JULY 9TH, 2024

Getting Started with *Energy Star Portfolio Manager* and Benchmarking Compliance in Ontario

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Agenda

3/48 Key principles of energy benchmarking

8/48 Ontario’s energy and water reporting and benchmarking initiative (EWRB)

13/48 Features and benefits of ENERGY STAR® Portfolio Manager®

20/48 Start a portfolio with ENERGY STAR® Portfolio Manager®

28/48 Adding a property and entering use details

41/48 Entering consumption data

Key Principles of Energy Benchmarking

The benefits of energy disclosure and benchmarking

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Energy reporting

Building energy reporting is essential for understanding how energy is consumed within a building and for identifying opportunities to **improve efficiency**, **reduce costs**, and **minimize environmental impact**.

Key advantages of energy reporting

Identification of inefficiencies

Cost savings

Compliance with regulations

Benchmarking

Optimization of operations

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What is energy benchmarking?

Energy benchmarking allows you to

- Identify poorly performing buildings.
- Establish a baseline for measuring improvement.
- Reward efficient buildings and create competition through comparison.
- Participate in certification and environmental initiatives.

Energy benchmarking is a comparative analysis

- Internal process: measuring against past performance of other buildings in your portfolio.
- External process: comparing to similar buildings outside your organization.

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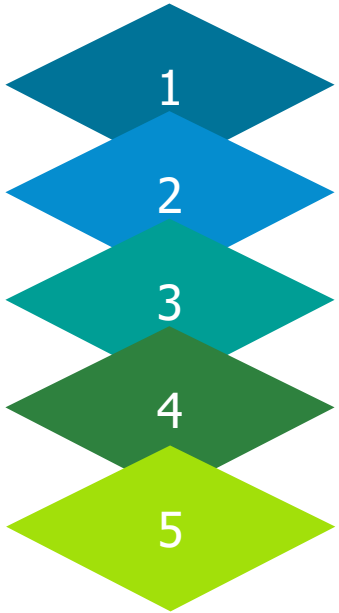
Benefits of energy benchmarking

Benchmarking is an important tool for improving energy performance.



- Provides information on energy use
- Increases awareness of energy efficiency
- Identify best practices, by drawing inspiration from the best-performing buildings
- Classifies buildings based on their performance, to help determine and prioritize investment projects, in the most energy-intensive or GHG-emitting facilities
- Helps to identify energy-saving measures and reduce energy bills

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Fun fact

> Although comparative analysis does not involve physical decarbonization actions, the influence thereof leads to an estimated **performance improvement of 2.4%** without major investments. Comparative analysis also serves to support the establishment of carbon neutrality strategies.

CPEQ (2023). Achieving Carbon Neutrality in Businesses, p. 35

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Ontario’s Energy and Water Reporting and Benchmarking initiative (EWRB)

Report energy and water use in large buildings | ontario.ca

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Ontario's EWRB initiative

50,000 ft²

If you own, manage, or represent a building that's **50,000 ft²** or larger, you are required by the Ontario government to report its energy and water use annually **by July 1**

Some buildings can qualify for a reporting exemption

100,000 ft²

If your building is **100,000 ft² or larger,** the report information must be verified by a certified professional the first time you report, then every 5 years

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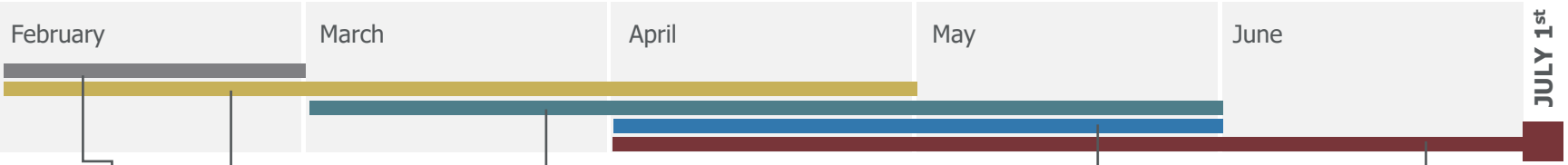
EWRB reporting checklist

1. Report energy and water use in large buildings | ontario.ca
2. Information you need for reporting | Guide to energy and water reporting | ontario.ca
3. Guide to energy and water reporting | ontario.ca

Complete guide



Get your EWRB ID

EWRB ID: a unique 6-digit # assigned to your property & emailed to you. Email EWRB support if you don't have it

Collect your reporting information

Collect energy & water usage data from invoices. Contact utility companies

Determine GFA & property type

Open a portfolio manager account & enter data

Open your account, create a property, EWRB ID, enter your energy and water data & submit report

Have your portfolio manager data verified by a professional

(IF REQUIRED)
For buildings over 100,000 ft². Examples of types of certified professionals is available online

Submit your report through the portfolio manager EWRB page by July 1st

Run the portfolio manager data quality checker and submit the report to EWRB

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EWRB exemptions

Ongoing exemption

Building owners are eligible for an ongoing exemption from the reporting requirement if they meet one or more of the following criteria:

- At least 50 per cent of the gross floor area of the building is occupied by a public agency.
- At least 10 per cent of the gross floor area is occupied by a data centre, television studio or trading floor.
- At least 10 per cent of the gross floor area is used for manufacturing processing, commercial processing, agricultural processing or industrial processing, if the environmental conditions within the property are governed mainly by the operations or processes within the building.

Who is exempt from reporting? | Guide to energy and water reporting | ontario.ca

One-year exemption

Building owners are eligible for an exemption from the reporting requirement for a calendar year if they meet one or more of the following criteria:

- At any time during the reporting year, any owner of the property is an insolvent person as defined in the *Bankruptcy and Insolvency Act* (Canada).
- At any time during the reporting year, the property is subject to:
  - a tax arrears certificate that has been registered against the property
  - a power of sale or foreclosure under a mortgage
  - a writ of execution
- The property is newly constructed, and a certificate for the occupancy of the property is issued in that year.

If you believe that your property is eligible for a one-year exemption from reporting, **you must complete an exemption notice**.

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EWRB examples of certified professionals

Examples of acceptable accreditation bodies include:

- American Society of Heating, Refrigeration and Air Conditioning Engineers
- Association of Energy Engineers
- Building Owners and Managers Institute International
- Canadian Institute for Energy Training
- International Association of Certified Indoor Air Consultants
- International Code Council
- International Facility Management Association
- Ontario Building Envelope Council

[Information you need for reporting | Guide to energy and water reporting | ontario.ca]

Examples of acceptable accreditations and certifications include:

- Building Energy Technology Certificate
- Building Operator Certification
- Building Science Specialist of Ontario
- Certified Building Commissioning Professional
- Certified Energy Auditor
- Certified Master Inspector
- Certified Measurement and Verification Professional
- Condominium Manager (general license or transitional general license)
- Certified Professional Accountant
- Professional Engineers of Ontario
- Portfolio Manager certifications

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Features and benefits of ENERGY STAR® Portfolio Manager®

Getting started, Key Features, Performance Score, and more.

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Introduction ESPM

NRCan has been collaborating with the EPA since 2011 to create a common platform for measuring and assessing the energy performance of commercial and institutional buildings in the US and Canada.

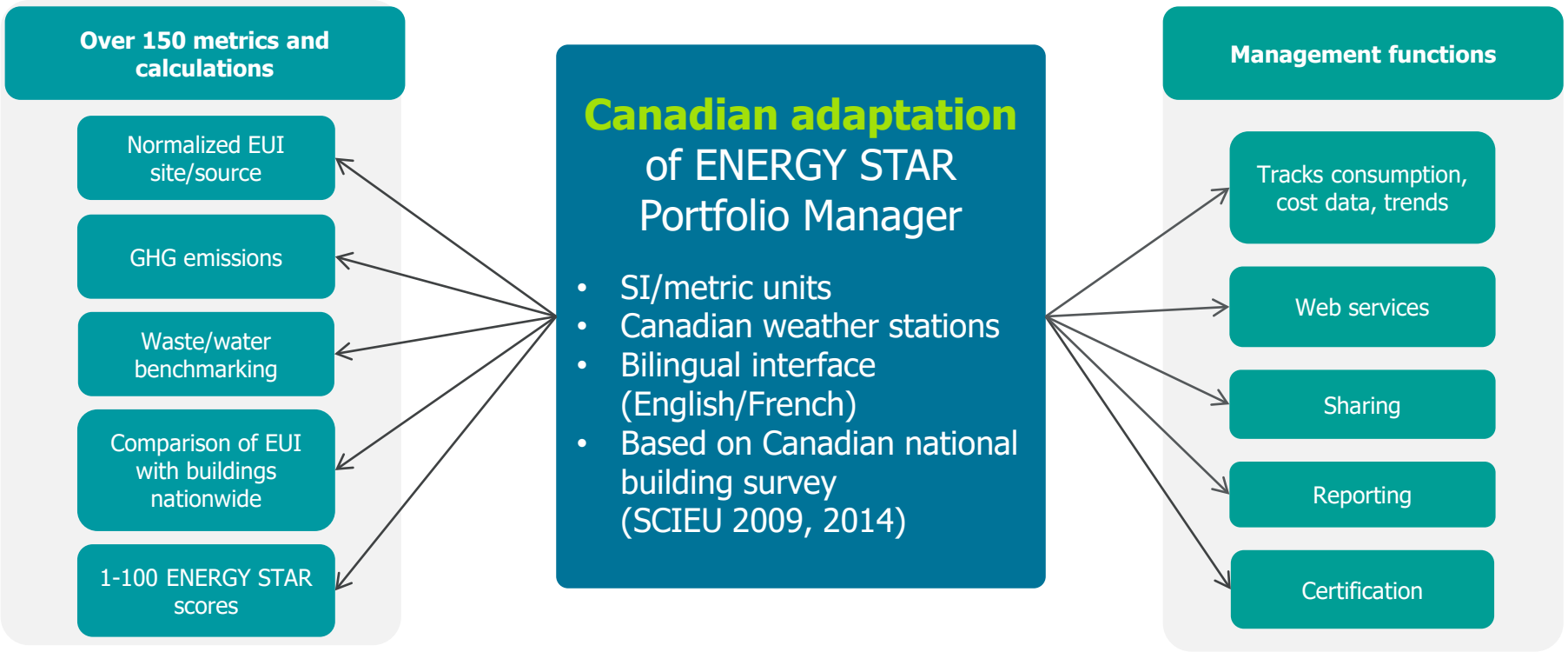
The Canadian adaptation was launched in 2013 and is continuously improved and adapted.

