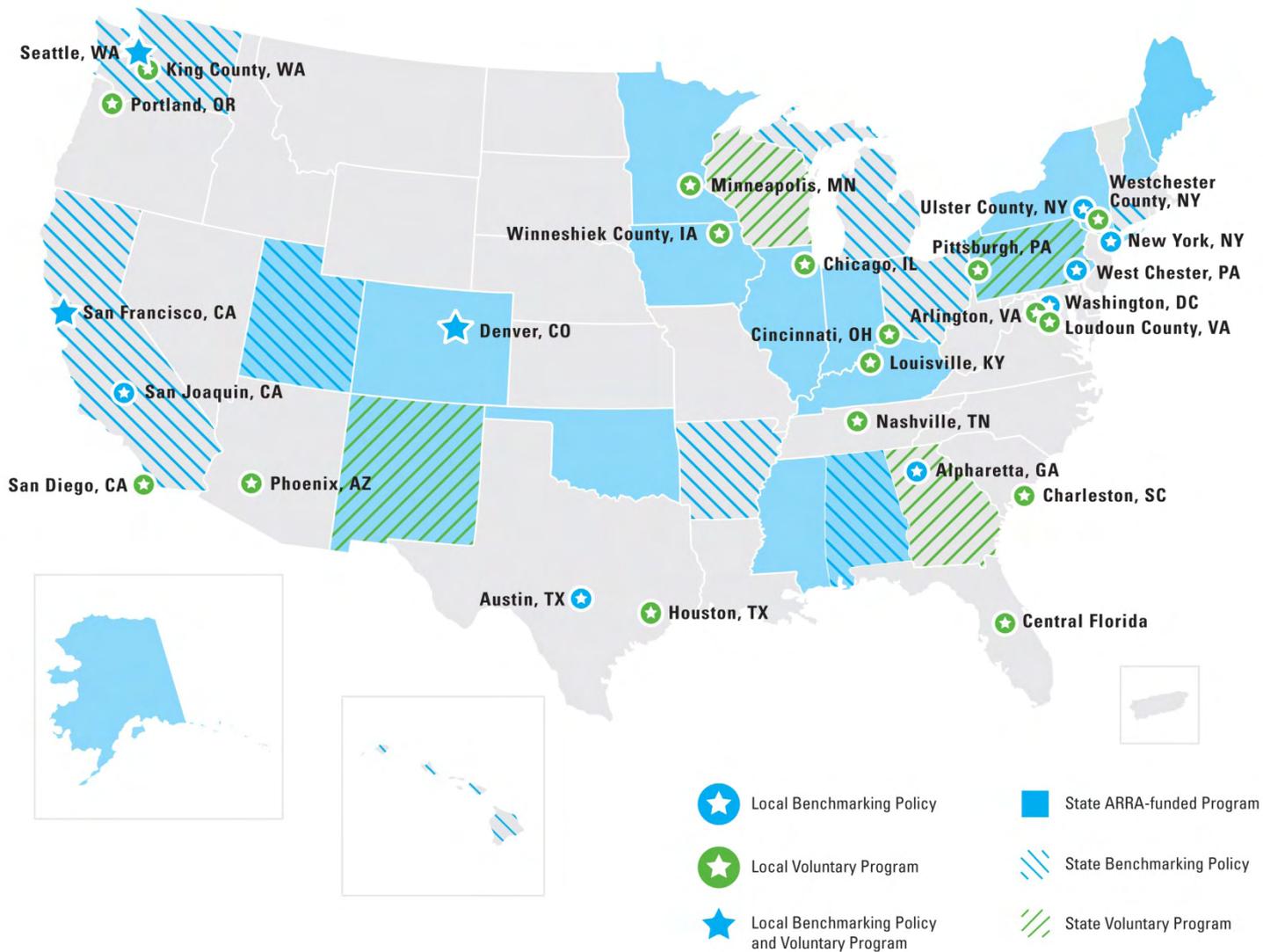


Benchmarking

Portfolio Manager

- Benchmark the energy use of all of your buildings – receive an energy use intensity (EUI). Many buildings are eligible to receive energy performance ratings on a 1-100 scale.
- Track changes in energy and water use over time in single buildings, groups of buildings, or entire portfolios.
- Track and report cost savings and GHG emissions.
- Apply for the ENERGY STAR.
- www.energystar.gov/benchmark

Benchmarking for Local and State Governments



Rating System for *Buildings*



Fuel Efficiency
MPG

Is 60 MPG high or low for an automobile?

