Using Benchmarking Results to Understand Your Building's Performance



ENERGY STAR® Portfolio Manager®

Pre-Webinar Poll

- 1. Did you attend Part 1, "A Beginner's Guide to Using Portfolio Manager for Benchmarking Law Compliance"?
- A. Yes
- B. No

- 2. How do you plan to use EPA's Portfolio Manager tool going forward?
- A. I'm only planning to use Portfolio Manager for benchmarking law compliance
- B. I want to use Portfolio Manager to help develop/implement my organization's energy management plan
- C. I'm not sure yet

"Basics of Building Benchmarking for Ordinance Compliance" Webinar Series

Part 1 (March 14 and April 27)

A Beginner's Guide to Using Portfolio Manager for Benchmarking Law Compliance

Part 2 (March 28 and May 10)

Using Benchmarking Results to Understand your Building's Performance

Part 3 (April 4 and June 8)

To Efficiency and Beyond! How to Benefit from Benchmarking Compliance with Strategies for Improving your Energy Performance

 Compiled Benchmarking for Ordinance Compliance webinar series slides and all past webinar recordings:

https://www.energystar.gov/buildings/training/complying ordinances

Learning Objectives

- Understanding your benchmarking results in Portfolio Manager
- Maintaining accurate, up to date data
- Using benchmarking data to improve performance

EPA vs. Jurisdiction Responsibilities

The EPA and ENERGY STAR can answer questions about...

- How to use Portfolio Manager
- Portfolio Manager metrics such as the ENERGY STAR score
- Portfolio Manager alerts and data quality checks
- How to connect with other Portfolio Manager users including utilities and 3rd party service providers



Your state or local jurisdiction can answer questions about...

- Which buildings are subject to the benchmarking law
- Which data and time periods are required for reporting
- Due dates for submission and fines
- Confirmation that your report was received and/or complete



Learning Objectives

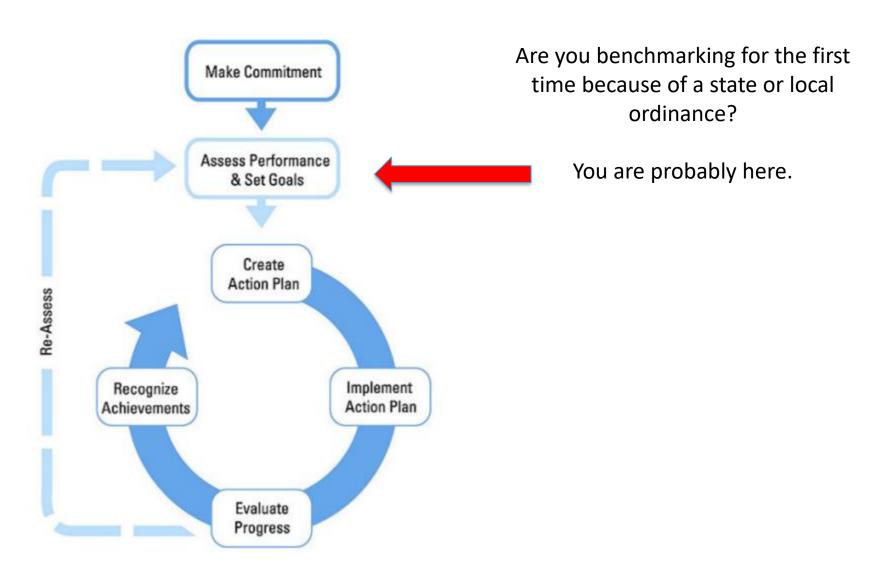
- Understanding your benchmarking results in Portfolio Manager
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Benchmarking is the Beginning, Not the End!

