BENCHNARKING 10 FOR BUILDINGS 10 1000-50,000 SQ. FT



GOVERNMENT OF THE DISTRICT OF COLUMBIA MURIEL BOWSER, MAYOR

LEARNING OBJECTIVES

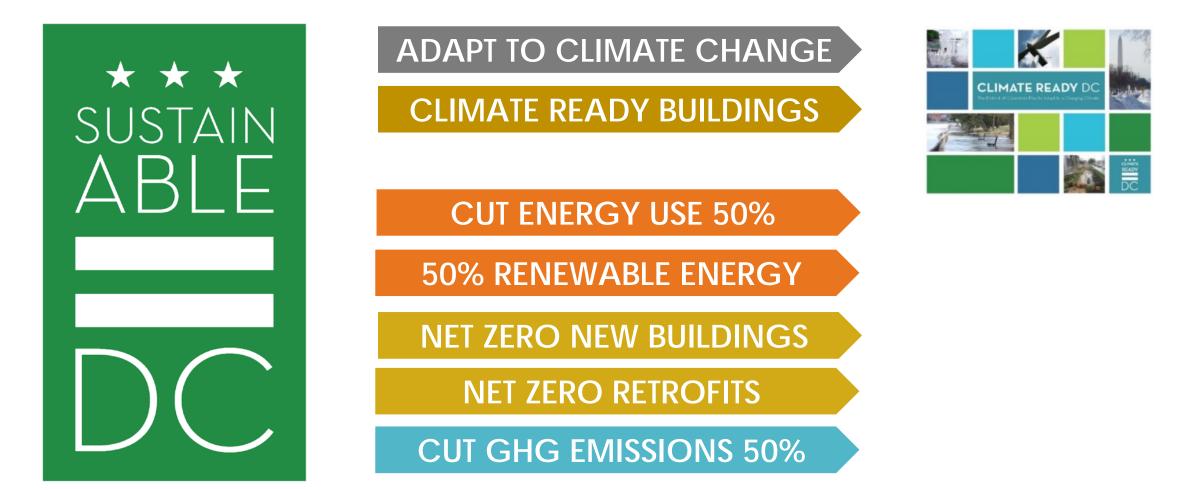
- 1. Understand energy benchmarking and its importance
- 2. Know when your building is required to report benchmarking data and understand the option to voluntarily report data
- 3. Practice adding a property, its use details, and entering energy and water meter data in Portfolio Manager®



SUSTAINABLE DC VISION

Make DC the healthiest, greenest, most livable city in the country.

GOALS: 2032



MAYOR BOWSER: COMMITTED TO ZERO CARBON BY 2050





CLEAN ENERGY DC MEANS....



CLEAN ENERGY DC OMNIBUS AMENDMENT ACT OF 2018

NEW BUILDINGS

Adopt a Net Zero Energy building code by 2026

EXISTING BUILDINGS

Improve the performance of existing buildings by implementing a **Building Energy Performance Standard**

100% RENEWABLE ELECTRICITY

Require **100% renewable electricity** by 2032, and **10% from local solar** by 2041



BENCHMARKING BASICS

- Energy benchmarking means tracking a building's energy and water use and using a standard metric to compare the building's performance against past performance and to its peers nationwide
- Helps owners to understand their buildings' energy use
- Helps DOEE plan how to reduce District building energy use
- Drives market transformation (like fuel efficiency or "Nutrition Facts")



BENCHMARKING IN DC

- Clean and Affordable Energy Act of 2008 requires all private buildings >50,000 sq. ft. to report their annual energy and water use
- Annual reporting deadline is April 1 of each year
- All reporting is done through the US EPA's ENERGY STAR Portfolio Manager®
- Failure to meet the reporting requirements results in a fine of up to \$100/day for every day that building is not in compliance
- Th 2022, buildings 25,000 49,999 sq. ft. required to report (starting with their 2021 data)
- In 2025, buildings 10,000 24,999 sq. ft. required to report (starting with their 2024 data)

DOEE is encouraging buildings that are 10,000-49,999 sq. ft. to voluntarily benchmark their buildings before the required reporting year to become accustomed to the process. DOEE and the DC Sustainable Energy Utility (DCSEU) will offer one-on-one benchmarking support as an incentive.



BENCHMARKING INFORMS BEPS

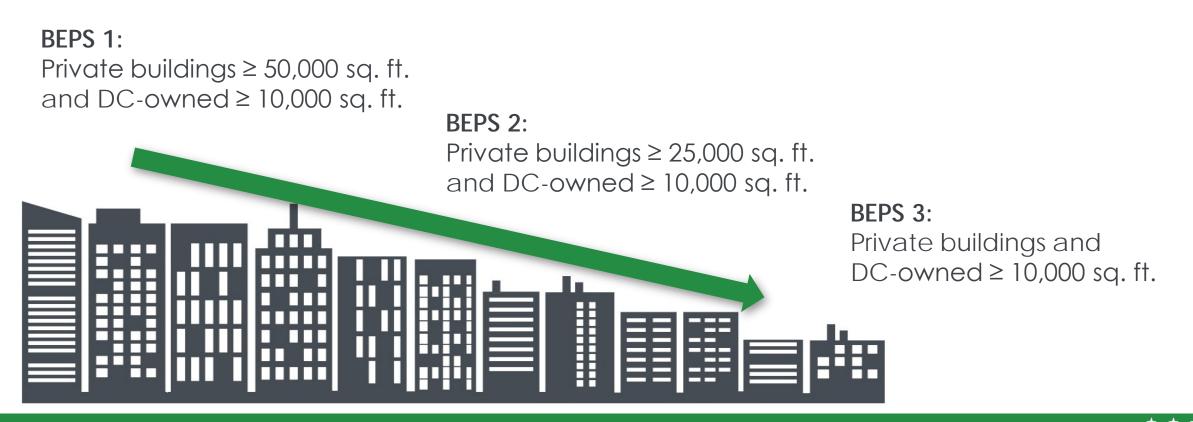
- Clean Energy DC Omnibus Amendment Act of 2018 requires the establishment of a <u>building energy performance standard (BEPS)</u> that sets a minimum threshold for energy performance that will be "no lower than" the local median ENERGY STAR score by property type (or equivalent metric).
- District benchmarking data is used to set the BEPS and create baseline and performance periods for buildings entering a Compliance Cycle.
- Third party data verification required beginning CY2023 and every three (3) years

Building Size	Reporting Begins	Data Verification Required
50,000+ ft ²	2014 (with 2013 data)	2024 (with 2023 data)
25,000 - 49,999 ft ²	2022 (with 2021 data)	2024 (with 2023 data)
10,000 - 24,999 ft ²	2025 (with 2024 data)	2027 (with 2026 data)



BEPS APPLICABILITY

As the benchmarking requirements ratchet down in square footage over time, the buildings will be required to meet the BEPS in the following periods (BEPS Periods are 6 years) until all buildings 10,000 sq. ft. and over are following the performance standards.