Portfolio manager is a **free, online, and secure platform**.

Not just a benchmarking tool! It also allows

- Reporting for provinces and municipalities
- Upload energy data from utilities – web services
- **ENERGY STAR** building certification for high-performance buildings

ENERGY STAR® Portfolio Manager – key features



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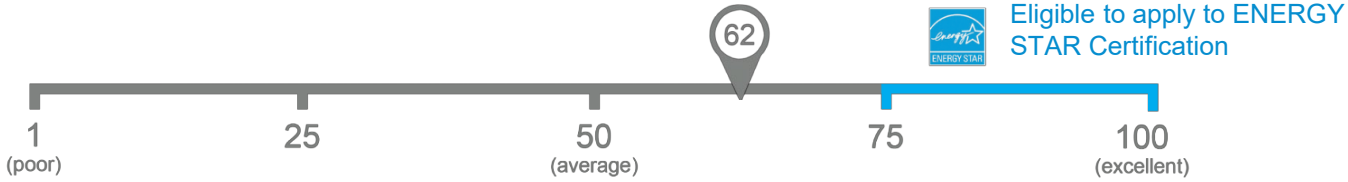
ENERGY STAR performance score

The ENERGY STAR score, is expressed as a number on a 1 to 100 scale, and rates performance on a percentile basis.



For example

- Buildings with a score of 50 perform better than 50% of their peers
- Buildings earning a score of 75 or higher are in the top quartile of energy performance and can apply for an ENERGY STAR Certification

ENERGY STAR performance score

- Evaluates performance for the whole building
- Reflects actual energy use
- Accounts for all different energy sources
- Normalizes for business activity and climate
- Provides comparisons against a national reference building of similar size and/or function as modelled from the SCIEU survey
- Can be used to compare building performance over time

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Eligible building types –1-100 ENERGY STAR score

Among the more than 80 property types built into portfolio manager, these are eligible :

1. Hotels
2. Retail stores
3. Warehouses
4. K-12 schools
5. Office buildings
6. Medical office buildings
7. Hospitals
8. Supermarkets
9. Residential care facilities/senior care community buildings
10. Ice rinks/ice rinks with curling rinks
11. Multifamily buildings (MURBs)
12. Bank branch (new August 2023)
13. Postal offices/mail centers (new August 2023)
14. Worship facilities (new August 2023)
15. Museums (new February 2024)
16. Libraries (new February 2024)

Even if your property type is not eligible to receive a 1-100 ENERGY STAR score, there are many reasons to use Portfolio Manager.

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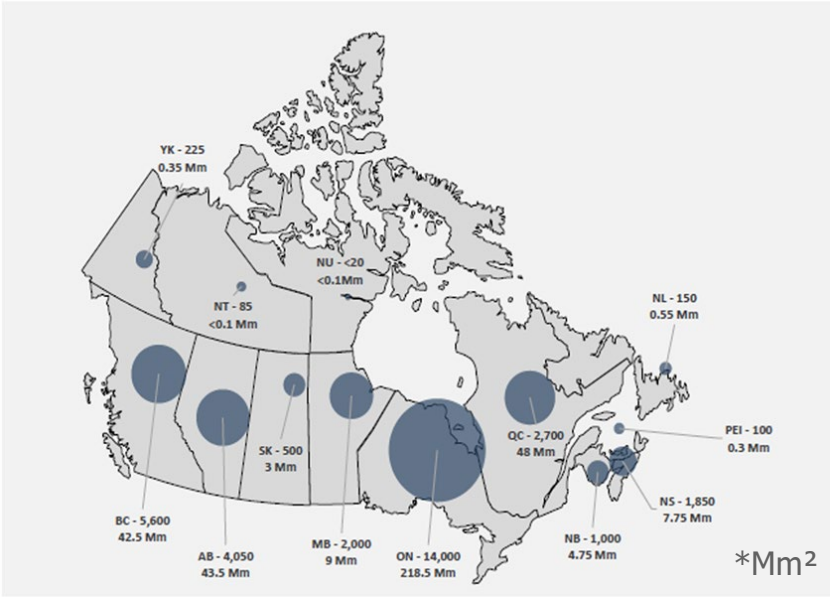
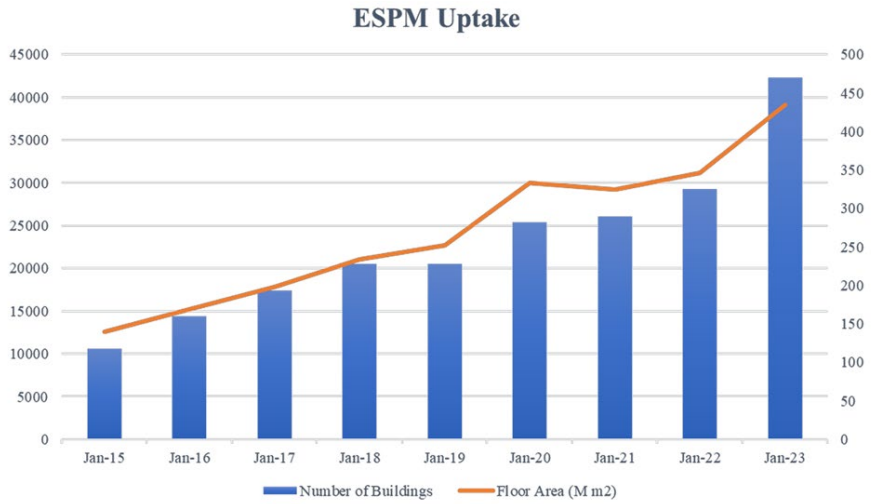
ENERGY STAR® Portfolio Manager® usage trends



ENERGY STAR® Portfolio Manager® usage per province and territories (Summer 2023)



ENERGY STAR Portfolio Manager® growth

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Start a Portfolio with ENERGY STAR® Portfolio Manager®

Getting started and Navigating Portfolio Manager

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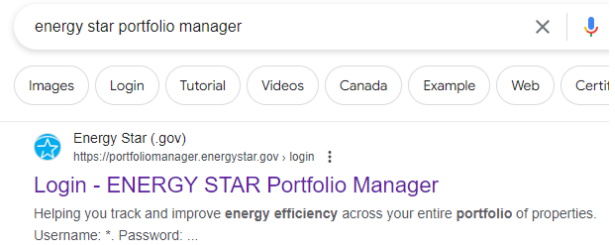
Take a couple minutes to create your FREE account

ENERGY STAR Portfolio Manager : login

Or type *Energy Star Portfolio Manager* into Google



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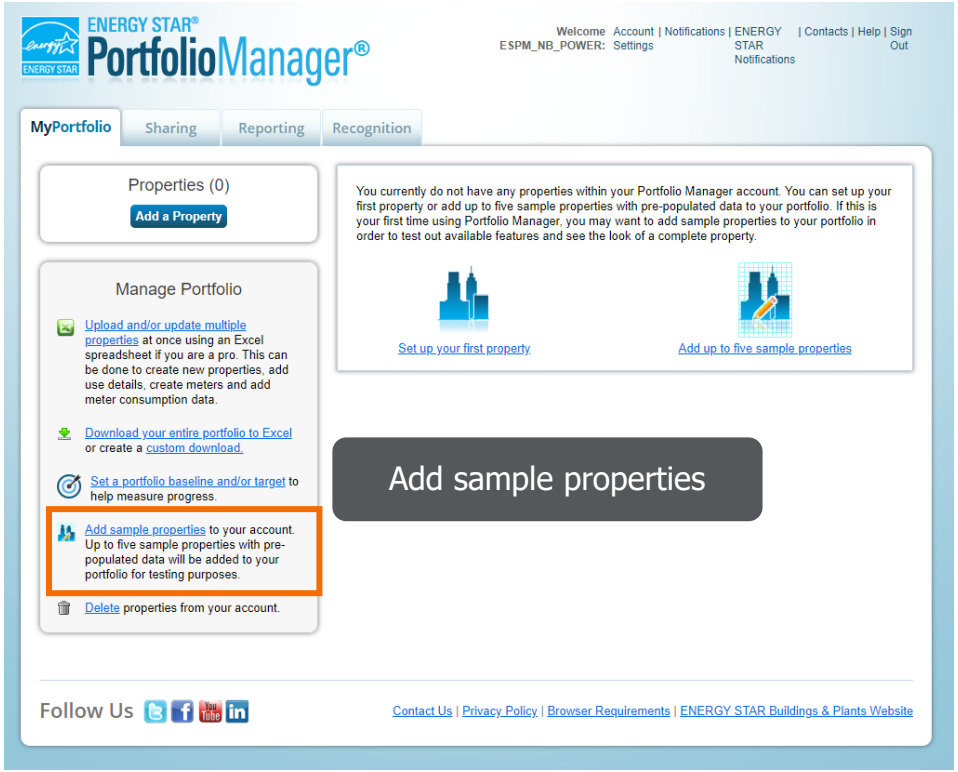
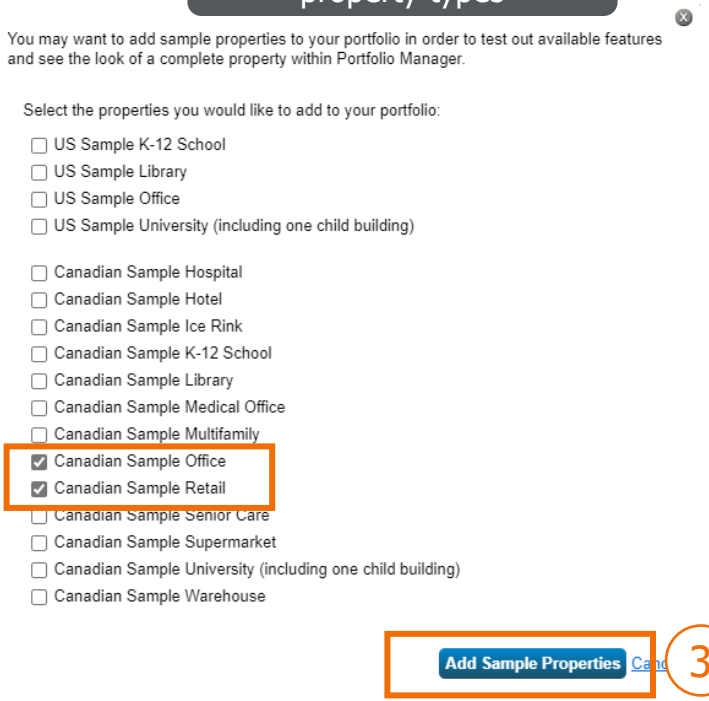
Practice with NRCan samples