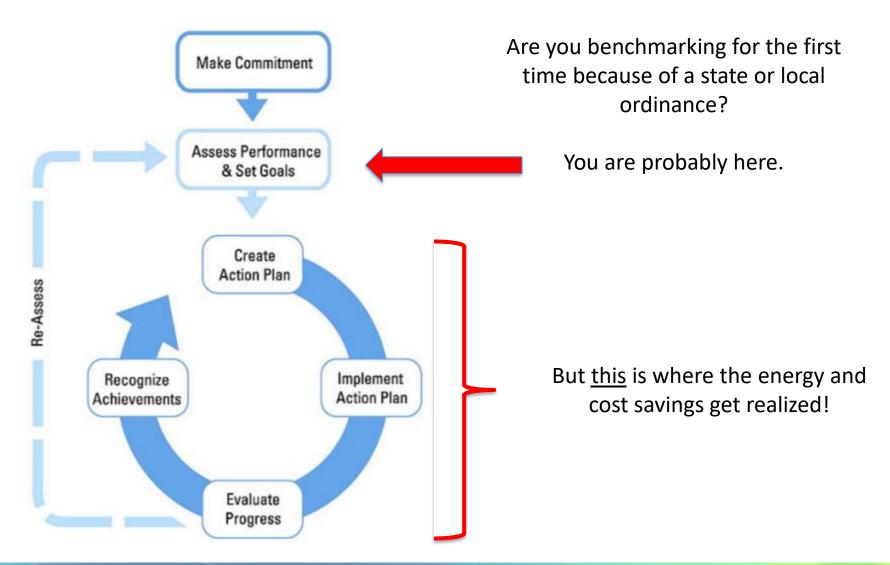


The ENERGY STAR
Guidelines for Energy
Management

Benchmarking is the Beginning, Not the End!



Benchmarking is the Beginning, Not the End!





Benefits of using the tool



Keep all information in one place



Track costs, investments and environmental benefits



Use benchmarking data to establish aggressive but realistic goals



Ability to tailor reports to meet varied needs



Share goals and savings with others



Hundreds of metrics, including:



Energy use Source, site, weather normalized, demand



Water use
Water use
intensity,
Water Score
(for Multifamily)



Waste & Materials
Waste intensity, diversion rate



1-100 ENERGY STAR score



GHG emissions Indirect, direct, total, avoided

The 1-100 ENERGY STAR Score





One simple number understood by ALL stakeholders.

The 1-100 ENERGY STAR Score...

Does...

- Identify how your property is performing compared to other similar properties nationwide
- Adjust for key operational characteristics that are relevant to each property type, and that may change over time
- Adjust for the impact of climate and weather
- Offer a way for building owners to earn recognition from EPA

Does Not...

- Tell you why your buildings are performing the way they are
- Tell you what you need to do to improve performance
- Indicate that your property will always perform at this level

Property Types That Can Earn The 1-100 ENERGY STAR Score in the U.S.



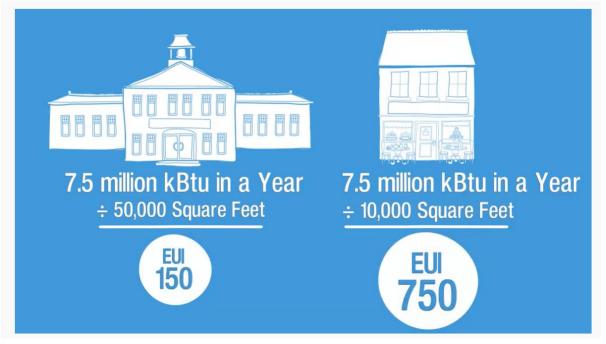
*Not eligible for ENERGY STAR Certification



What if my property is not eligible to receive the 1-100 ENERGY STAR score?

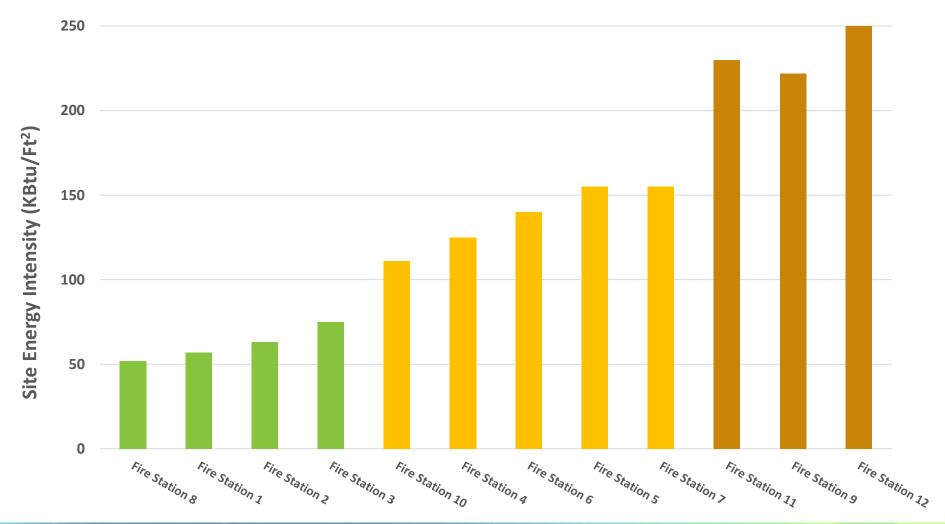
Understanding Energy Use Intensity (EUI)

• EUI stands for Energy Use Intensity. It is the energy use per square foot at a property (measured in a unit such as kBtu/ft²), and enables you to compare different sized buildings.