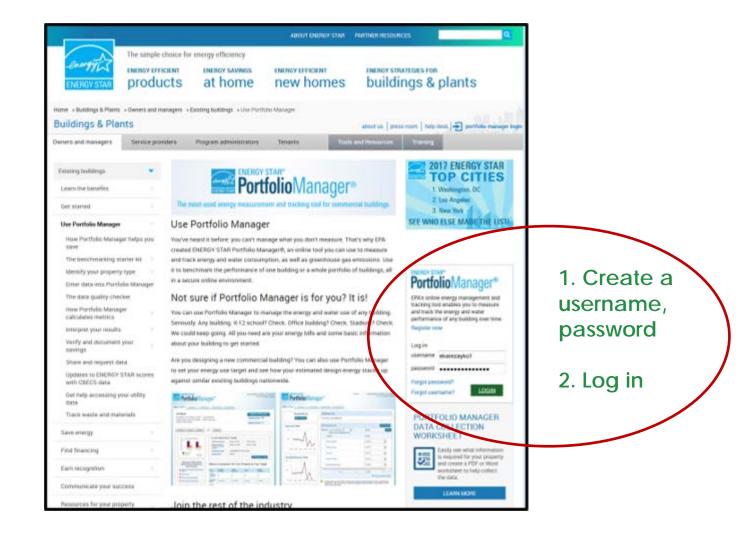
BENCHMARKING YOUR BUILDING OVERVIEW

- Create an account (or use an existing account) through ENERGY STAR Portfolio Manager®: <u>https://portfoliomanager.energystar.gov/pm/signup</u>
- Set up the property in Portfolio Manager
- Identify the data necessary for benchmarking: <u>https://portfoliomanager.energystar.gov/pm/dataCollectionWorksheet</u>
 - Property Information (primary use, square footage, year built)
 - Property Use Details (depends on property type)
- Identify your DC Real Property Unique ID (usually your SSL/SSR): <u>https://mytax.dc.gov/_/</u>
- Collect necessary data from non-residential tenants
- Collect 12 months of energy data (Pepco electricity, Washington Gas natural gas)
 - Note: do not collect energy data directly from residential tenants, take advantage of the utilities' aggregated data tools
- Collect water data from DC Water
- Enroll in Automatic Annual Reporting: <u>https://doee.dc.gov/node/572242</u>



GETTING STARTED - LIVE DEMONSTRATION

Create profile (or use and existing one) and log in at: <u>Energystar.gov/portfoliomanager</u>