Add two sample NRCAN property types



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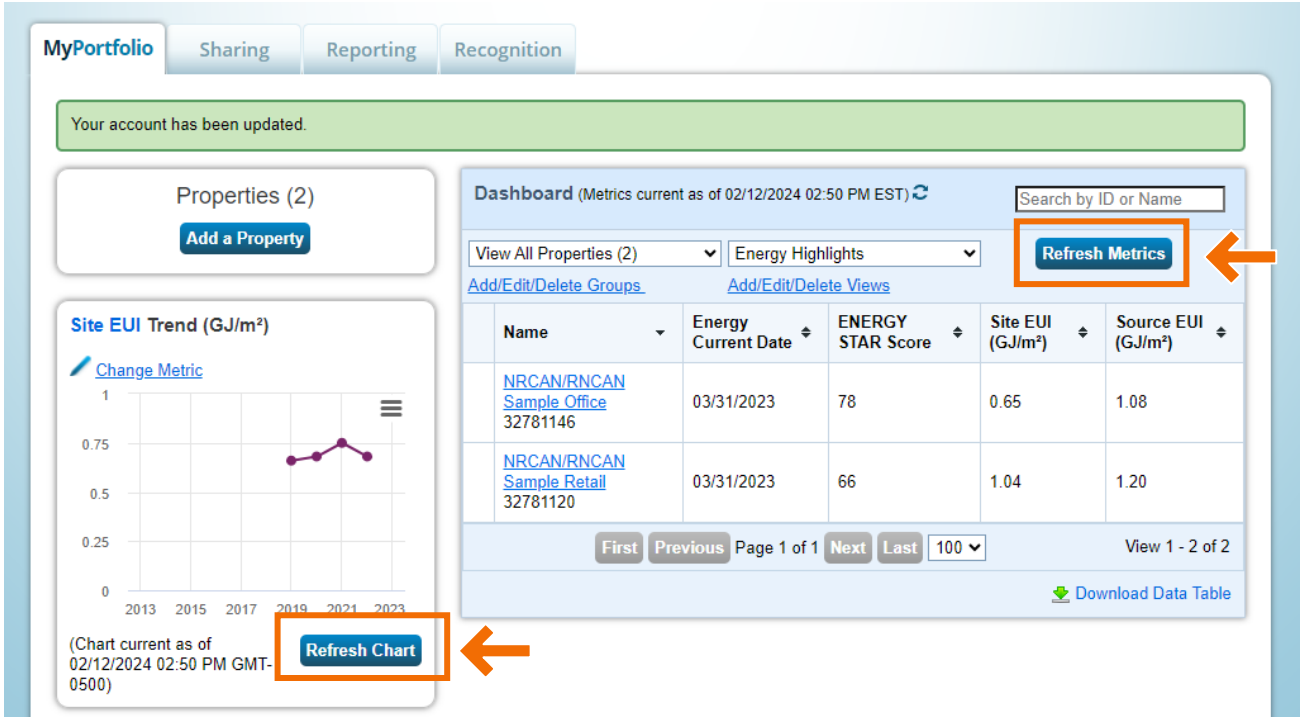
Refreshing your portfolio

After adding your buildings, click **Refresh Metrics**, and **Refresh Chart** to view your data



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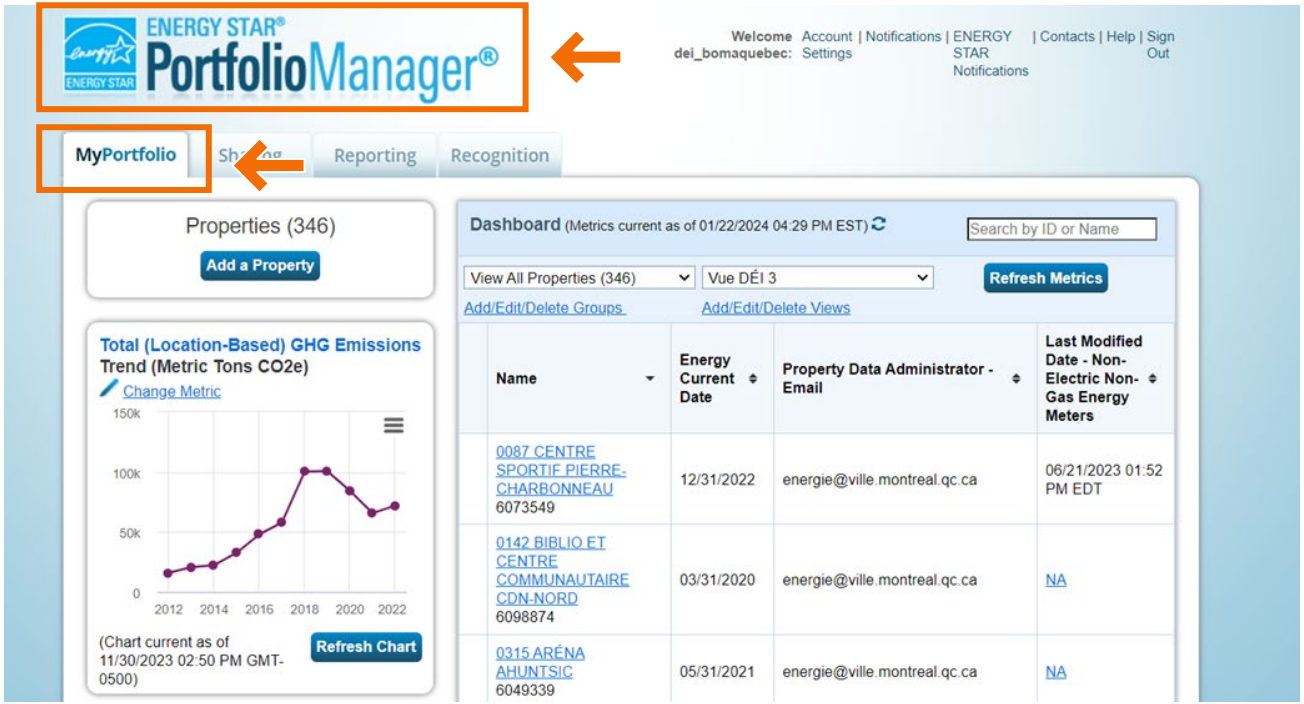
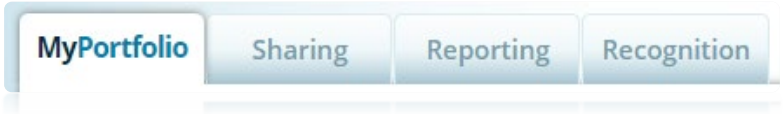
Navigating – home page

To return to the home page, click on the **MyPortfolio** tab or on the **logo**.



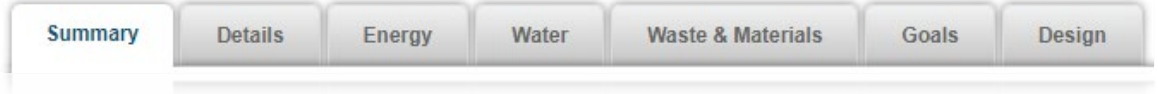
Navigating – different tabs

4 tabs for various actions at the portfolio Level



7 tabs for each property

Name	Energy Current Date	ENERGY STAR Score	Site EUI (GJ/m²)
NRCAN/RNCAN Sample Hotel 33647793	03/[illegible]/2023	79	0.84
NRCAN/RNCAN Sample Multifamily 33647810	12/31/2021	12	0.97



Intuitive navigation and multiple ways to get to the same place

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Need help

Portfolio manager is a user-friendly tool with tremendous help resources built-in to answer most questions or issues

- Read the Tip
- Point/hover over the **blue text** to view more details
- Click on the **blue underlined text** to be redirected to the proper section of the tool

Still need help

Go to the NRCan website and read the FAQ section

Benchmarking - Frequently Asked Questions

ENERGY STAR Benchmarking for Buildings in Canada

We are currently improving our FAQs with new and updated questions to help with your concerns. If you have additional questions, please contact us at nrcan.buildings-batiments.rncan@canada.ca

1. Energy Benchmarking

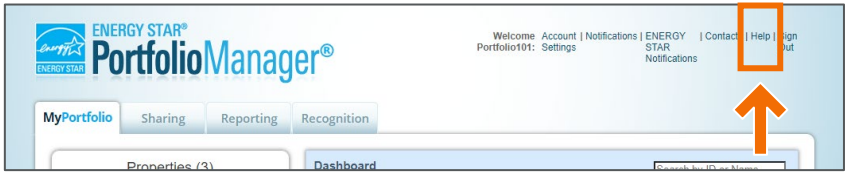
1. What is energy benchmarking?
2. What are the benefits of benchmarking?
3. How much does benchmarking cost?

