Energy Benchmarking Data Snapshot for All Building Types
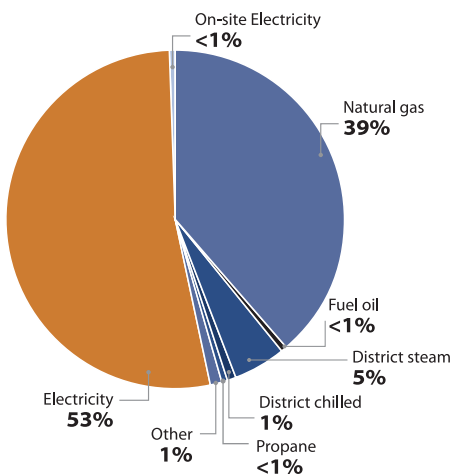

QUICK FACTS

- **24,000** buildings in Canada

- **312.5 million** m² floor area

- **1.0** GJ/m² median **site** energy use intensity (EUI)

- **1.4** GJ/m² median **source** EUI

- **172** ENERGY STAR certified building

ENERGY STAR® Portfolio Manager® is a tool used to track the energy use of 24,000 buildings in Canada. Energy benchmarking can help identify opportunities to save on energy costs and reduce environmental impact. This document provides a snapshot of the Canadian data for all building types entered into Portfolio Manager as of December 2019.

Figure 1. Total energy use breakdown

On-site Electricity **<1%**
Natural gas **39%**
Fuel oil **<1%**
District steam **5%**
District chilled **1%**
Propane **<1%**
Other **1%**
Electricity **53%**

Fuel mix breakdown for all building types in Portfolio Manager

Table 1. Benchmarking by city

	City	Buildings	Floor area (m²)
1	Toronto	6,500	135,000,000
2	Montréal	1,100	27,000,000
3	Vancouver	2,300	26,000,000
4	Calgary	1,000	19,500,000
5	Ottawa-Gatineau	775	14,000,000
6	Edmonton	725	11,000,000
7	Winnipeg	1,100	6,250,000
8	Halifax	375	3,000,000
9	Quebec	200	3,000,000
10	Victoria	325	1,750,000

Cities included are the capital cities and the largest metropolitan areas for each province. Only the top 10 cities are shown.
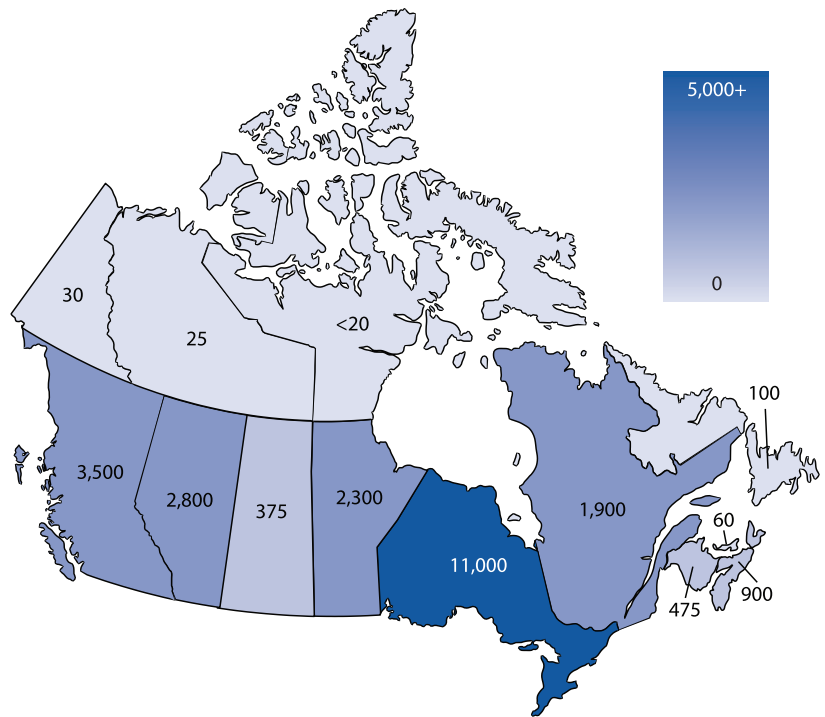
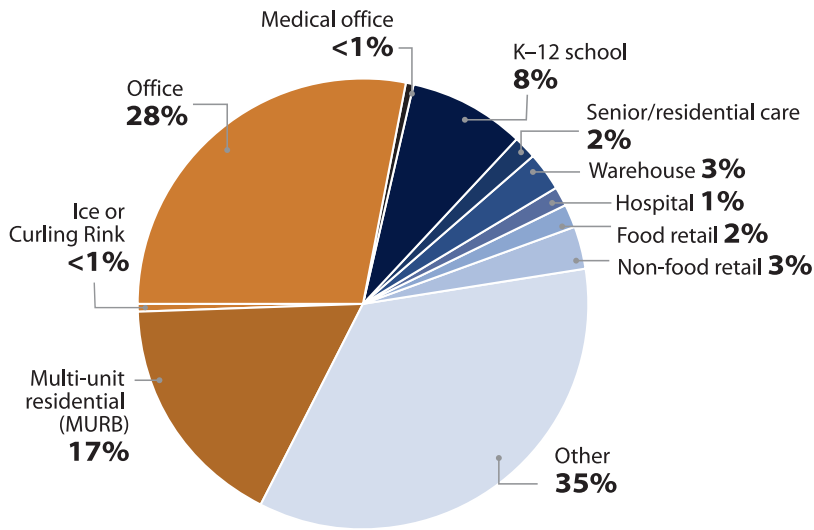### Table 2. Benchmarking by province and territory