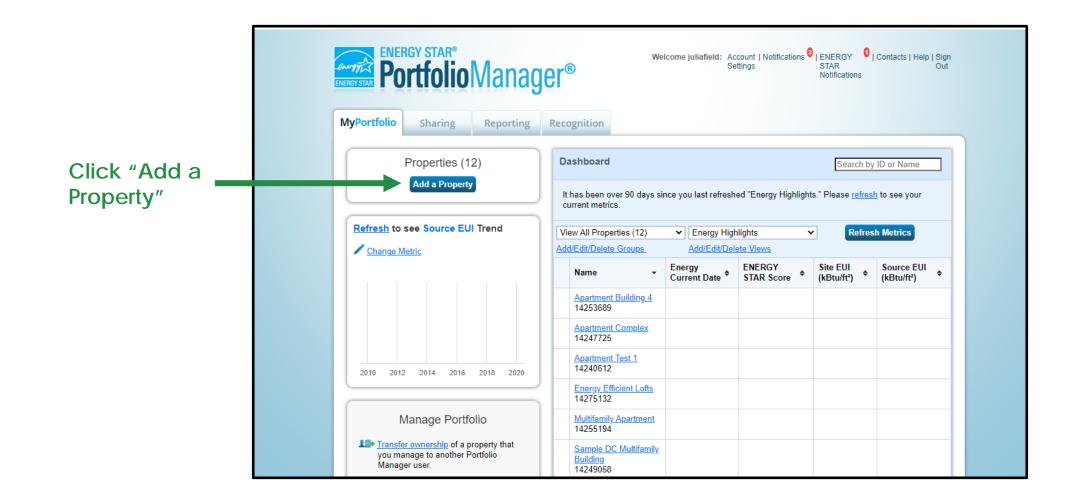




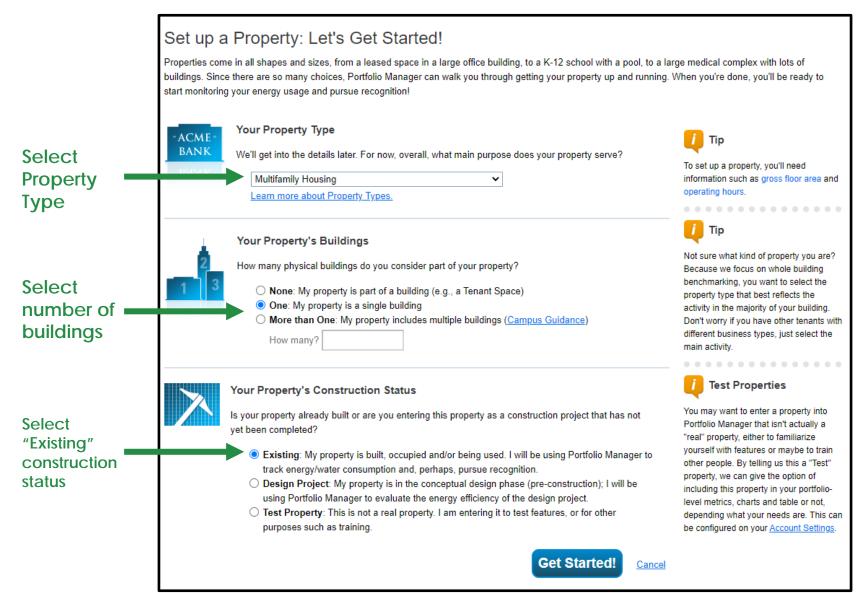
CREATE A PORTFOLIO MANAGER ACCOUNT

Enter data into Portfolio Manager The data quality checker How Portfolio Manager calculates metrics	Use Portfolio Manager You've heard it before: you can't manage what you don't measure. That's why EPA created ENERGY STAR Portfolio Manager®, an online tool you can use to measure and track energy and water consumption, as well as greenhouse gas emissions. Use it to benchmark the performance of one building or a whole portfolio of buildings, all in a secure online environment.	Get help Looking for Portfolio Manager technical support? Visit our help center.	
Interpret your results Verify and document your savings	Benchmark any type of building You can use Portfolio Manager to manage the energy and water use of any building. All you need are your energy bills and some basic information about your building to get	EPA's online energy management and	
Share and request data Updates to ENERGY STAR® metrics with new market data	started. Are you designing a new commercial building? You can also use Portfolio Manager to set your energy use target and see how your estimated design energy stacks up against similar existing buildings nationwide.	tracking tool enables you to measure and track the energy and water performance of any building over time. Register now	To create an account select "Register now"
COVID-19 program changes Get help accessing your utility	Weine State Wein	username	Or log into an existing account
data Scorecard		Forgot password? Forgot username?	

ADD A PROPERTY MANUALLY:



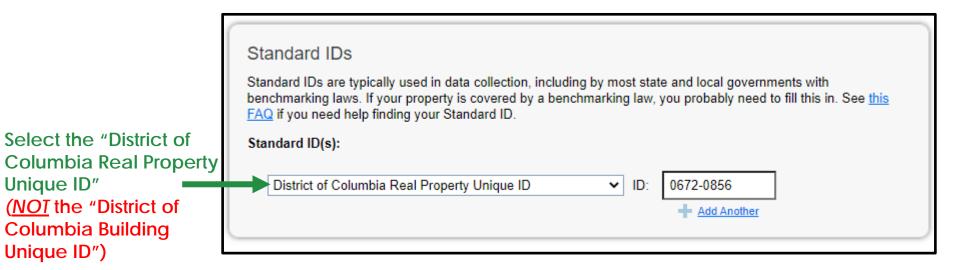
ADD AN EXISTING PROPERTY:



BASIC PROPERTY INFORMATION:

		ty: Basic Property Information our property, including a name that you will use to look up your property and its address.	
	About Your Property	/	
	Name:	* The DC Apartments	
	Country:	* United States	
	Street Address:	* 101 Efficiency St NE	
	City/Municipality:	* Washington	
	County:		
	State/Province:	* District of Columbia (D.C.)	
	Postal Code:	* 20002	
Make sure to measure	Year Built:	* 1980	
your gross floor area as defined by ENERGY STAR	Gross Floor Area:	* 48,000 Sq. Ft. Temporary Value Gross Floor Area (GFA) is the total property floor area, measured from a coincipal exterior surfaces of the building(s). Do not include parking. Details on what to include.	Make sure <u>not</u> to select
	Irrigated Area:	1,000 Sq. Ft. 🗸 🗋 Default Value	"default value" or
	Occupancy:	* 100 🗸 %	"Temporary Value"
	Property Photo	Choose File No file chosen	

BASIC PROPERTY INFORMATION: DC REAL PROPERTY UNIQUE ID

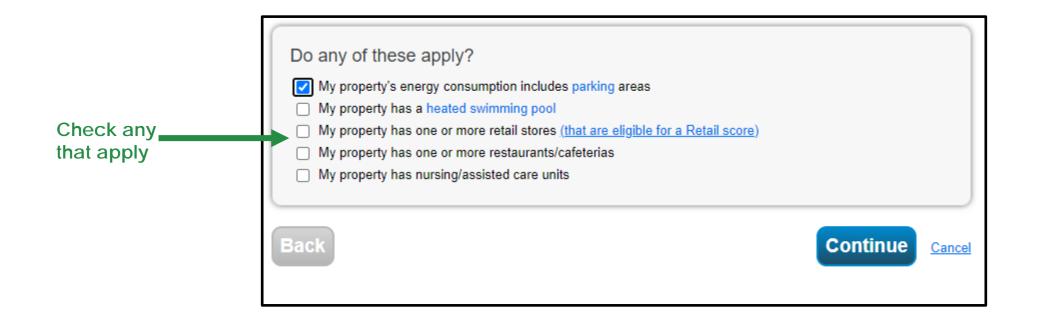


The **District of Columbia Real Property Unique ID** is the number that uniquely identifies your building in the District's records. It is the **Square-Suffix-Lot (SSL)** number from your District of Columbia Property Tax Records. For condominiums, it is the Square-Suffix-Regime (SSR) number.

You can find your District of Columbia Real Property Unique ID in DOEE's published covered building list or the Office of Tax and Revenue's online database:

- Covered Building List: <u>https://doee.dc.gov/node/572132</u>
- Office of Tax and Revenue: <u>https://mytax.dc.gov/</u>

BASIC PROPERTY INFORMATION: CHECK STATEMENTS THAT APPLY BOX





PROPERTY USE DETAILS & VALUES

This example is specific to multifamily housing; property use details are specific to property use-types

Required fields have a blue star (these fields calculate energy performance metrics)

Weight State Weight State Sta

Multifamily Housing refers to residential properties that contain two or more residential living units. These properties may include low-rise buildings (1-4 stories), mid-rise buildings (5-9 stories), or high-rise buildings (10+ stories). Occupants of these buildings may include tenants, cooperators, and/or individual owners.

Eligibility for an ENERGY STAR score and certification for Multifamily properties:

- · 2 units or more per building
- 20 units or more per property/campus
- At least 80% occupancy
- Communities of single-family homes are not eligible. If your property is a mix of multifamily and single-family homes, the property would still be eligible as
 long as the single-family homes are less than 25% of the total GFA.

Gross Floor Area (GFA) should include all buildings that are part of the multifamily property, including any separate management offices or other buildings that may not contain living units. Gross Floor Area should include all fully-enclosed space within the outside surfaces of the exterior walls of the building(s) including living space in each unit (including occupied and unoccupied units), interior common areas (e.g. lobbies, offices, community rooms, common kitchens, fitness rooms, indoor pools), hallways, stairwells, elevator shafts, connecting corridors between buildings, storage areas, and mechanical space such as a boiler room. Open air stairwells, breezeways, and other similar areas that are not fully-enclosed should not be included in the GFA.