Is 80 kBtu/SF/YR high or low for a building?

Statement of Energy Performance
EPA Rating

STATEMENT OF ENERGY PERFORMANCE
Margrave High School
Building ID: 102715
The GreenSource Energy, January 31, 2004

Owner: Margrave High School
Address: 102715
City: Raleigh, NC 27615
State: NC

Facility Special Use Summary

Space Type	Area (sqft)	Number of Stories	Number of Units	Condition
Classrooms	114,000	3	1	NA
Office	11,000	3	1	NA

Site Energy Use Summary

Heating (kBtu)	1,424,000
Cooling (kBtu)	3,078,000
Electricity (kBtu)	1,100,000
Total Energy (kBtu)	5,602,000

Energy Performance Index (EPI) 84

Energy Intensity (kBtu/sqft/yr) 49.4

Electricity Intensity (kWh/sqft/yr) 65.0

Water Intensity (gallons/sqft/yr) 1.0

Below Environmental Criteria

Index of pollution control	Yes
Air quality monitoring	Yes
Water conservation	Yes



Space Types Eligible for the 1-100 Performance Rating System



Schools



Retail



Office Buildings



Hotels



Medical Office Buildings



Waste Water Treatment Plants



Courthouses



Financial Centers



Warehouses



Residence Halls



Supermarkets



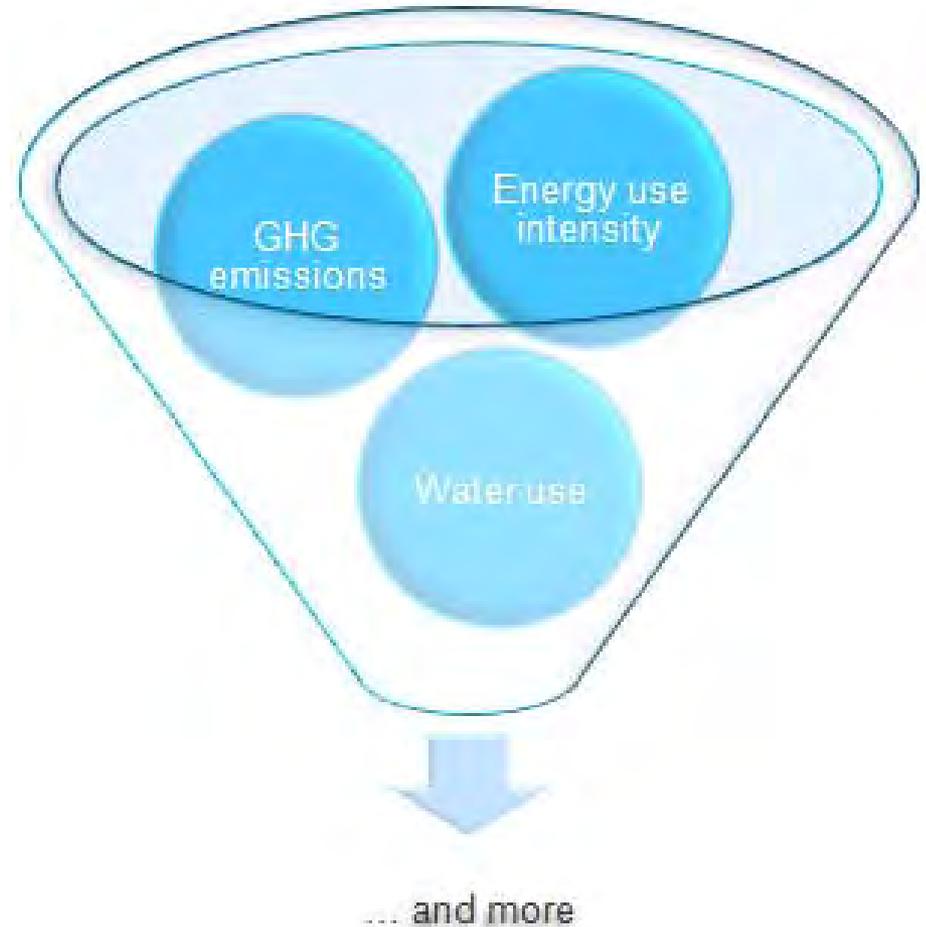
Hospitals



Examples of Non-Ratable Space Types

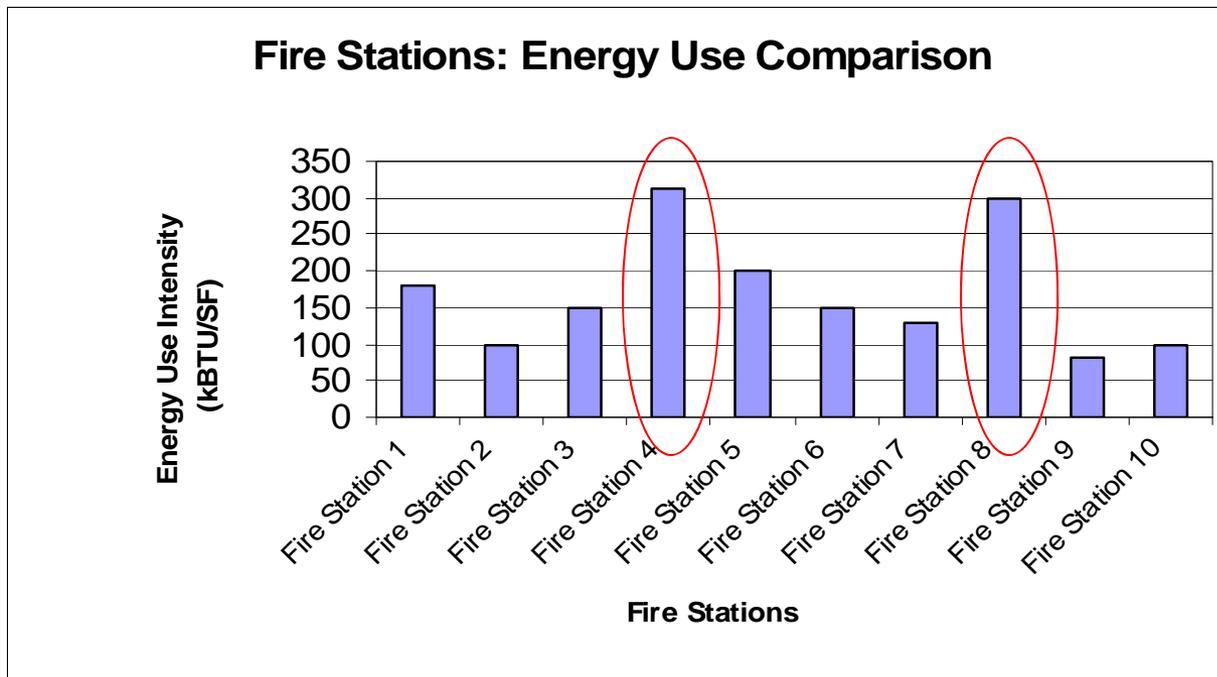


- Police Stations
- Fire Stations
- Convention Centers
- Laboratories
- Libraries
- Malls
- Movie Theatres
- Restaurants
- Stadiums and Arenas



Identify Best Opportunities and Set Improvement Goals

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



Track Progress Over Time