3-minute video explaining EUI: https://www.youtube.com/watch?v=u3wbcxhHdHk

Using EUI to Assess Relative Performance Within a Portfolio



Multiple "Flavors" of EUI Metrics Available

- EUI (kBtu/ft²/yr) vs. Total Energy Consumption
- Site EUI vs. Source EUI
- EUI vs. Weather Normalized EUI
- National Median Site and Source EUI



With or Without the 1-100 Score, **Benchmarking Allows You To:**

- Understand individual building performance, at this moment and over time
- Identify and address potential issues by looking at monthly trends
- Evaluate performance across a portfolio of properties, in order to allocate limited resources for energy improvement efforts
- Track the impact of any energy, water, and/or waste management strategies that you deploy - including O&M, retrofit, and behavioral efforts

Don't Forget Emissions!

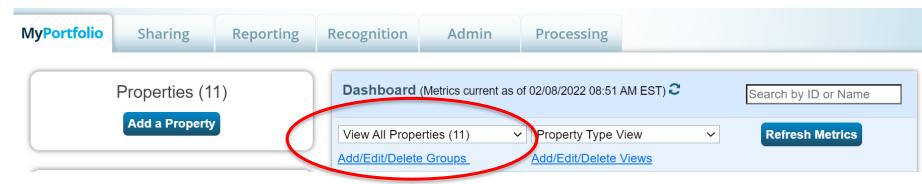


- Portfolio Manager can help you to calculate the environmental impacts of the energy consumption required to operate your property
 - Direct emissions (e.g., natural gas)
 - Indirect (location-based) emissions (e.g., electricity, district fuels)
 - Total emissions (location-based methodology)
 - Avoided emissions from the sale of onsite renewable energy back to the grid or the purchase of offsite green power products/RECs
- Increasingly important if your state/city is considering or actively pursuing building performance policies that focus specifically on greenhouse gas emissions.

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Using Portfolio Groups and Views



Manage Groups

You can see every group that you have created in the list below. Select the desired group to view the properties or to make changes to the group.

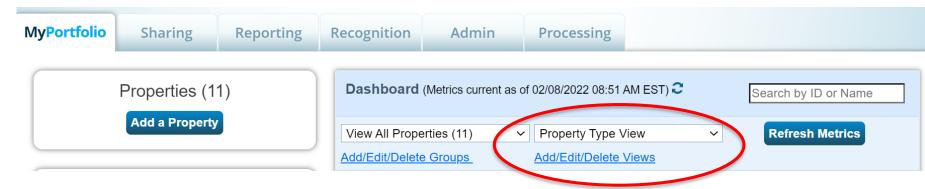
Create a Group

Default	Group Name \$	Properties in Group	Delete Group			
•	All Properties	11 Properties				
0	Training (<u>edit name</u>)	1 Properties (<u>view/edit</u>)	(delete)			
First Previous Page 1 of 1 Next Last 10 V						

Save Changes Cancel

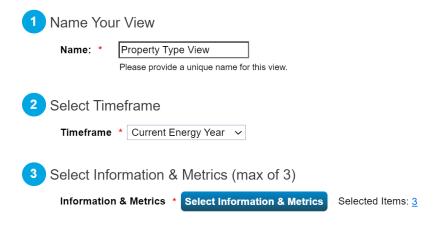


Using Portfolio Groups and Views



Create a Portfolio View

You can create a portfolio view to customize which metrics you see on your dashboard. There is a maximum of three metrics that can be included in each view, however you can easily switch between views as needed.





Once you have created your view, you can go to your <u>dashboard</u> and select it in order to see those metrics. You will need to select "Refresh" for the metrics to calculate.