Property Use Deta	il	Value		Current As Of	Temporary Value
🛉 Gross Floor Ar	ea	* 48,000	Sq. Ft. 🗸	1/1/1980	0
🚖 Total Number of	of Residential Living Units	40	Use a default	1/1/1980	
* Number of Res rise Building (*	idential Living Units in a Low- I-4 stories)	0	Use a default	1/1/1980	0
Number of Res rise Building (\$	idential Living Units in a Mid- 5-9 stories)	40	 Use a default 	1/1/1980	
	idential Living Units in a High- 10 or more stories)	0	Use a default	1/1/1980	0
🗙 Number of Bed	Irooms	60	Use a default	1/1/1980	
Resident Popu	lation Type		~	1/1/1980	0
Government S	ubsidized Housing	~		1/1/1980	
Number of Lau	ndry Hookups in All Units				0

PROPERTY USE DETAILS & VALUES: PARKING (if applicable)

pperty Use Detail	Value	Current As Of	Temporary Value	
Open Parking Lot Size	* 0 Sq. Ft. 🗸	1/1/1980		
Partially Enclosed Parking Garage Siz	e *0 Sq. Ft. •	1/1/1980		
Completely Enclosed Parking Garage	* 3000 Sq. Ft. 🗸	1/1/1980		
Supplemental Heating	No 💙 🗆 Use a default	1/1/1980		
		Add Pro	perty Cance	Clic Prop

а

ENERGY METER TAB: ADD A METER

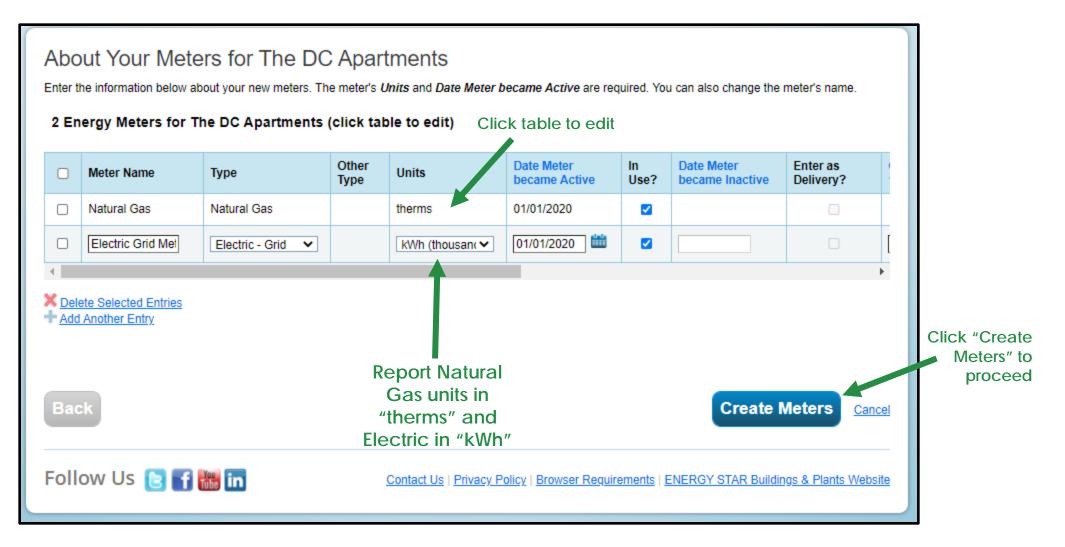
The DC Apartments 101 Efficiency St NE, Washin	Ington, DC 20002 Map It	Change Metric Weather Normalized Source EUI (kBtu/ft²)
Portfolio Manager Property IE Year Built: 1980		Current: <u>N/A</u>
		Baseline: <u>N/A</u>
Summary Details Energy	Water Waste & Materials Goals Design	Go to the "Energy tab and click "Ade A Meter
Meter Summary 0 Energy Meters Total In order to receive metrics for your property, you must provide meters. You have not entered any meters yet.	Meters - Used to Compute Metrics (0)	Add A Meter
Add A Meter Current Energy Date Not Available	There are currently no energy meters entered for this pro- energy usage and receive energy metrics, you must prov- information about your energy meters to begin tracking e- meter, you will need to choose to include it in your metric	vide an energy meter. <u>Enter</u> energy usage. After entering the
Enter Your Bills	For a step-by-step guide to entering meter data, see <u>How</u> <u>Manager</u> .	<u>w to get Utility Data into Portfolio</u>
Four Ways to Enter Bill Data	Your utility, Pepco, may be able to send energy data dire Portfolio Manager web services. <u>Click here</u> for additional option is right for you. If this is what you would like to do, get the process started.	I information and to see if this

ENERGY METER TAB: ADDITIONAL INFORMATION

Get Started Setting Up Meters for The DC Apartments		
There are four ways to enter meter data. First, you can enter manually, starting below. Second, you can set up your meters to spreadsheet with just your bill data. Third, for advanced users, you can use our upload tool that allows you to set up all of yo finally, you can hire an organization that exchanges data to update your energy data automatically.		
Sources of Your Property's Energy What kind of energy do you want to track? Please select all that apply. Electric purchased from the grid	Select the types of energy you want to track and enter the number of meters	Requesting information from tenants: You can request property use details and meter data from non-residential tenants , but you
How Many Meters? 1 generated onsite with my own solar panels generated onsite with my own wind turbines Natural Gas How Many Meters? 1		cannot collect energy data directly from residential tenants .
 Propane Fuel Oil (No. 2) Diesel District Steam District Hot Water District Chilled Water Fuel Oil (No. 4) Fuel Oil (No. 5 and No. 6) Coal (anthracite) 		Requesting information from utilities: If you have 5 or more electric or natural gas meters on the premises, you can receive aggregated whole building consumption data from Pepco and/or Washington Gas through online tools.
Coal (bituminous) Coke Wood Kerosene Fuel Oil (No. 1)		For more information: https://doee.dc.gov/page/energy-benchmarking-data- collection#aggregate%20data
Other:	Click "Get Started!" to proceed	
Get Started! <u>Cancel</u>		



