

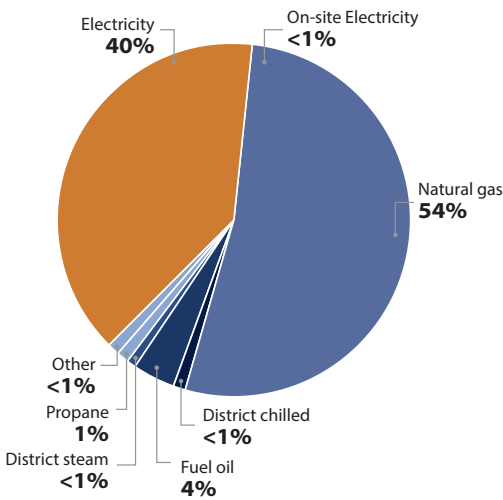
Energy Benchmarking Data Snapshot for K-12 Schools



QUICK FACTS

- **2,000** K-12 school buildings
- **11.5 million** m² floor area
- **0.7** GJ/m² median **site** energy use intensity (EUI)
- **1.0** GJ/m² median **source** energy use intensity (EUI)
- **3** ENERGY STAR certified K-12 Schools

Figure 1. Total energy use breakdown



Fuel mix breakdown for K-12 schools in Portfolio Manager



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 K-12 schools entered into Portfolio Manager as of December 2019.

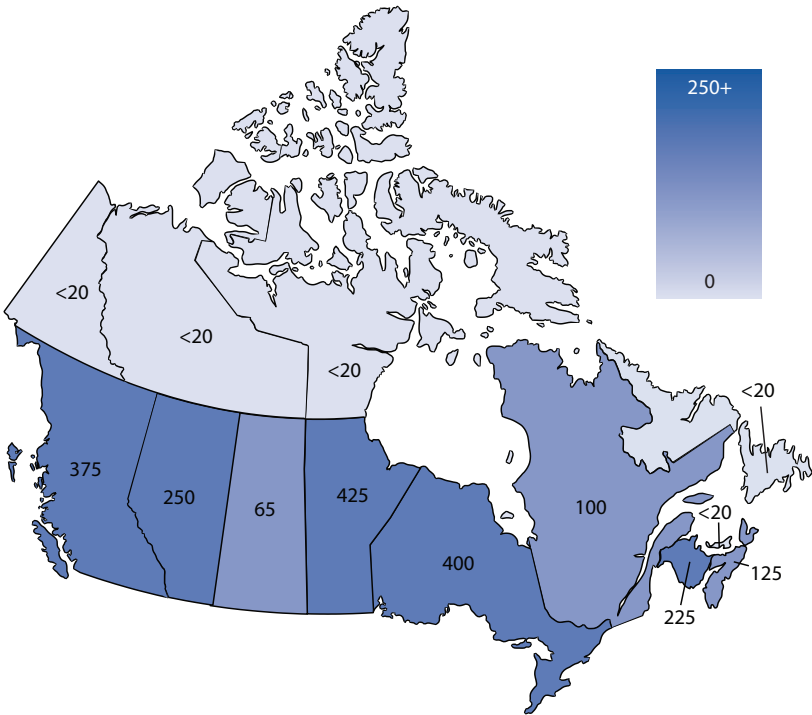


Table 1. Benchmarking by province and territory		
Province or territory	Buildings	Floor area (m ²)
Alberta	250	1,250,000
British Columbia	375	1,750,000
Manitoba	425	2,000,000
New Brunswick	225	1,500,000
Newfoundland and Labrador	<20	<100,000
Northwest Territories	<20	<100,000
Nova Scotia	125	600,000
Nunavut	<20	<100,000
Ontario	400	2,750,000
Prince Edward Island	<20	<100,000
Quebec	100	600,000
Saskatchewan	65	300,000
Yukon	<20	<100,000
Total	2,000	11,500,000
For privacy reasons, data are not provided for provinces and territories with fewer than 20 registered buildings and/or 100,000 m ² of gross floor areas. Numbers may not sum to the total indicated due to rounding. Variations from previous snapshots are possible because of changes in user entry, improved filtering, and data cleaning.		