2. ENERGY STAR Portfolio Manager – General

1. What is ENERGY STAR Portfolio Manager?
2. How can I get training on Portfolio Manager?
3. How does the ENERGY STAR 1-100 rating system and the ENERGY STAR score work?
4. What property types are eligible to receive a 1-100 ENERGY STAR score?
5. Does Portfolio Manager use metric or imperial units?
6. Will a score for multi-unit residential buildings and high-rise apartments be available anytime soon?

https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/benchmarking-frequently-asked-questions/3787

Use the Help Menu



Contact an NRCan specialist directly

nrcan.buildings-batiments.rncan@canada.ca

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Adding a Property and Entering Use Details

Adding a property and it the building use details (occupancy, area, date of construction and more).

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First, Gather the Required Information

For all Building Types

Property Information

- Building coordinates
- Construction year
- Gross floor area
- Primary function

At least 12 months of data

- Utility bills (water, energy)
- On-site generated (water, energy)
- Quantity of waste and recycling

Based on the Building Type

Property Use Details

Examples:

- Operating hours
- No. of computers
- No. of workers

Building use details vary per building type (i.e. Hotel vs. Office)

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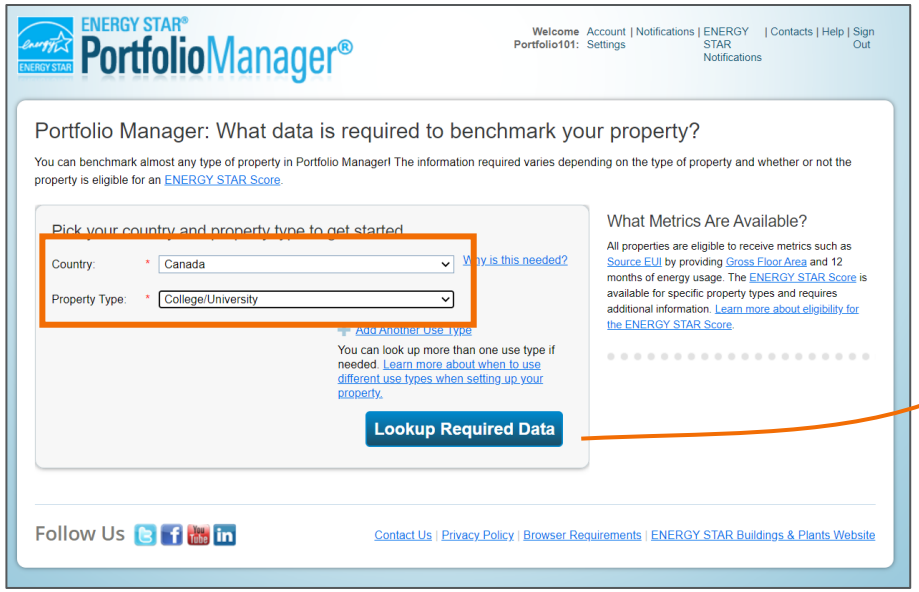
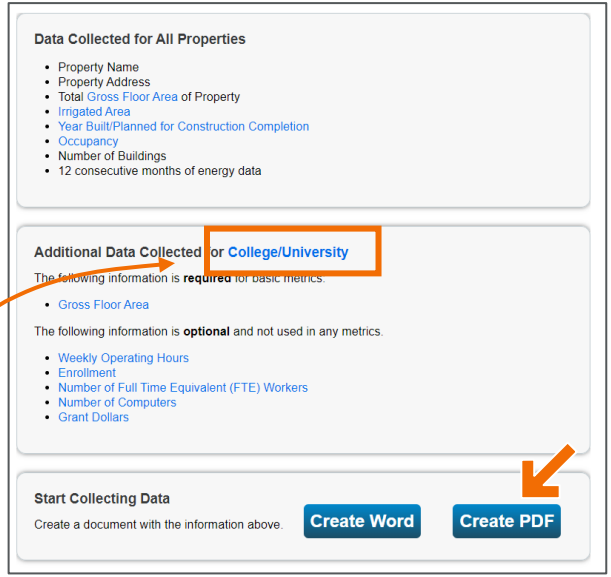
For Proper Data-Collection Use





https://portfoliomanager.energystar.gov/pm/dataCollectionWorksheet

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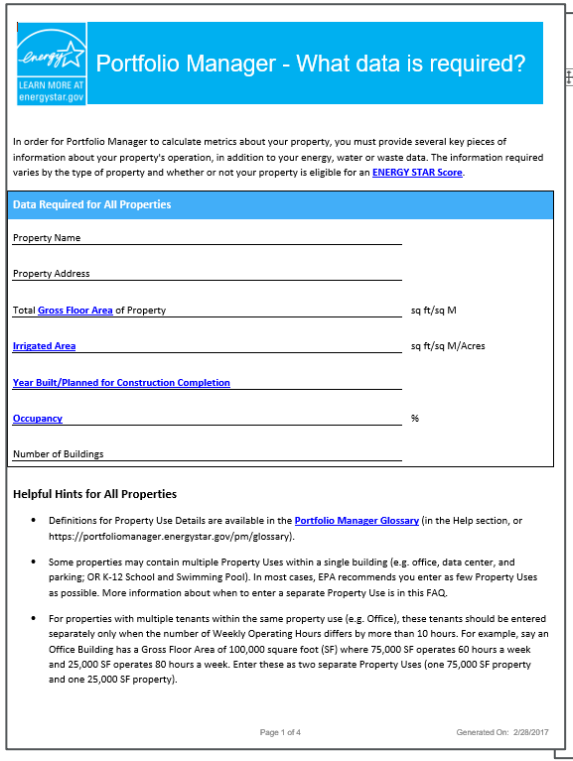
Creates a PDF or Word to Help Gather Information



Portfolio Manager - What data is required?

LEARN MORE AT energystar.gov

In order for Portfolio Manager to calculate metrics about your property, you must provide several key pieces of information about your property's operation, in addition to your energy, water or waste data. The information required varies by the type of property and whether or not your property is eligible for an ENERGY STAR Score.

Data Required for All Properties

Property Name

Property Address

Total Gross Floor Area of Property — sq ft/sq M

Irrigated Area — sq ft/sq M/Acres

Year Built/Planned for Construction Completion

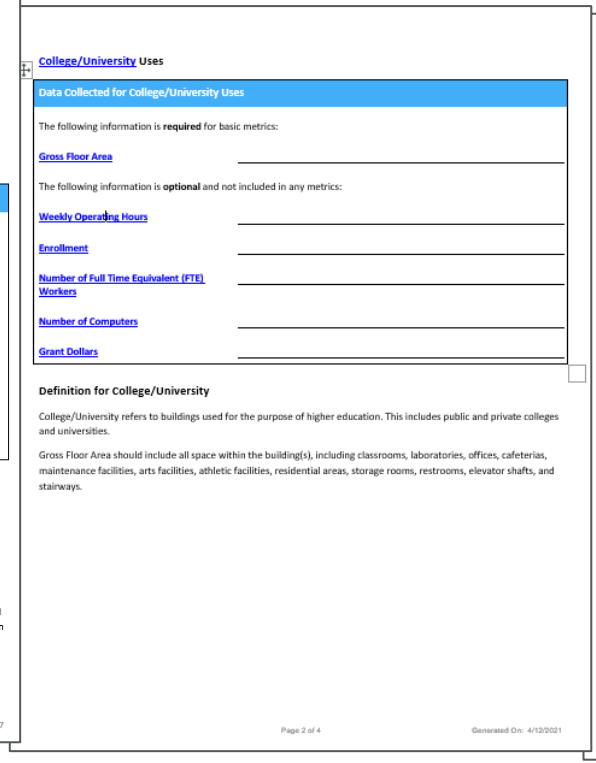
Occupancy — %

Number of Buildings

Helpful Hints for All Properties

- Definitions for Property Use Details are available in the Portfolio Manager Glossary (in the Help section, or https://portfoliomanager.energystar.gov/pm/glossary).
- Some properties may contain multiple Property Uses within a single building (e.g. office, data center, and parking; OR K-12 School and Swimming Pool). In most cases, EPA recommends you enter as few Property Uses as possible. More information about when to enter a separate Property Use is in this FAQ.
- For properties with multiple tenants within the same property use (e.g. Office), these tenants should be entered separately only when the number of Weekly Operating Hours differs by more than 10 hours. For example, say an Office Building has a Gross Floor Area of 100,000 square foot (SF) where 75,000 SF operates 60 hours a week and 25,000 SF operates 80 hours a week. Enter these as two separate Property Uses (one 75,000 SF property and one 25,000 SF property).