ENERGY METER TAB: ABOUT YOUR METERS

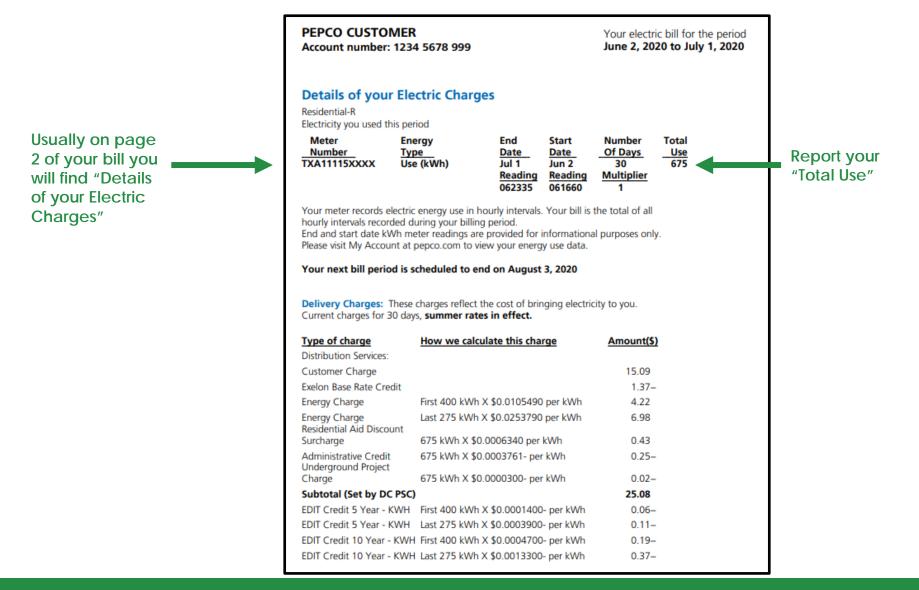


ENERGY METER TAB: READING YOUR NATURAL GAS BILL

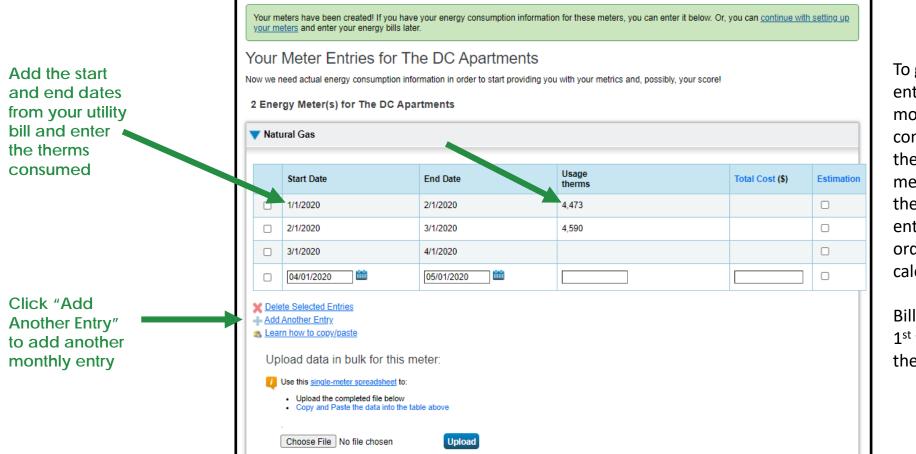
Usually on page 2 of your bill you will find "Your charges in detail"

					About your supplier	
			Pa	ge 2 of 2	Your gas is supplied and distributed by Washington Gas.	
Your charg	ges in detail				Washington Gas is regulated by the Public Service	
					Comission of the District of Columbia. Washington Gas will furnish rate schedule and bill calculation data upon	
	sidential Heating				request.	
Next Read Dat	te: December 8, 2017				DC Commission phone: 202-626-5100	
					Fax: 202-393-1389 TTY/TTD: 711 or 202-855-1234 DC Commission address: 1325 G Street, NW	
Meter Number	From date To date Reading Type	Previous	Current	Consumption	8th Floor, Washington DC 20005	
J04357	10/10/17 11/7/17 Actual	Reading 2,976	Reading 3,000	Billed CCF		Report yo
			Total CCF	24	Other Contacts	"Total Therm
Total Therms(T	H) used for 29 days				Bill Insulties	
Total CCFx1.03	33			24.8	/11 for TTY/TDD; voice relay	NOT the "Tot
					Bill inquiries outside your local calling area: 1-800-752-7520	CC
Charge	Previous Pill Amount			410.00	If you smell gas: 911 or 703-750-1400	
Charges this period	Previous Bill Amount Payment October 24, 2017			\$18.36 \$-18.36	Office of People's Counsel (OPC) represents District	
uns period	Thank you			9-10.00	of Columbia utility ratepayers before the Public Service Commission in matters regarding the rates	
	Balance brought forward			\$0.00	and services provided by utilities in DC. Visit the OPC	
	DISTRIBUTION SERVICE				website at www.opc.dc.gov,	
	RES Surcharge			\$0.04	or write to 1133 15th Street, NW, Ste 500, Washington DC 20005, or call 202-727-3071.	
	Distribution Charge 24.8 TH x .	3621		\$8.98	washington DC 2000b, or call 202-727-3071.	
	PROJECT pipes Adjustment			\$0.87		
	Customer Charge			\$13.10		
	NATURAL GAS SUPPLY SERVICE	1				
	PGC 24.8 TH x .4809			\$11.93	Useful Information	
	TAXES					
	DC Rights-of-Way Fee			\$0.91		
	Sustainable Energy Trust Fund 2			\$0.37 \$0.21	CCF: A unit of measurement for the amount of gas used. One CCF = 100 cubic feet.	
	Energy Assistance Trust Fund 2 Delivery Tax 24.8 TH x .07070			\$1.75	Distribution charge: Covers the monthly cost of	
	Total Current Washington Gas Ch			\$38.16	transporting your gas through our pipes and storage	
	Total Washington Gas Charges T			\$38.16	tanks to your meter. The charge is based on the amount of gas used.	
					Customer charge: Covers certain other costs of	
	Washington Gas protects custom	ers' account inform	nation. It is sh	nared only	providing your service, including depreciation of equipment, taxes, maintenance and repair of customer	
	with the person whose name app	ears on the accour	nt, and only th	hat person	lines, and expenses such as meter reading and billing.	
	can authorize that a second name	be added.			PGC (Purchased Gas Charge): The cost of the	
	Customer Choice Program: You n	ow have the option	n of buving na	atural gas	natural gas we buy, plus the cost of transporting it to our system.	
	from natural gas suppliers. Washi					
	gas to your home or business and	will be available a	around-the-clo	ck to	Therm (TH): A measure of the energy in natural gas, equal to the amount of gas (in CCFs) times a heat	
	respond to any emergency involv				content factor.	
	could result in lower gas costs, a				For more information about this bill or terminology used,	
	information about the Choice Pro				please visit our web site at washingtongas.com/pages/UnderstandingYourBill	
	washingtongas.com/pages/Custo	merChoiceinDC or	call 703-750-	1000.	washingtongas.com/pages/understanding+ourbill	

ENERGY METER TAB: READING YOUR ELECTRIC BILL



ENERGY METER TAB: ADD METER ENTRIES AND FILL IN DATA MANUALLY



To generate accurate metrics, enter at least 12 consecutive months of data for all fuels consumed in the building. If the start and end dates of the meter bill fall in the middle of the month, you will need to enter 13-14 billing periods in order to get a complete 12 calendar months of data.