- Set a baseline and monitor energy efficiency improvements over time
- View percent improvement in weather-normalized energy use intensity.
- Track reductions in greenhouse gas emissions.
- Monitor energy and water costs

Facility Name	Current Source Energy Intensity (kBtu/Sq. Ft.)	Change from Baseline: Adjusted Energy Use (%)	Change from Baseline: Energy Use Intensity (kBtu/Sq. Ft.)	Change from Baseline: GHG Emissions (MtCO ₂ e)	Total
Fire Station 1	160.1	-12.3	-6.1	-275.86	
Fire Station 2	172.6	-18.3	-10.7	-488.62	

By building

[Download](#) in Excel

Portfolio-wide

Portfolio Averages	
Baseline Rating: 40 Facilities Included: 310	Current Rating: 44 Facilities Included: 311
Change from Baseline: Portfolio Adjusted Percent Energy Use (%): 10.1% Facilities Included: 378	
Averages are weighted by Total Floor Space. More about Baselines More about Change from Baseline: Adjusted Energy Use	



Document Savings Results



- Provide *transparency* and *accountability* to help demonstrate strategic use of capital improvement funding.
- Quickly and accurately demonstrate savings for an individual building or entire portfolio:
 - Energy use
 - GHG emissions
 - Water use
 - Energy costs
- Download performance metrics from Portfolio Manager into Excel.
- Generate a Statement of Energy Performance (SEP) for each building, summarizing important performance indicators, including energy intensity and GHG emissions.
- Generate an Energy Performance Report showing reductions in key indicators over a user-specified time period.