Page 1 of 4 — Generated On: 2/28/2017



College/University Uses

Data Collected for College/University Uses

The following information is **required** for basic metrics:

Gross Floor Area

The following information is **optional** and not included in any metrics:

Weekly Operating Hours

Enrollment

Number of Full Time Equivalent (FTE) Workers

Number of Computers

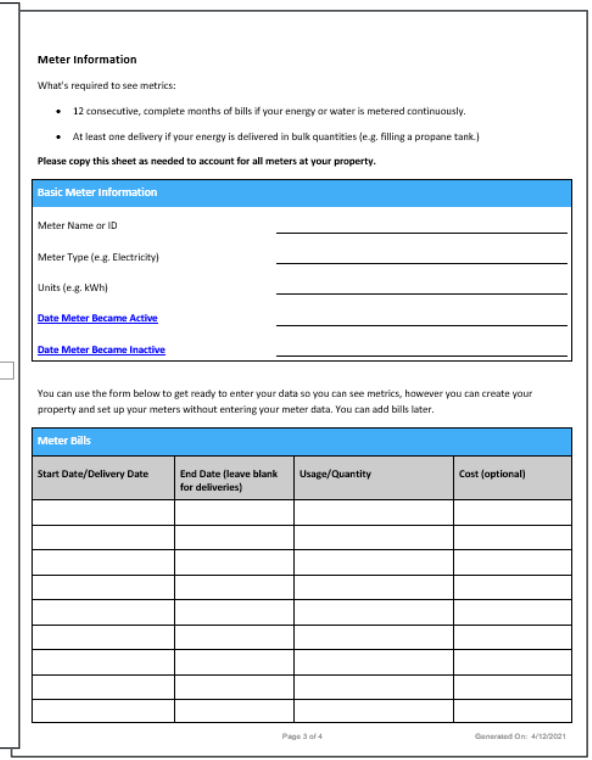
Grant Dollars

Definition for College/University

College/University refers to buildings used for the purpose of higher education. This includes public and private colleges and universities.

Gross Floor Area should include all space within the building(s), including classrooms, laboratories, offices, cafeterias, maintenance facilities, arts facilities, athletic facilities, residential areas, storage rooms, restrooms, elevator shafts, and stairways.

Page 2 of 4 — Generated On: 4/12/2021



Meter Information

What's required to see metrics:

- 12 consecutive, complete months of bills if your energy or water is metered continuously.
- At least one delivery if your energy is delivered in bulk quantities (e.g. filling a propane tank.)

Please copy this sheet as needed to account for all meters at your property.

Basic Meter Information

Meter Name or ID

Meter Type (e.g. Electricity)

Units (e.g. kWh)

Date Meter Became Active

Date Meter Became Inactive

You can use the form below to get ready to enter your data so you can see metrics, however you can create your property and set up your meters without entering your meter data. You can add bills later.

Meter Bills

Start Date/Delivery Date	End Date (leave blank for deliveries)	Usage/Quantity	Cost (optional)

Page 3 of 4 — Generated On: 4/12/2021

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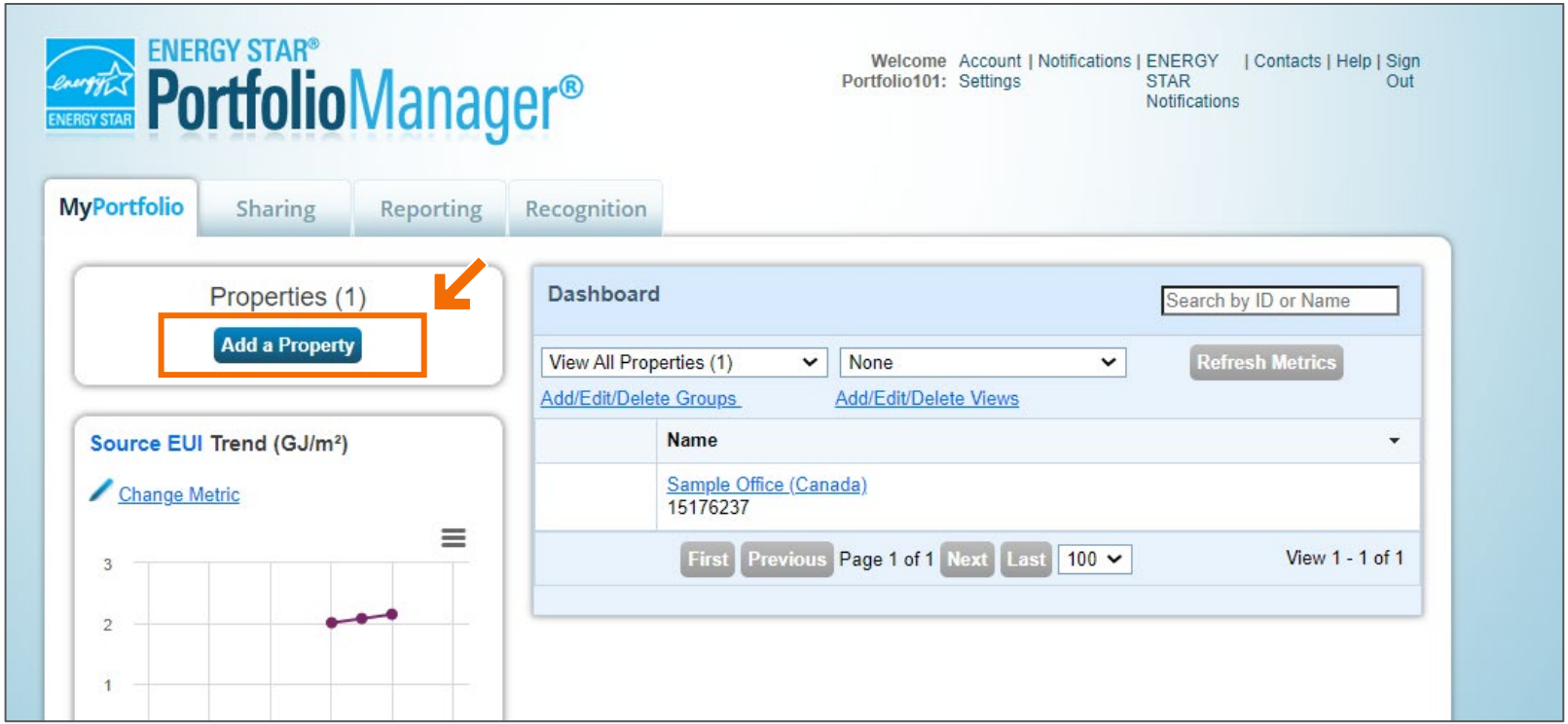
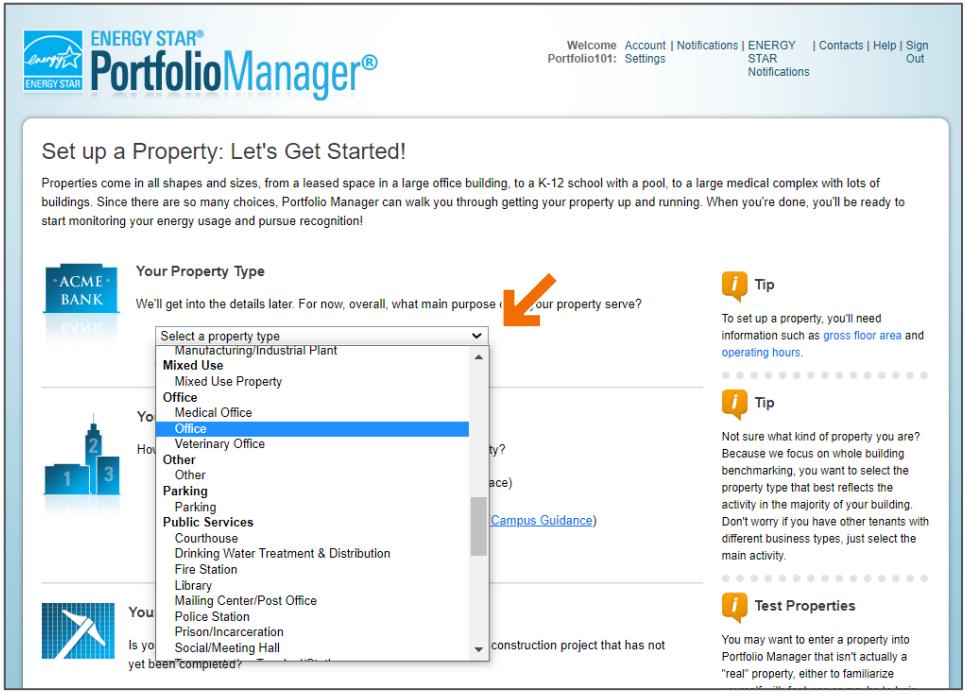
Ready to Create a Property



Create a Property



1 Select your Property Type

- About 80 Types
- Choose the property type that represents most of your ground floor area (GFA)

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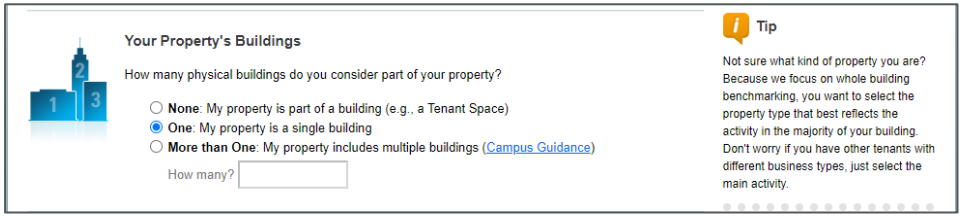
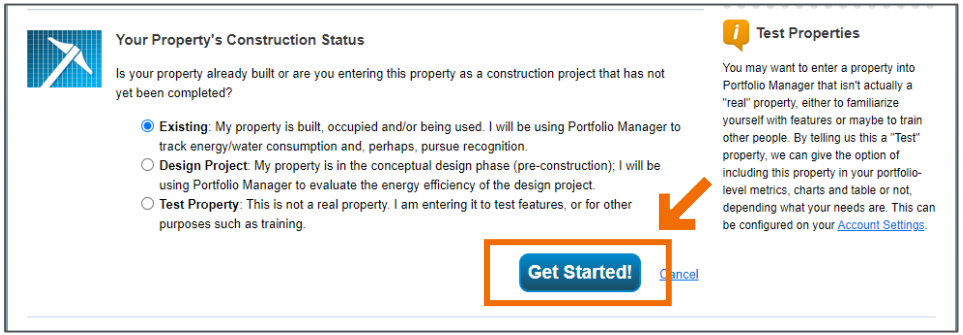
Create a Property