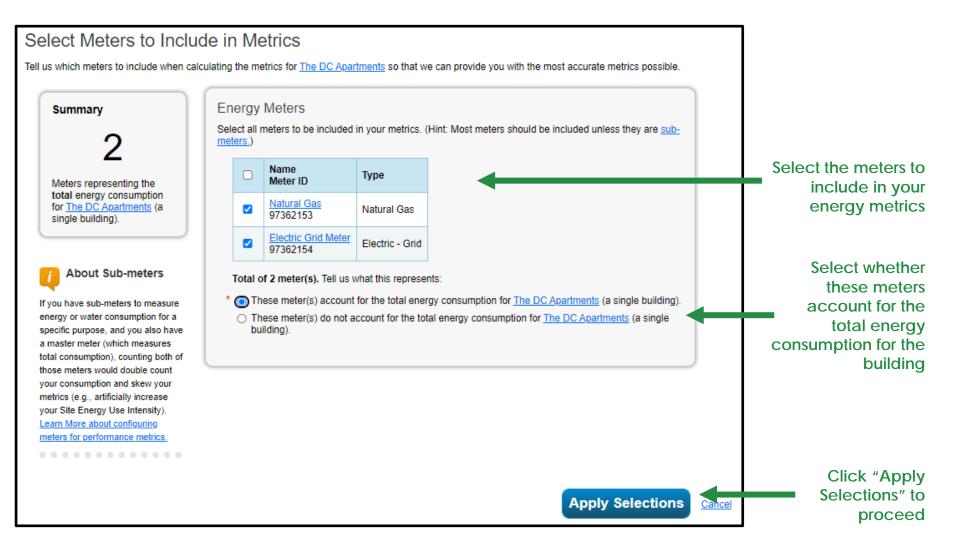
Bills must span from January 1st through December 31st for the report to be complete.

ENERGY METER TAB: ADD METER DATA BY UPLOADING SPREADSHEET

- Monthly Entries								
	Display Year(s):	how All Years 🗙]]	1 Dr	ownload the "si		
Kwn (thousand watt-nours)	stimation Green Power	Demand (kW)	Demand Cost (\$) La	ast Upd	mete temp	er spreadsheet plate and fill in	" your	
Click to add an entry <u>Delete Selected Entries</u>					mete	er bill information	on	
Add Another Entry	A	В	С		D	E	F	G
Learn how to copy/paste	Start Date (Required)	End Date (Required)	Usage (Required)	Cost (Optional)	Estimation (Required)	Demand (Optional)	Demand Cost (Optional)
	2 1/1/2020 1/3		31800			No		
X Delete All Entries	3 2/1/2020 2/2		27300			No		
	4 3/1/2020 3/3 5 4/1/2020 4/3		26100 23100			No		
Upload data in bulk for this meter:	6 5/1/2020 5/		32100			No		
oprodu data in pair for ano motor.	7 6/1/2020 6/		35700			No		
Use this single-meter spreadsheet to:	8 7/1/2020 7/3		46046			No		
	9 8/1/2020 8/		48309			No		
 Upload the completed file below 	0 9/1/2020 9/3		39818			No		
 Copy and Paste the data into the table above 	1 10/1/2020 10		30534			No		
	12 11/1/2020 11		30575			No		
	3 12/1/2020 12	2/31/2020	31139			No		
Choose File Electric_PM_Upload.xlsx Upload	14						¥	
		Save	Bills			Click "Save B proceed	ills″ to	
2. Save the file as a								
.xlsx and select								