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Using Portfolio Views and Groups

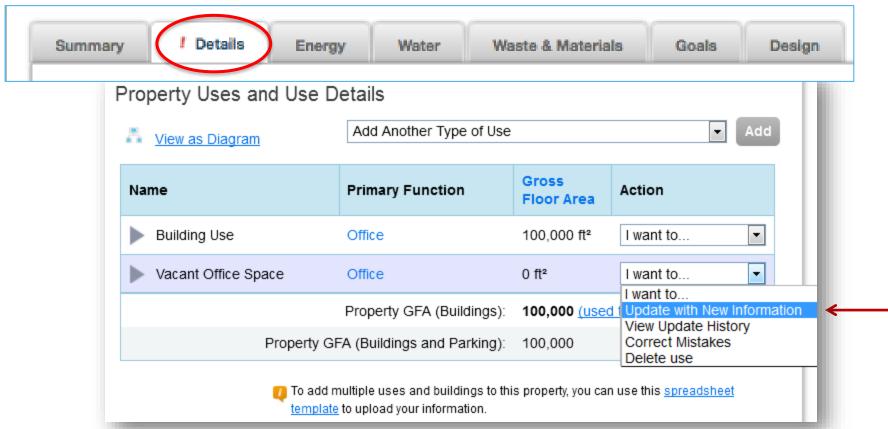
Name \$	Energy Current \$ Date	Primary Property Type - Self Selected	Source EUI \$ (kBtu/ft²)	Water Use Intensity (All Water Sources) (gal/ft²)
<u>Sample K-12</u> <u>School (US)</u> 13493750	12/31/2019	K-12 School	100.8	8.13
Copy of Existing Property 16856753	12/31/2020	Office	101.4	6.84
Sample Office (US) 7541744	12/31/2018	Office	259.2	12.55
<u>Sample Office</u> (<u>US)</u> 13493749	12/31/2019	Office	249.9	12.20
ICF Sample Office 14731784	12/31/2020	Office	1.6	NA
XYZ Building	<u>NA</u>	Office	<u>NA</u>	<u>NA</u>



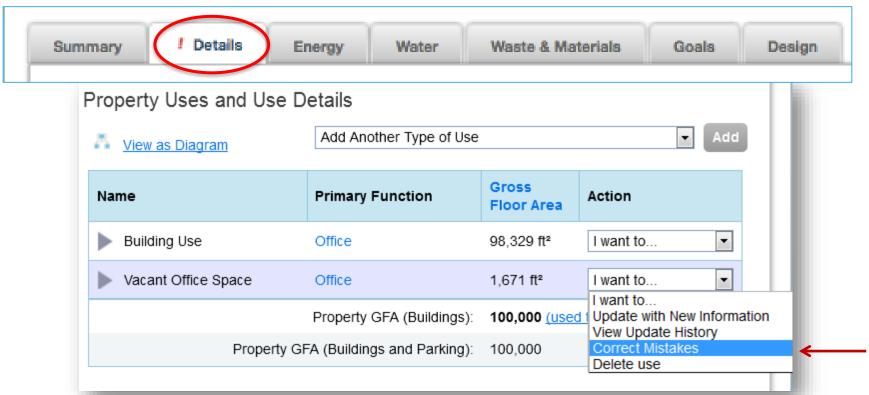
Data Updates and Corrections

- If you need to make edits to your property use details, you can either "Update with New Information" or "Correct Mistakes
- "Update with New Information" tracks a value that is changing over time
 - Enter date as of which the new value took effect, so that the tool can account for this when calculating "timeweighted" metrics
- "Correct Mistakes" changes a value that was entered in error
 - No historical record of the old value will be kept or factored into your metrics