Province or territory	Buildings	Floor area (m²)	Certified
Alberta	2,800	35,500,000	36
British Columbia	3,500	32,000,000	27
Manitoba	2,300	8,250,000	6
New Brunswick	475	2,750,000	5
Newfoundland and Labrador	100	300,000	0
Northwest Territories	25	<100,000	0
Nova Scotia	900	5,250,000	2
Nunavut	<20	<100,000	0
Ontario	11,000	190,000,000	79
Prince Edward Island	60	300,000	0
Quebec	1,900	35,000,000	16
Saskatchewan	375	2,250,000	1
Yukon	30	100,000	0
Total	**24,000**	**312,500,000**	**172**

For privacy reasons, data are not provided for provinces and territories with fewer than 20 registered buildings and/or 100,000 m² of gross floor area.
Numbers may not sum to the total indicated due to rounding.
Variations from previous snapshots are possible because of changes in user entry or improved filtering, and data cleaning.

Figure 2. Benchmarking by building type

- Medical office **<1%**
- K–12 school **8%**
- Senior/residential care **2%**
- Warehouse **3%**
- Hospital **1%**
- Food retail **2%**
- Non-food retail **3%**
- Other **35%**
- Multi-unit residential (MURB) **17%**
- Ice or Curling Rink **<1%**
- Office **28%**

Figure 3. Top performers by building type relative to median

TOTAL, Ice or curling rink, MURB, Non-food retail, Food retail, Hospital, Warehouse, Senior/residential care, K-12 school, Medical office, Office

Legend:
- Above median
- Below median
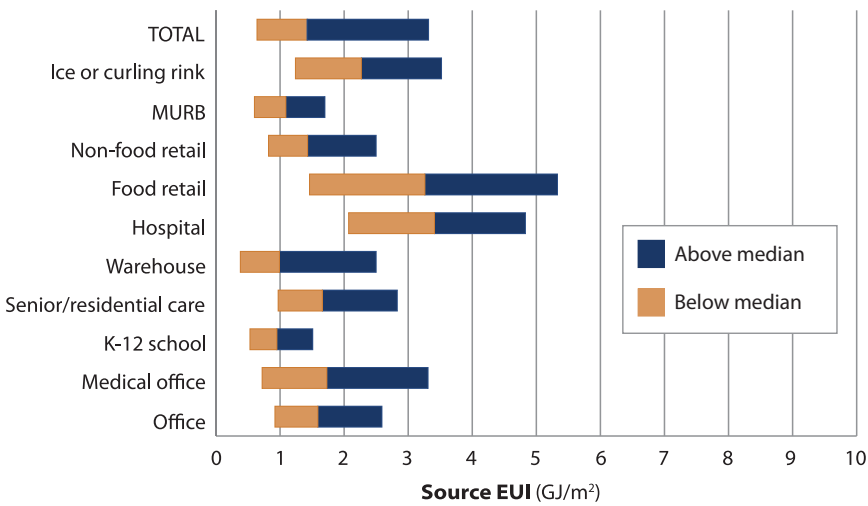
Source EUI (GJ/m²)