Figure 2. Source EUI distribution

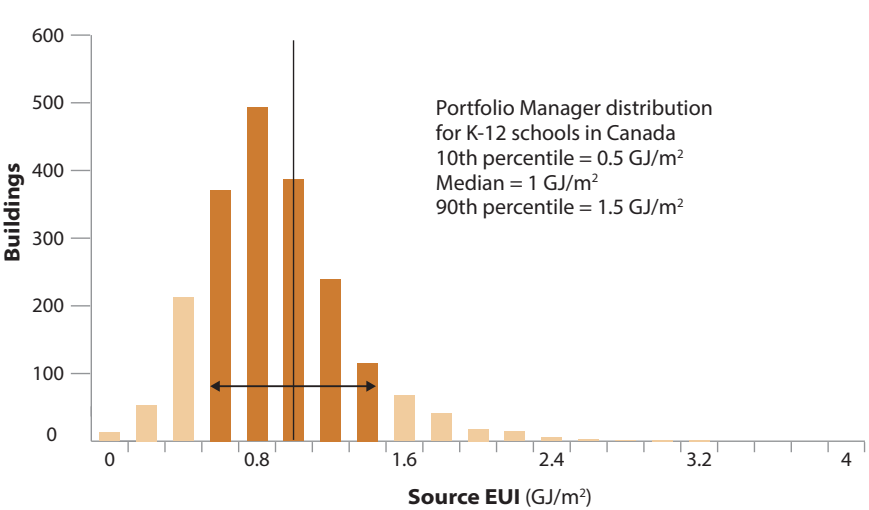


Table 2. Characteristics of K–12 schools – range of values			
Building characteristics	10th percentile	Median	90th percentile
Gross floor area (m²)	2,045	4,300	11,680
Heating degree days	2,885	4,850	5,835
Cooling degree days	50	105	410
Workers on main shift per 100 m²	0.61	0.83	1.09

Figure 3. Distribution of floor area and buildings

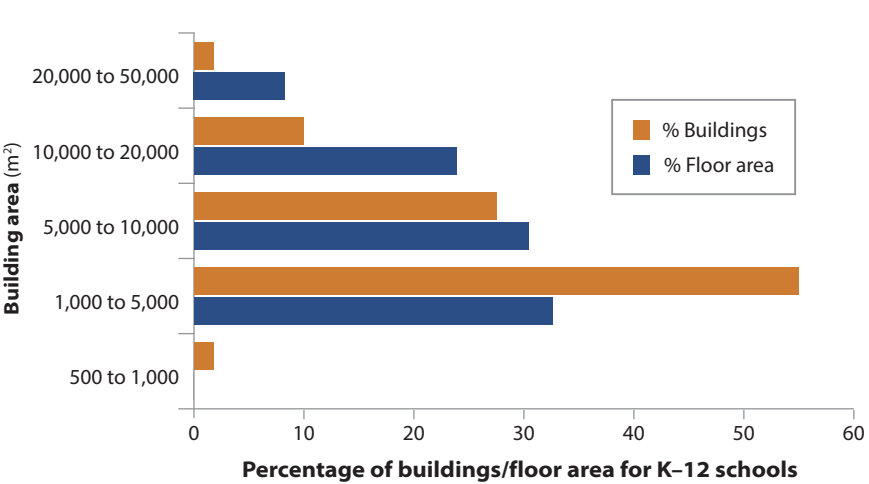
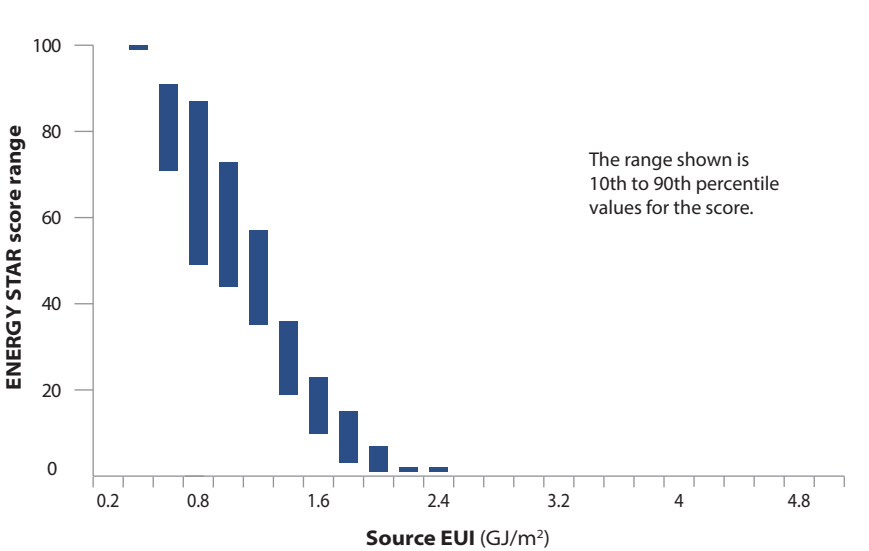


Figure 4. ENERGY STAR score range – K-12 schools



Source EUI distribution

The median source EUI for K-12 schools in ENERGY STAR Portfolio Manager is 1.0 GJ/m².

Characteristics

The buildings in Table 2 represent about 4% of the floor area and 8% of buildings registered in Portfolio Manager in Canada.

Distribution of floor area and buildings

Figure 3 shows that 55% of K-12 schools have a gross floor area between 1,000 and 5,000 m². The average gross floor area is 5,600 m² and the median is 4,300 m².

ENERGY STAR score ranges

Figure 4 shows the range (10th to 90th percentile) of ENERGY STAR scores given per source EUI range.

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 for only the energy your property 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 due to 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.