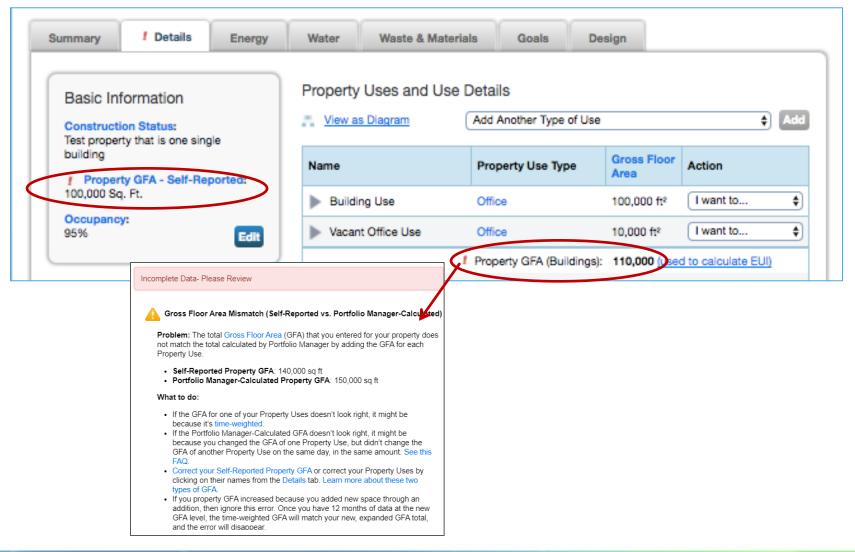
Edit Property – Update with New Information