Visit www.energystar.gov/benchmark to get started

Required Information for Benchmarking in Portfolio Manager



- **Building Identifiers**

Name, street address, zip code for weather normalization

- **Space Type Data (depends on space type)**

- Other Space Types: Total Floor Area
- Office: Square footage, hours of operation, Number of workers on main shift , # of PC's, Percent of gross floor area that is air conditioned, heated

- **Energy Use**

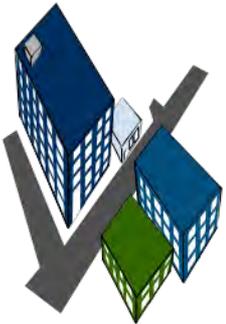
- Bldg specific invoice information from all purchased energy. Begin with at least 11 consecutive months for each source and update with monthly usage data.

Benchmarking Methods



- **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

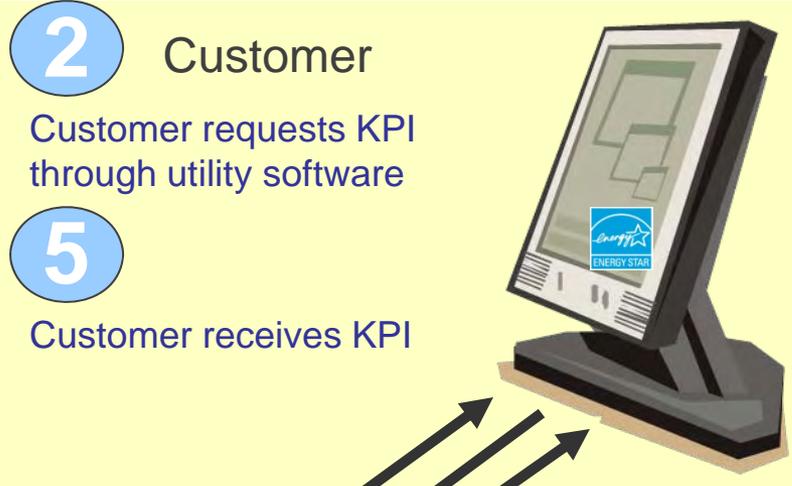


Portfolio Manager Features

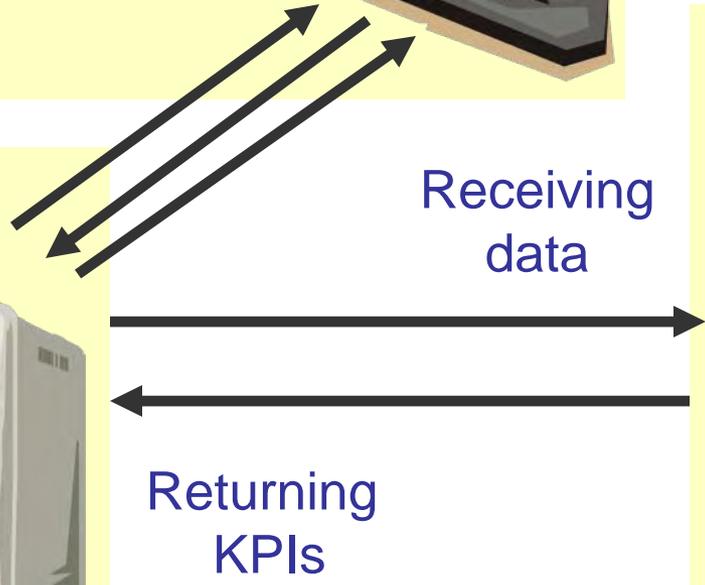
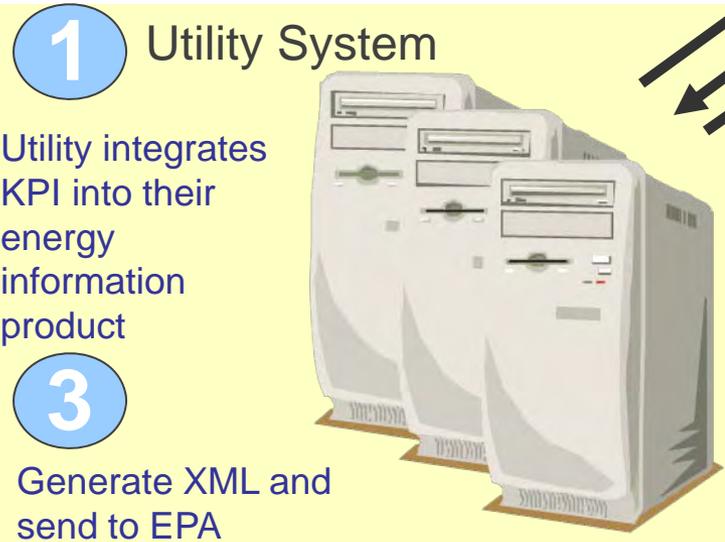