2 Your Property's Buildings

- Enter the Number of buildings



3 Your Property's Construction Status

- The most common entry is Existing building
- Design Project: if you want to get a sense of the efficiency of your future building
- Test Property: if you want to get familiar with Portfolio Manager

4 Get Started

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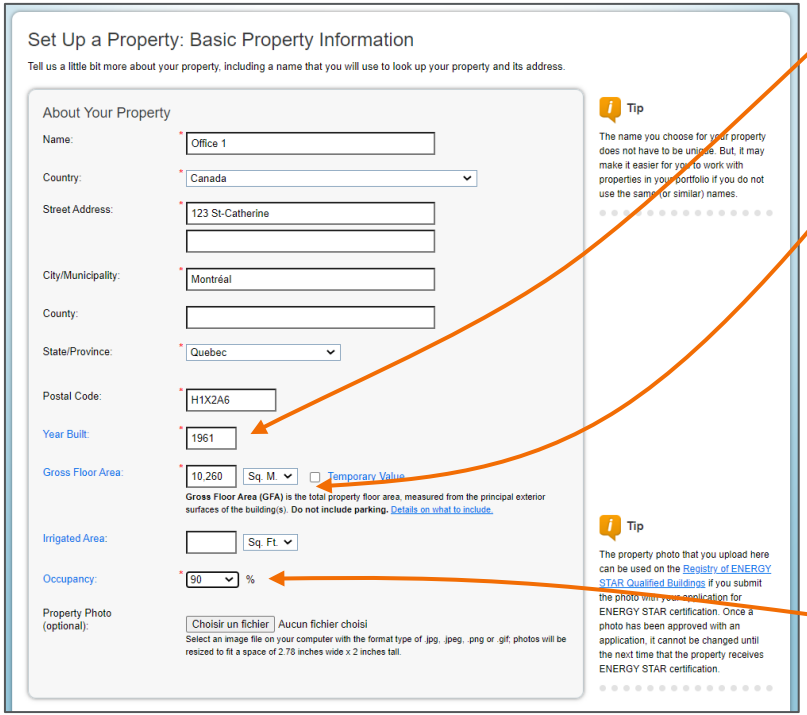
Set Up a Property



Year Built can be an estimate if unknown. Not used to calculate any metrics

IMPORTANT! Properly calculate your GFA

The Gross Floor Area (GFA) is the total property square footage, as measured between the exterior walls of the building(s). This includes all areas inside the building(s) including supporting areas.

Include in GFA*:	Do not include in GFA**:
• Lobbies • Tenant Areas • Common Areas • Clubhouses • Meeting Rooms • Break Rooms • Atriums (count the base level only) • Restrooms • Elevator Shafts • Stairwells • Mechanical Equipment Areas • Basements • Storage Rooms • Laundry Rooms	• Exterior spaces • Balconies • Decks • Patios • Outdoor pool decks • Exterior Loading Docks • Driveways • Covered Walkways • Outdoor Courts (Tennis, Basketball, etc.) • The interstitial plenum space between floors (which house pipes and ventilation) • Crawl Spaces • Attics • Parking

Occupany: On average throughout the year

Not used to calculate metrics; however, there are minimum occupancy requirements to get a score

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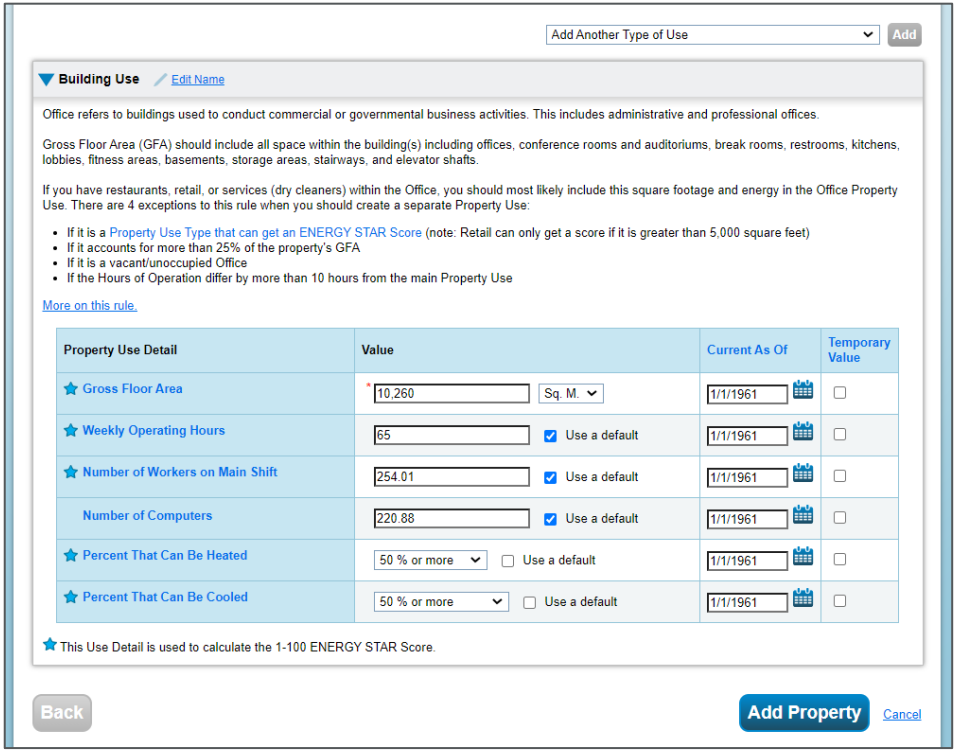
Set Up a Property - Parking

Parking

If metered separately from the building, do NOT check this box. If it is included (lighting, heating), then check the box.

Set Up a Property



Building Use

- Specific to the building type
- Values with a ★ are used to calculate your score, so they are very important and need to be accurate
- Default values can be used, but it is better to use the known values
- Blue text provides definitions and tips

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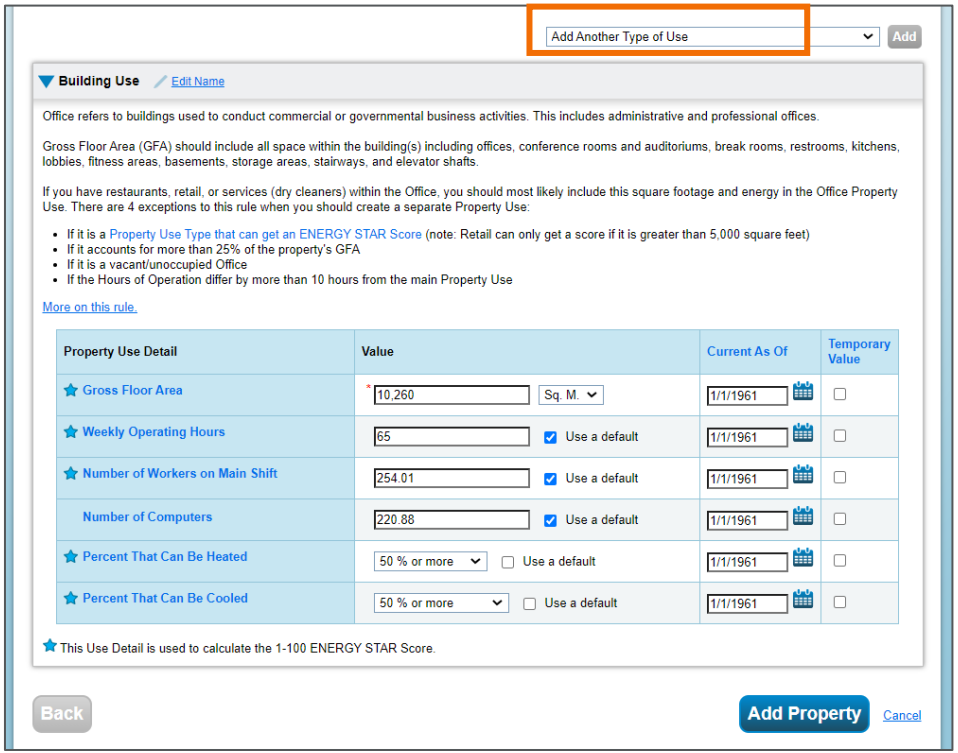
Set Up a Property



Add Another Type of Use only if

- Type of Use can earn ENERGY STAR rating
- The Type of Use differs from the main property type and accounts for more than 25% of total GFA
- There is unoccupied office space – totally shutdown
- The operating hours vary significantly from the main ones

Keep as few types as possible

- If multiple tenants, no need to do separate property types. Combine the GFA and other data

KEEP IT SIMPLE!!!