- "Choose File" and
- "Upload" the file

ENERGY METER TAB: METERS TO ADD TO TOTAL CONSUMPTION

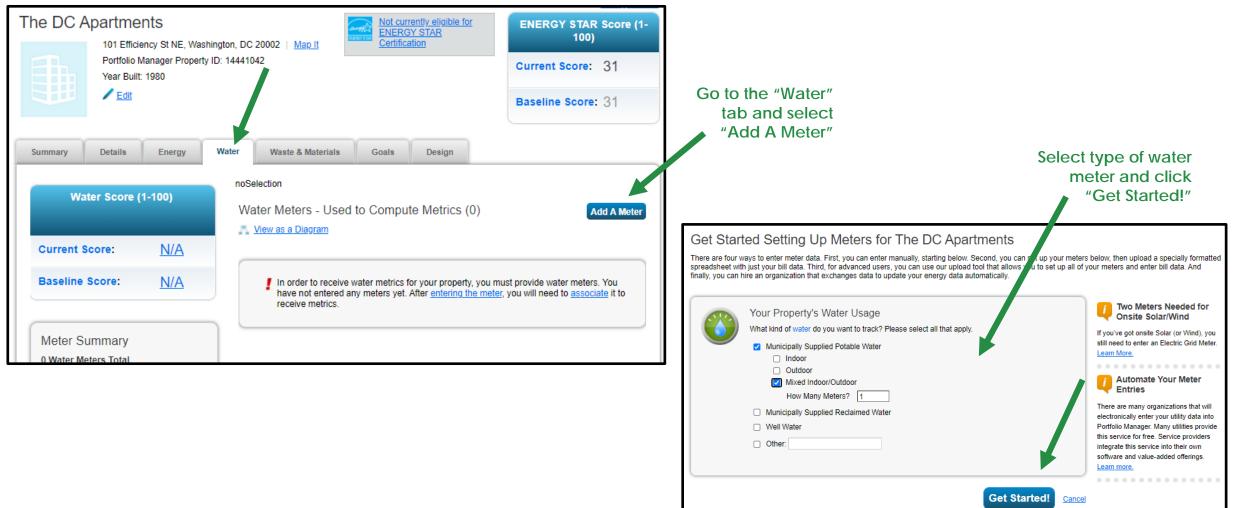


ENERGY METER TAB: REVIEW YOUR ENERGY INFORMATION

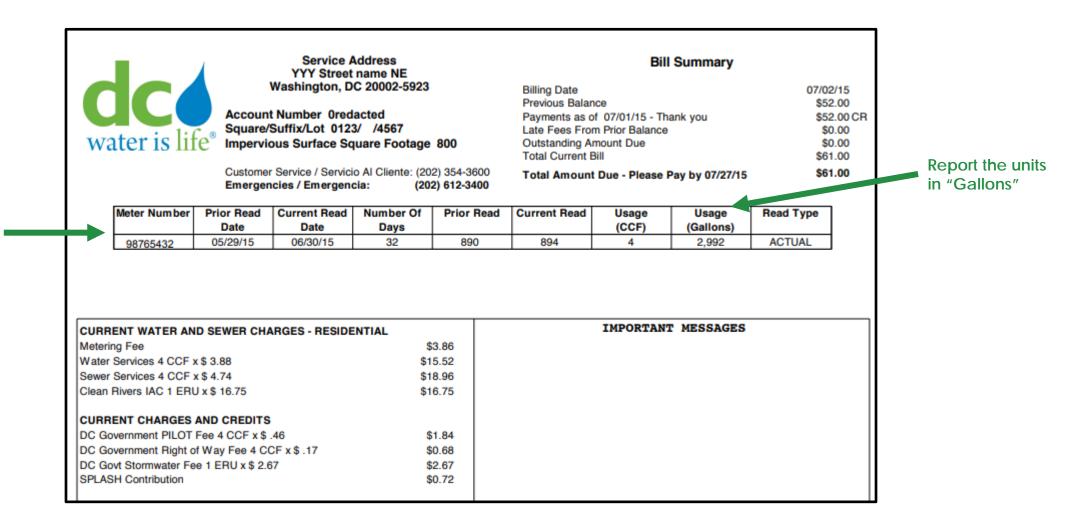
The DC Apartments	Not currently eligible for ENERGY STAR	ENERGY STAR Score (1- 100)
101 Efficiency St NE, Washington, Portfolio Manager Property ID: 142 Year Built: 1980		Current Score: 30
Edit		Baseline Score: 30
Summary Details Energy Water	Waste & Materials Goals Design	
Meter Summary 2 Energy Meters Total 2 - Used to Compute Metrics Add A Meter	Your utility, Pepco, may be able to send energy data directly to the Manager web services. <u>Click here</u> for additional information and t you. If this is what you would like to do, you can <u>connect</u> with Pep	o see if this option is right for
Current Energy Date Dec 31, 2020	Energy Use by Calendar Month (Not Weath	er Normalized)
Four Ways to Enter Bill Data 1. Manual (Instructions here) 2. Use our simple spreadsheet (on	Work Ok Uk	
the bottom of each meter's Manage Bills page) to upload or Copy/Paste 3. Use our complex spreadsheet (multiple meters + multiple properties)	de ^{c 19} ye ^{r 10} c ^{e0} t ²⁰ t ²⁰ c ⁰¹ t ²⁰	
4. Find an organization to		Export Data by Calendar Month



WATER METER TAB: ADD METER ENTRIES AND FILL IN DATA MANUALLY

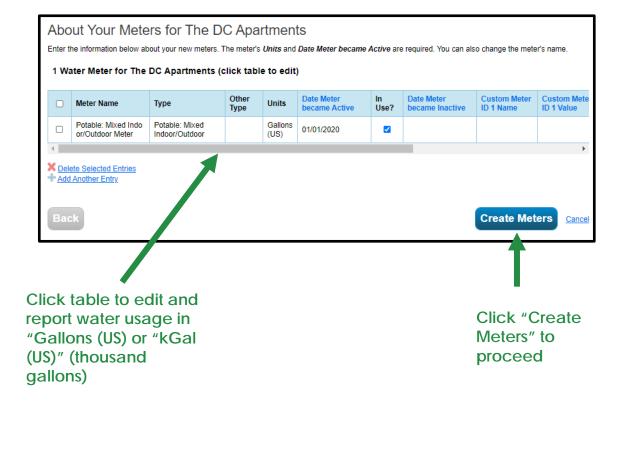


WATER METER TAB: READING YOUR WATER BILL



Usually on page 1 of your bill you will find your meter reading

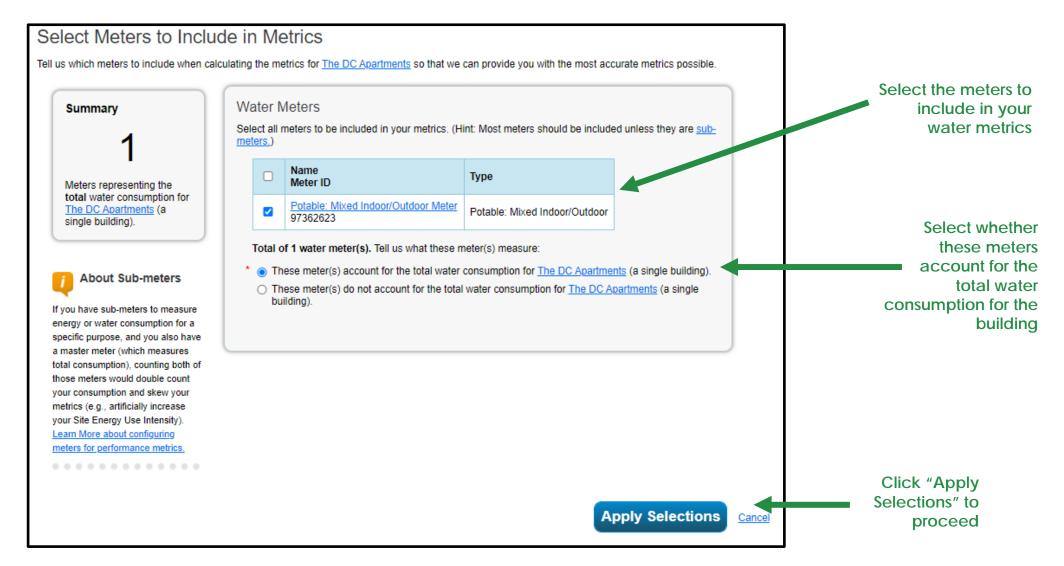
WATER METER TAB: ADDING WATER METER INFORMATION



	Start Date	End Date	Usage Gallons (US)	Total Cost (\$)	Estimatio
	01/01/2020	01/31/2020	149,600.00		
	02/01/2020	02/29/2020	130,900.00		
	03/01/2020	03/31/2020	130,900.00		
	04/01/2020	04/30/2020	130,900.00		
	05/01/2020	05/31/2020	144,364.00		
	06/01/2020	06/30/2020	131,648.00		
	07/01/2020	07/31/2020	130,900.00		
	08/01/2020	08/31/2020	157,828.00		
	09/01/2020	09/30/2020	130,900.00		
	10/01/2020	10/31/2020	149,600.00		
	11/01/2020	11/30/2020	151,844.00		
	12/01/2020	12/31/2020	121,924.00		
<u>Add</u> Lea Up	te Selected Entries Another Entry, m how to copy/paste load data in bulk for this Use this <u>single-meter spreadsheet</u> to Upload the completed file below Copy and Paste the data into th	D:			
	Choose File No file chosen	Upload			