- **Greenhouse Gas Emission Tracking**
- **Import Templates**
- **Automated benchmarking**
- **Master account feature**
- **View (and Reporting) Options**
- **Statement of Energy Performance**
- **Percent energy reduction**
- **Water tracking**
- **Multi-Facility Meter Update**

How Does a Utility Automate Benchmarking?



KPI: Key Performance Indicators



ABS Steps and Resources



- Overview on ENERGY STAR [web site](#)
- Register for [ABS account](#)
- Download ABS Overview and Users Guide from ABS account Web site
- Email technical question to buildings@energystar.gov
- Request conference calls with EPA program and technical support teams

Benchmarking Starter Kit



ENERGY STAR SUPERIOR ENERGY MANAGEMENT CREATES ENVIRONMENTAL LEADERS
U.S. Environmental Protection Agency

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Buildings & Plants Home > Buildings & Plants > Portfolio Manager Overview > ENERGY STAR Benchmarking Starter Kit

ENERGY STAR Benchmarking Starter Kit

Benchmarking your buildings' energy performance is a key first step to understanding and reducing energy consumption and your carbon footprint. All buildings can assess their energy performance, water efficiency, and carbon emissions using Portfolio Manager.

You can [login to Portfolio Manager](#) to:

- Track energy and water consumption
- Identify under-performing buildings
- Set priorities
- Monitor progress
- Verify improvements
- Receive EPA recognition

Once you have collected the necessary data, benchmarking is quick and simple. It requires only a few minutes a month and provides many valuable results.

The following resources will help a first-time Portfolio Manager user get started with benchmarking. After reviewing these resources, try benchmarking a single building to better understand the value of measuring your performance.

Getting Started

- Use the [ENERGY STAR Portfolio Manager Data Collection Worksheet](#) to identify and gather all the data you'll need to benchmark your building.
- Print the [Portfolio Manager Quick Reference Guide](#) (1.3MB) for a handy, at-a-glance guide to the basic steps of using Portfolio Manager.
- View [animated training](#) providing step-by-step benchmarking instructions.

Beyond Benchmarking

Utilize the strategic [Guidelines for Energy Management](#) to learn how your organization can improve its energy and financial performance and be an environmental leader.

Upgrade your building to realize energy savings by using EPA's strategic 5-stage approach in the [Building Upgrade Manual](#).

View a [quick list](#) (2.9MB) of ENERGY STAR resources for buildings.

PM Data Collection Sheet

PM Quick Reference Guide

Animated PM Training



http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfolio manager_benchmarking

Animated Training



Introduction

- Create, Edit, and Login
- Add and Edit a Property
- Add and Edit a Space
- Add and Edit Energy Meters
- View & Interpret Results



A Step-by-Step Guide to Benchmarking Using EPA's Portfolio Manager



Learn more at energystar.gov





National and Local Recognition

➤ ENERGY STAR Partner



➤ Designed to Earn the ENERGY STAR



➤ The ENERGY STAR for Existing Buildings



➤ ENERGY STAR Leaders

➤ ENERGY STAR Partner of the Year



Become a Partner



1. Go to: the “Buildings & Plants” page

2. Click on (bottom left): “Join ENERGY STAR”





For More Information

Visit www.energystar.gov/government

E-mail buildings@energystar.gov

If you have any questions, please contact

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