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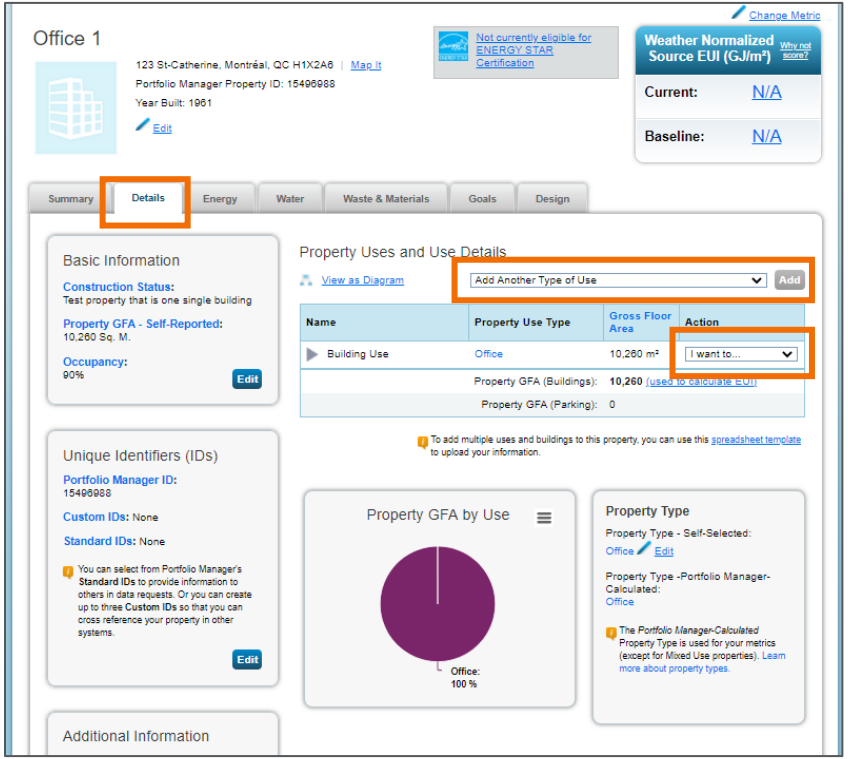
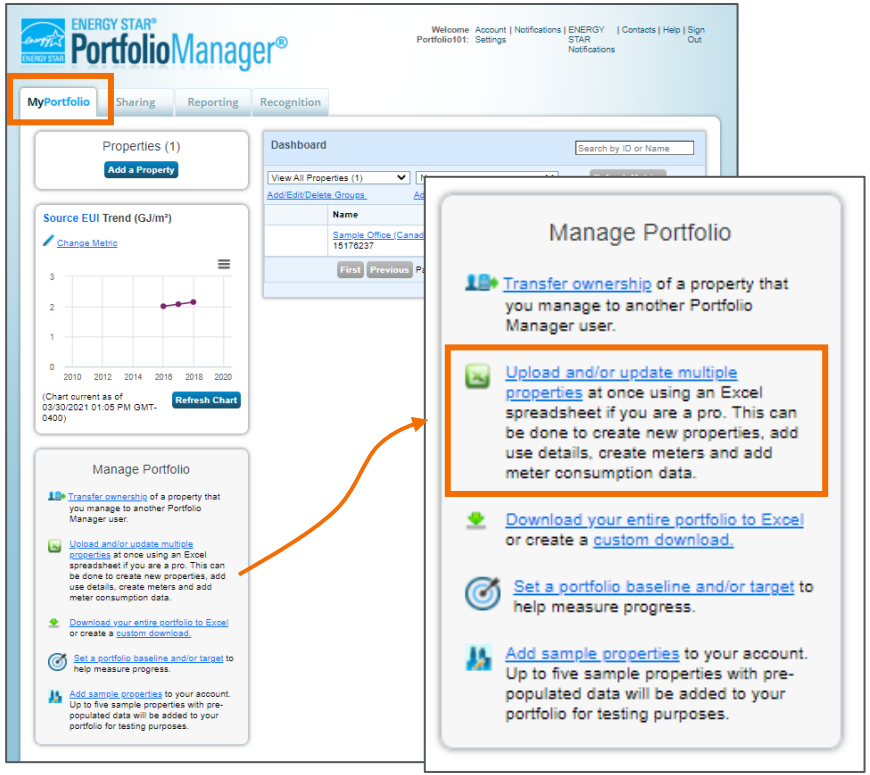
From the Details Tab



You Can:

- View and modify basic information
- Add another type of use

Multiple Properties with One Spreadsheet



To be covered in Workshop #2

Going Deeper with Energy Star Portfolio Manager:

Deriving Value from your Building Energy Data

July 25th, 2024

Entering Consumption Data

Adding consumption data (energy, water, waste, or material)

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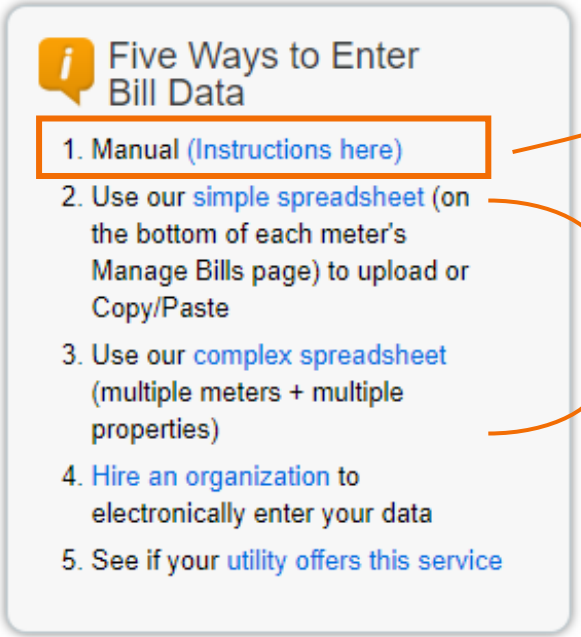
Entering Energy Data