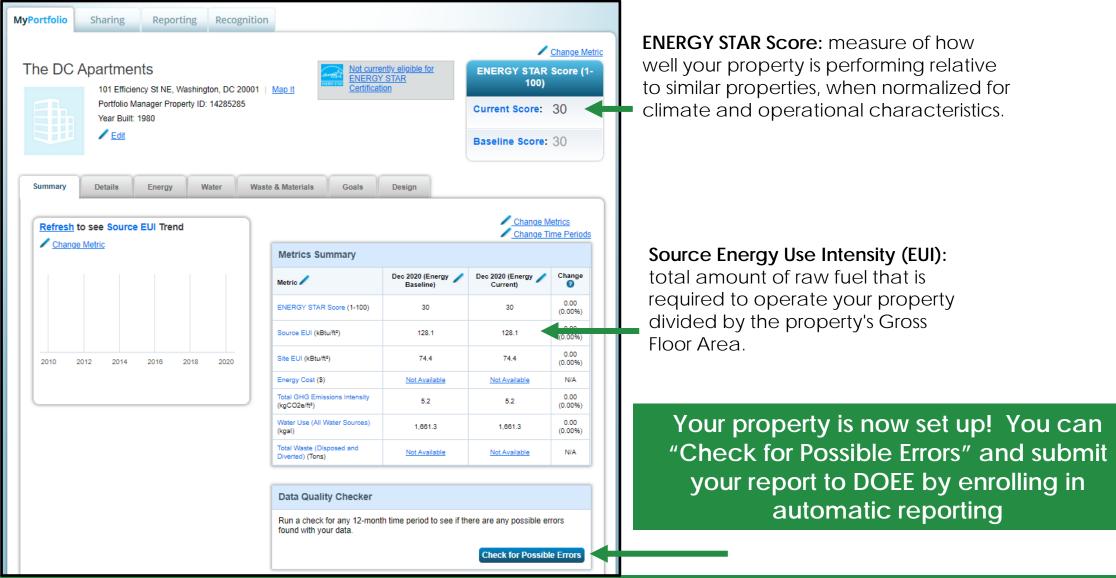
Enter meter information manually or upload a spreadsheet and click "Continue"

WATER METER TAB: METERS TO ADD TO TOTAL CONSUMPTION





SUMMARY TAB: REVIEW YOUR ENERGY PERFORMANCE METRICS



AUTOMATIC REPORTING

- DOEE accepts Benchmarking Reports via Portfolio Manager Web Services. This requires a one-time property share with the District, after which annual submission of the benchmarking report is automatic.
- You will need to update energy and water use information in Portfolio Manager every year by the reporting deadline of April 1.
- With Automatic Reporting, DOEE can view and download data from your property, but it does NOT have the ability to edit, add, or delete any data.
- DOEE will be able to see all data input into your Portfolio Manager account, including cost information. However, DOEE will NOT collect, download, or disclose any financial information during reporting process.



BENCHMARKING RESOURCES

- ENERGY STAR Portfolio Manager offers multiple webinars and recorded videos that cover the basics of how to benchmark a building and use the Portfolio Manager tool
 - We recommend **Portfolio Manager 101** for buildings that are benchmarking for the first time
 - Upcoming webinars of interest:
 - January 26 (at 1pm, just after our training): <u>A Beginner's Guide to Using Portfolio</u> <u>Manager for Benchmarking Law Compliance</u>
 - February 24: <u>Using Benchmarking Results to Understand your Building's Performance</u>
 - March 30: <u>To Efficiency & Beyond! How to Benefit from Benchmarking Compliance with</u> <u>Strategies for Improving your Energy Performance</u>
 - Full list of upcoming webinars, recorded presentations, and demonstration videos: <u>www.energystar.gov/buildings/training/training</u>



BENCHMARKING RESOURCES

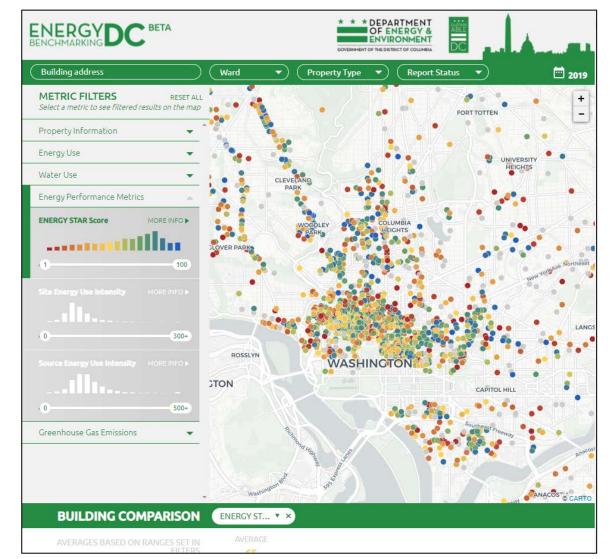
More resources:

- Portfolio Manager maintains a comprehensive list of FAQs: <u>https://energystar-mesa.force.com/PortfolioManager/s/</u>
- DOEE website has two additional webinars at <u>https://doee.dc.gov/page/get-help-benchmarking</u>
 - "How to Enroll in Automatic Reporting"
 - "Multi-Tenant Buildings"



PUBLIC DISCLOSURE

- Benchmarking reports are publicly disclosed on our benchmarking disclosure map and OpenDataDC.
- If you are voluntarily reporting your building before it is required, your data will not be publicly disclosed
- Data disclosed after a building submits their second annual required report



Map: energybenchmarkingdc.org OpenData: opendata.dc.gov/datasets/building-energy-benchmarks



BENEFITS OF EARLY REPORTING

- Staff become accustomed to the process of benchmarking
- One-on-one benchmarking help provided by DOEE and DC Sustainable Energy Utility (DCSEU)
- Connection to DOEE partners, like DCSEU, who offer various services and rebate programs to buildings
- Jump start preparing your building to meet its building energy performance standard (BEPS)

BENCHMARKING HELP CENTER

If you have questions, please contact us at:

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