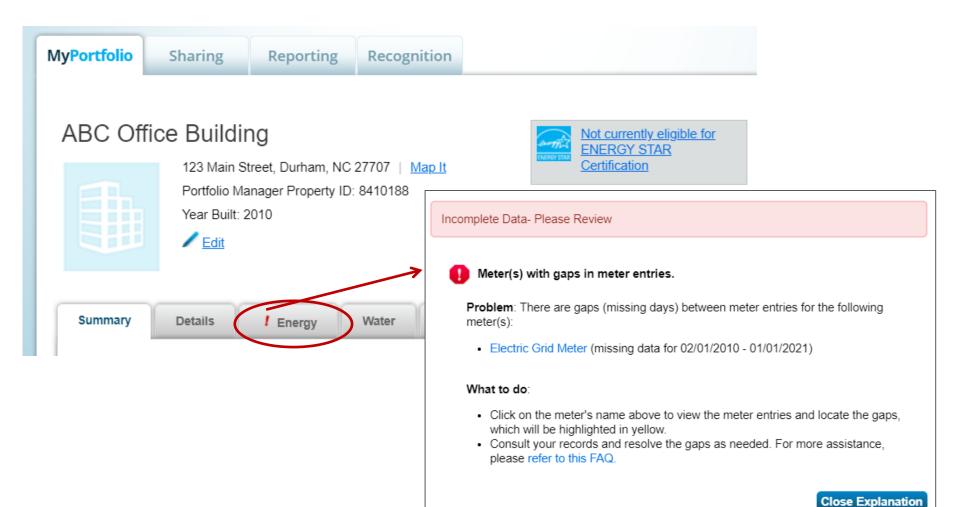
Edit Property – Correct Mistakes



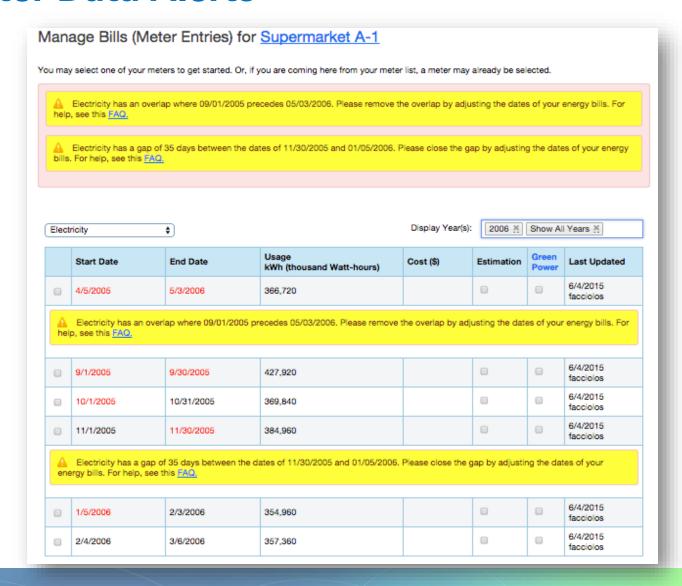
Property-Level Alert: Gross Floor Area



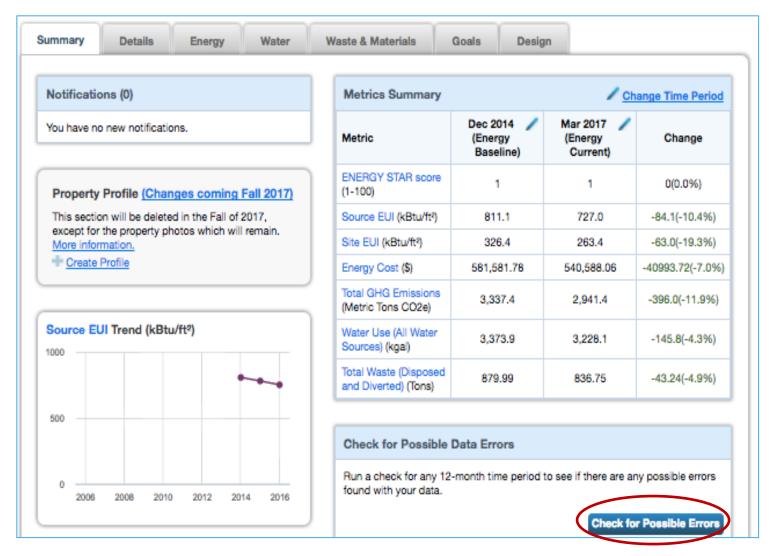
Meter-Level Alert: Gaps/Overlaps



Meter Data Alerts



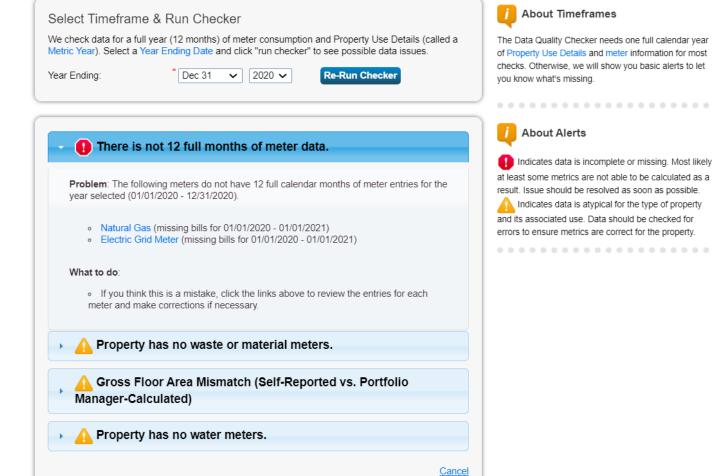
Data Quality Checker



Data Quality Checker

Data Quality Checker for ABC Office Building

The Data Quality Checker will help you find potential errors and unusual data within a given year. Select your year of interest, review your alerts, and follow the links to view or correct your data as needed.



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- Understanding your benchmarking results in Portfolio Manager
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Use Your Benchmarking Metrics To Inform Your Plan

- Property and portfolio level (as appropriate) priorities
 - If you own/manage more than one building, which should get attention first?
- Sequencing low- and no-cost O&M measures ahead of more capital-intensive retrofits
 - You don't want to start spending money on new equipment if you still haven't "right-sized" your building's energy requirements through more basic measures
- Looking across multiple time-horizons
 - Current budget cycle (O&M)
 - Next budget cycle (targeted retrofit projects)
 - Longer-term (3-5 years; more comprehensive efforts)
- Setting property or portfolio-wide energy and carbon reduction goals

Building upgrade manual: https://www.energystar.gov/buildings/tools-and-resources/building-upgrade-manual

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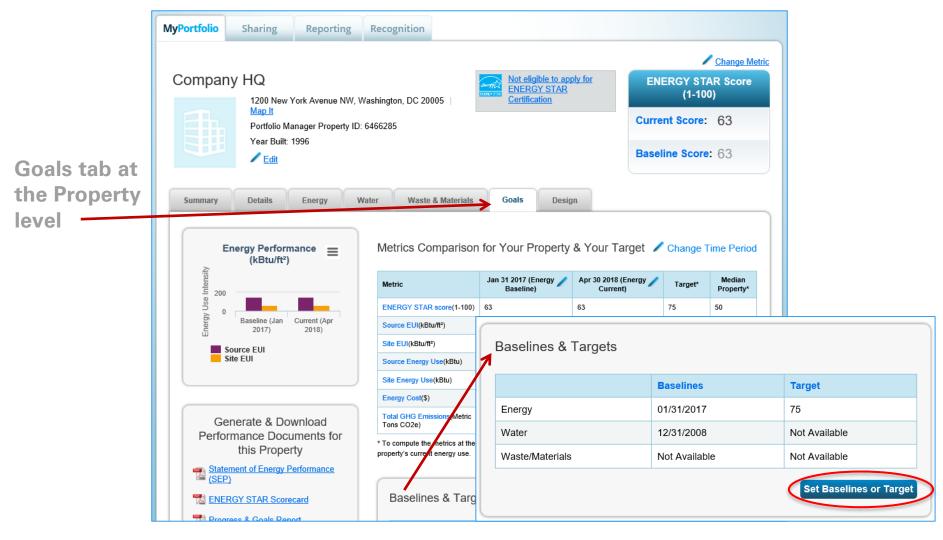
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Using Portfolio Manager to Establish Goals and Targets