Figure 4. Source EUI distribution

Portfolio Manager distribution in Canada
10th Percentile = 0.6 GJ/m²
50th Percentile (Median) = 1.4 GJ/m²
90th Percentile = 3.3 GJ/m²

Buildings (y-axis)

Source EUI (GJ/m²)
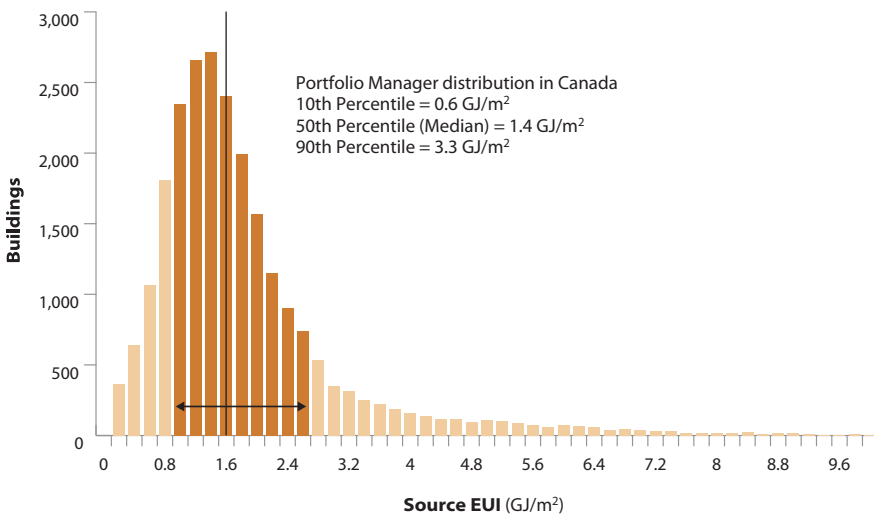
Figure 5. Distribution of floor area and buildings

Building area (m²): Over 50,000; 20,000 to 50,000; 10,000 to 20,000; 5,000 to 10,000; 1,000 to 5,000; 500 to 1,000; Less than 500

Legend:
- % Buildings
- % Floor area

Percentage of buildings/floor area for all building types

Benchmarking by building type
Figure 2 shows the number of buildings for each type as a percentage of the total number of buildings benchmarked in Portfolio Manager. Office is the most common building type.

Top performers by building type
Figure 3 shows the median and the range (10th to 90th percentile) of source EUI for each building type.

Source EUI distribution
The median source EUI for all buildings in ENERGY STAR Portfolio Manager is 1.4 GJ/m².

Distribution of floor area and buildings
Figure 5 shows that larger buildings represent a relatively small portion of the number of buildings but account for the majority of the floor spa e benchmarked in Portfolio Manager. The median gross floor area is 4,600 m²

METRICS AND ACRONYMS

ENERGY USE INTENSITY (EUI)
EUI is the energy use per square metre at a property. EUI enables you to compare different size buildings.

SITE ENERGY VERSUS SOURCE ENERGY
There are two ways of measuring energy: at the site and at the source.

SITE ENERGY is the simplest way to measure energy because it accounts only for the energy your property itself uses, as measured by your energy meters. The usage that appears on your utility bills is a site energy measurement.

SOURCE ENERGY not only measures the energy used by your property, but also accounts for energy losses incurred during the production, transmission and delivery of energy to your property, source energy is a more accurate measurement of the energy actually required to run your building.

ENERGY STAR Portfolio Manager uses **source energy**. This is the most equitable unit of evaluation, which enables a complete assessment of building-level energy efficiency.

For more information, see the **ENERGY STAR Portfolio Manager** *Technical Reference: Source Energy.*

The data is self-reported and has been filtered to exclude outliers, buildings with less than a full year of consumption data, cases that are used for testing purposes, and an additional filter was applied. Variations from previous snapshots are possible because of changes in user entry, improved filtering, and data cleaning. Buildings registered in Portfolio Manager do not represent a randomly selected sample and are not the basis for the ENERGY STAR score.

For more information on ENERGY STAR Portfolio Manager, contact Natural Resources Canada at **nrcan.buildings-batiments.rncan@canada.ca**.

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