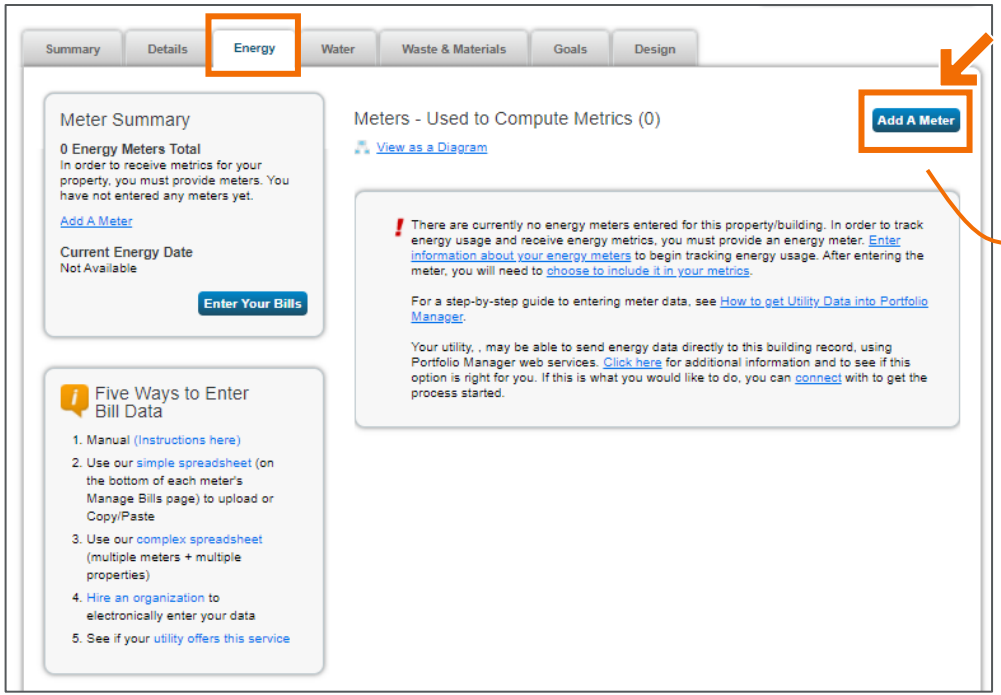


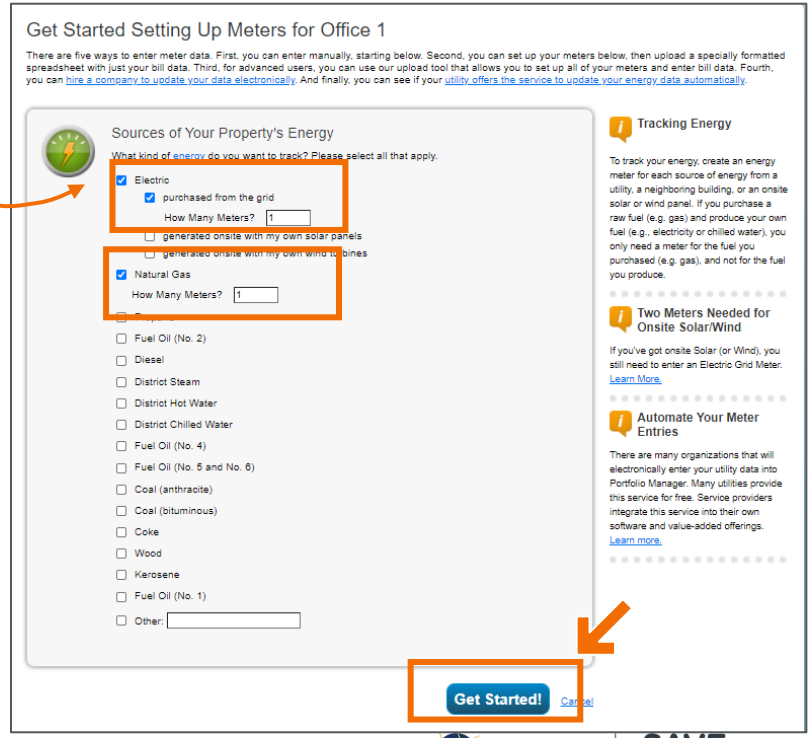
Manual entry of bill data covered today

Spreadsheet data entry
covered in Workshop #2

Entering Data - Manually

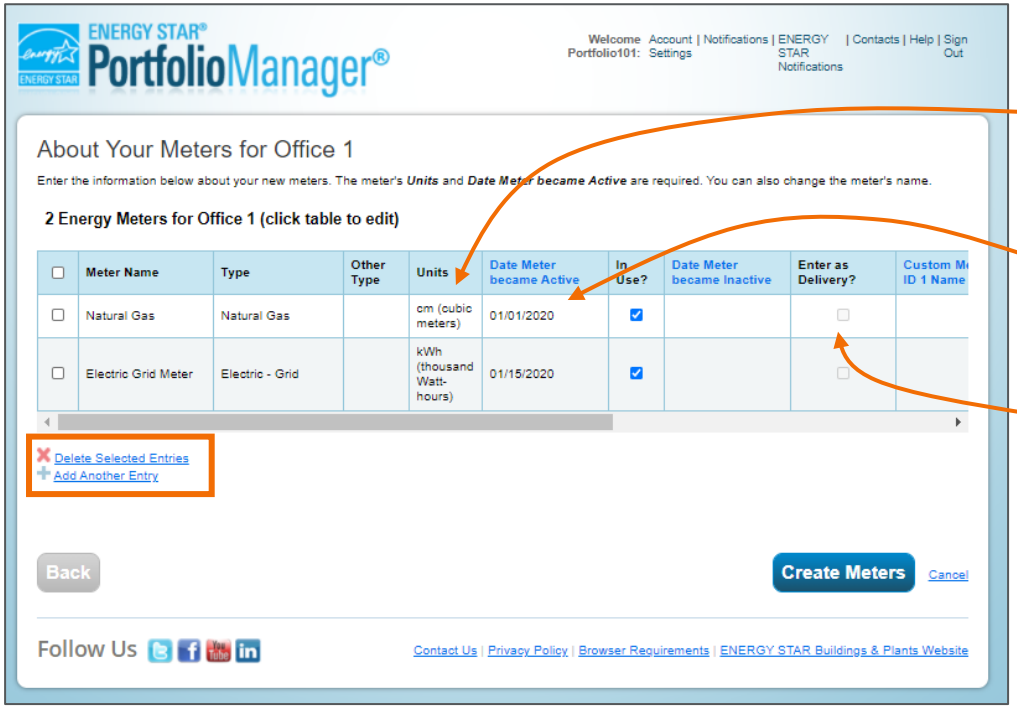
1 Add Meters (elec, NG, etc.)





Entering Data - Manually

2 Energy Meter Specifications



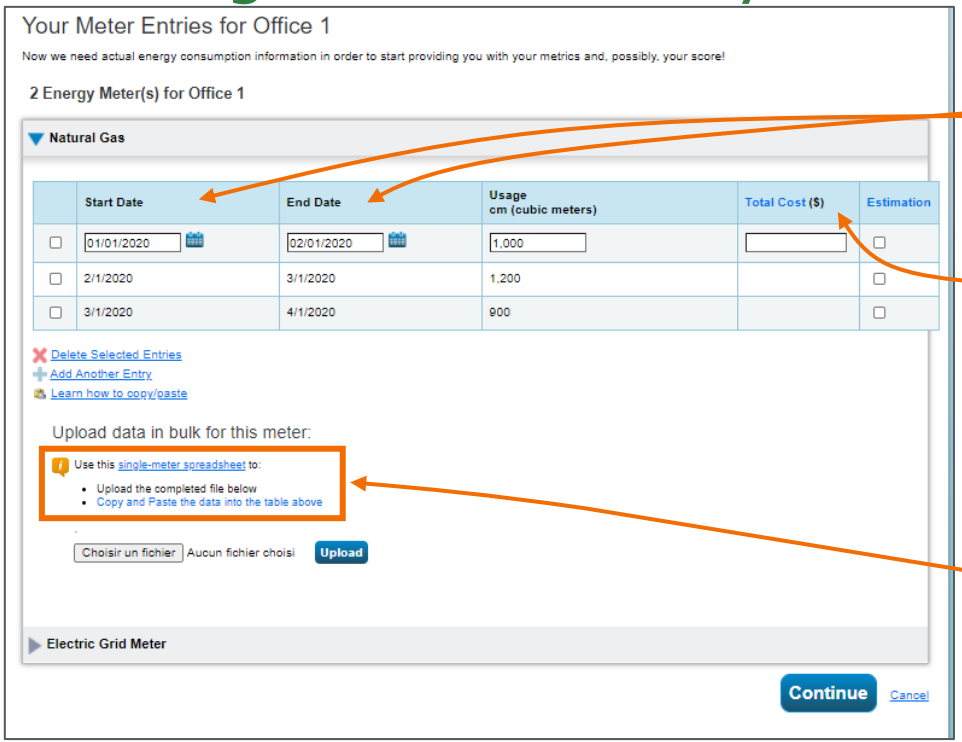
Make sure you have the proper units

Enter the first day of the first bill you are entering in Portfolio Manager

Click if you don't have regular monthly entries (e.g. propane delivery)

You can enter main meters and submeters

Entering Data - Manually



3 Enter Data

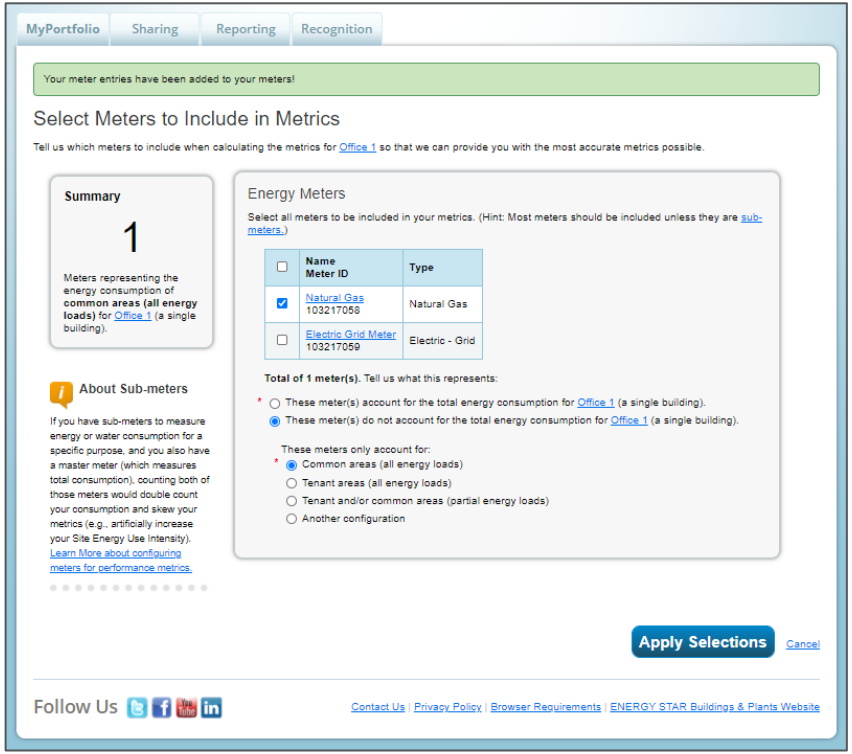
Doesn't need to be a calendar month. Can be adjusted to represent utility bills

Cost is optional but useful metrics are calculated ($/m²) and can be used to compare your energy costs

You can upload your data by downloading, filling in, and uploading the single-meter spreadsheet to avoid manual entries

See Workshop #2 – July 25, 2024

Entering Data - Manually



4 Select meters that account for the total energy consumption of the building

If you have submeters, make sure not to select them to avoid doubling your energy consumption.

Follow the same process to enter Water meter data

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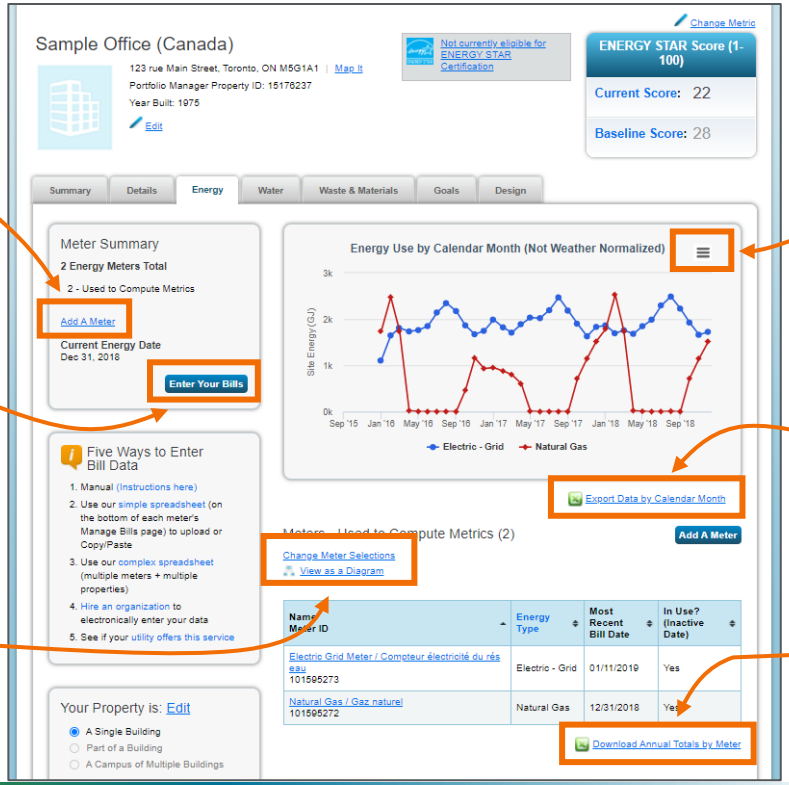
From the Energy or Water tabs, You Can Also

Add a meter

Enter Your Bills

Change Meter Selection



Download the Graph (.JPEG, .PDF, .PNG, .SVG)

Export Data by Calendar Month

Download Annual Totals by Meter

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Questions?

Feel free to contact me at
mpadvaiskas@bpa.ca

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Stay connected with tools and resources

- Virtual one-on-one coaching: post-webinar support intake form for tailored support for organizations to manage energy resources effectively
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- Live training calendar: visit this page to easily register for upcoming events and workshops
- Training and support webpage: visit this page to access all published training and support materials

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Thank you!

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