Manage Portfolio

- <u>Transfer ownership</u> of a property that you manage to another Portfolio Manager user.
- Upload and/or update multiple properties at once using an Excel spreadsheet if you are a pro. This can be done to create new properties, add use details, create meters and add meter consumption data.
- Download your entire portfolio to Excel or create a custom download.
- Set a portfolio baseline and/or target to help measure progress.
- Add sample properties to your account. Up to five sample properties with prepopulated data will be added to your portfolio for testing purposes.

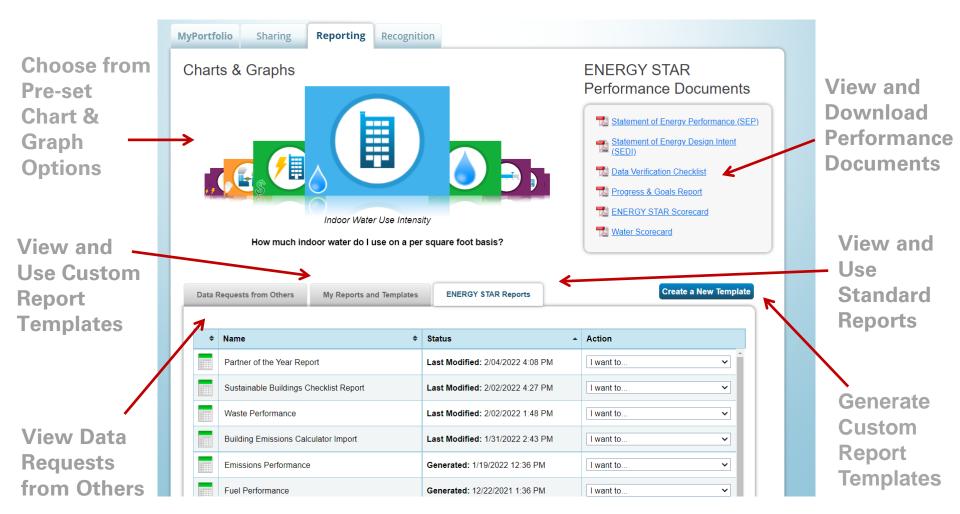
Property Goals Tab: View Specific Property Goals & Improvements



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Metric	Jul 2019 (Energy / Baseline)	Oct 2019 (Energy /	Target*	Median Property*
ENERGY STAR score (1-100)	36	42	75	50
Source EUI (kBtu/ft²)	74.8	76.9	61.6	73.3
Site EUI (kBtu/ft²)	37.2	37.9	30.3	36.1
Source Energy Use (kBtu)	16,771,552.6	17,252,642.0	13,819,063.7	16,443,158.7
Site Energy Use (kBtu)	8,352,979.8	8,498,233.0	6,806,935.0	8,099,500.4
Energy Cost (\$)	338,529.72	353,349.02	283,026.34	336,770.06
Total GHG Emissions (Metric Tons CO2e)	503.9	514.1	411.8	490.0

Analyze Progress and Performance on the Reporting Tab



- Example 1
 - My Office was designed and built to be a 'green,' highperformance building, but a few years into operation, its EUI is still right around the national median for the property type.

- Example 1
 - My Office was designed and built to be a 'green,' highperformance building, but a few years into operation, its EUI is still right around the national median for the property type.
 - This is a common occurrence among 'green' buildings!
 - Benchmarking data can help identify when 'green' buildings are not performing as designed.
 - Even state-of-art building systems and design elements may not be able to deliver superior energy performance if building systems are not operating as intended.

- Example 2
 - My property's ENERGY STAR score is 35, even after paying careful attention to operations and maintenance (O&M).

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 - My property's ENERGY STAR score is 35, even after paying careful attention to operations and maintenance (O&M).
 - Based on this benchmarking data, it appears that the building is reaching the limits of its energy performance benefits that can be reached through O&M.
 - This might indicate that the property could benefit from larger retrofit projects to "move the needle" on energy performance.
 - Your local utility may offer technical assistance to identify the best measures for your property, as well as incentives to help lower the cost of project implementation.

- Example 3
 - My property is scoring above 75!

- Example 3
 - My property is scoring above 75!
 - Awesome! But don't rest on your laurels...
 - Make sure that you continue to benchmark in Portfolio Manager and continue to implement an O&M plan so that you don't see your performance slip over time.
 - Find ways to celebrate and promote your success, including applying for ENERGY STAR certification.
 - If you have a portfolio of properties, consider how practices that benefited one property can be deployed across other properties that may not be performing as well.

Benchmarking Law Compliance Resources

- How to Use Portfolio Manager to Comply with State and Local Benchmarking Ordinances:
 - https://www.youtube.com/watch?v=WUT3Tpjc3rw
- How to respond to Data Requests in Portfolio Manager:
 - https://www.energystar.gov/buildings/tools-and-resources/how-respond-data-requestsportfolio-manager
- How to share properties in Portfolio Manager:
 - https://www.energystar.gov/buildings/tools-and-resources/how-share-data-other-usersportfolio-manager
- Contacts for state and local benchmarking ordinances:
 - https://energystar-mesa.force.com/PortfolioManager/s/article/Contacts-for-state-localcompliance-ordinances-1600088543441
- Finding your Standard ID:
 - https://energystar-mesa.force.com/PortfolioManager/s/article/Standard-IDs-in-Portfolio-Manager-1600088552120
- Utility data access map: https://energystar.gov/utilitydata
- List of services providers that perform Portfolio Manager benchmarking services:
 - https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/saveenergy/expert-help/find-energy-star-service-a-0

Benchmarking Law Compliance FAQs

State & Local Benchmarking Requirements

ARTICLES		
Contacts for state/local compliance ordinances	29 ARTICLES	
3954 Views • Jan 3, 2022 • Knowledge	FOLLOW	
Standard IDs in Portfolio Manager	TRENDING ARTICLES	
5578 Views • Dec 8, 2021 • Knowledge	Standard IDs in Portfolio Manager	
	List of Utilities offering Web Services	
List of Utilities offering Web Services	Contacts for state/local compliance ordinances	
4837 Views • Oct 6, 2021 • Knowledge	How do I enter a Standard ID?	
How do I get my energy data from my utility? I need to submit a benchmarking report to my city/state.	How much does it cost for someone to do my benchmarking?	

FAQs are available at www.energystar.gov/buildingshelp

Recap

- Today, we covered:
 - Understanding your benchmarking results in Portfolio Manager
 - Maintaining accurate data
 - Using benchmarking data to improve performance

Remember:

Your score and other metrics may be higher than you expect, or lower than you'd like. However, the only "bad" score is the one that you are not working to improve.

"Basics of Building Benchmarking for Ordinance Compliance" Webinar Series

Part 1 (register for <u>April 27 session</u>)

A Beginner's Guide to Using Portfolio Manager for Benchmarking Law Compliance

- ✓ Part 2 (register for May 10 session)
 Using Benchmarking Results to Understand your Building's Performance
- **Part 3** (register for <u>April 4 session</u> or <u>June 8 session</u>)

 To Efficiency and Beyond! How to Benefit from Benchmarking Compliance with Strategies for Improving your Energy Performance

https://www.energystar.gov/buildings/training/complying_ordinances

Extra Help

- Visit <u>www.energystar.gov/buildingshelp</u>
 - Extensive list of FAQs
 - Online form to submit technical questions or comments
- Additional Portfolio Manager training resources available at:

www.energystar.gov/buildings/training

- Step-by-step documents (PDF)
- Access to recorded trainings and short videos
- Information on upcoming trainings
- Register for regular webinars at: http://esbuildings.webex.com
- Portfolio Manager Technical Reference Series:
 http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portf
 oliomanager model tech desc

Thank you for attending!

Questions?

Slides will be sent to all webinar registrants after today's session

If you have any questions on Portfolio Manager or the ENERGY STAR program, contact us at: www.energystar.gov/BuildingsHelp