

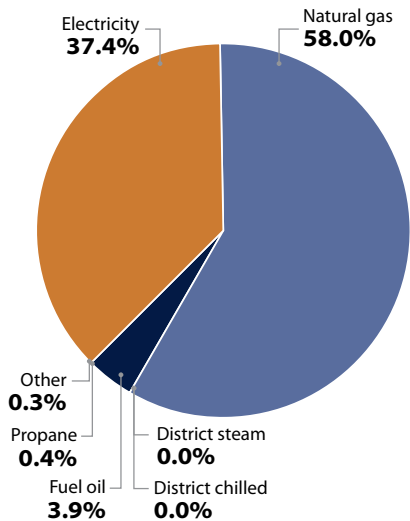
Energy Benchmarking Data Snapshots for K–12 Schools



QUICK FACTS

- **1,800** K–12 school buildings
- **9.5 million** m² floor area
- **0.7** GJ/m² median **site** energy use intensity (EUI)
- **1.0** GJ/m² median **source** EUI

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 19,000 buildings in Canada. Energy benchmarking can 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 2017.

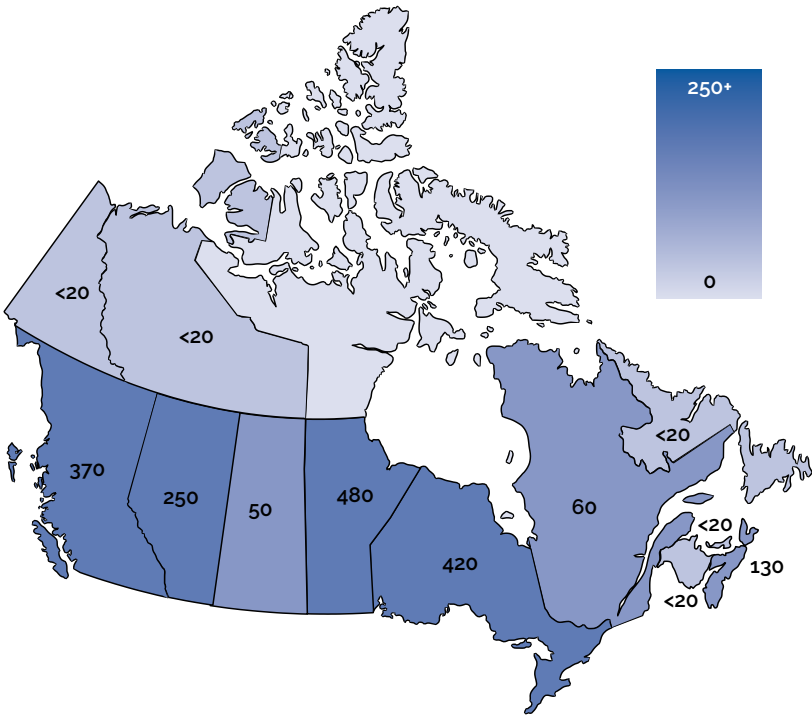


Table 1. Benchmarking by province and territory		
Province or territory	Buildings	Floor area (m²)
Alberta	250	1,418,000
British Columbia	370	1,908,000
Manitoba	480	2,338,000
New Brunswick	<20	–
Newfoundland and Labrador	<20	–
Northwest Territories	<20	–
Nova Scotia	130	671,000
Ontario	420	2,620,000
Prince Edward Island	<20	–
Quebec	60	353,000
Saskatchewan	50	268,000
Yukon	<20	–
Total	1,800	9,500,000
For privacy reasons, data are not provided for provinces and territories with fewer than 20 registered buildings.		
Numbers may not sum to the total indicated because of rounding.		

Figure 2. Source EUI distribution

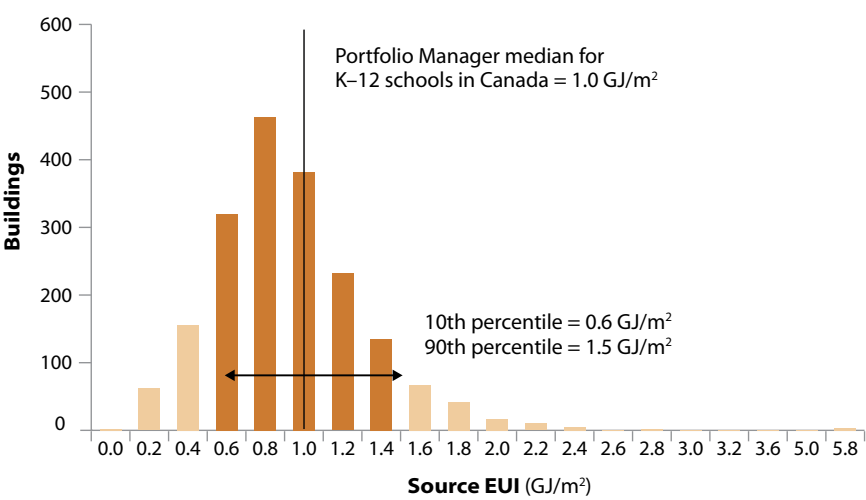


Table 2. Characteristics of K–12 schools – range of values			
Building characteristics	10th percentile	Median	90th percentile
Gross floor area (m²)	2,068.0	4,140.0	10,456.0
Heating degree days	2,978.0	4,706.0	5,596.0
Cooling degree days	28.0	115.0	317.0
Worker density	0.6	0.8	1.1
Student seating density	5.7	10.7	11.5

Figure 3. Distribution of floor area and buildings

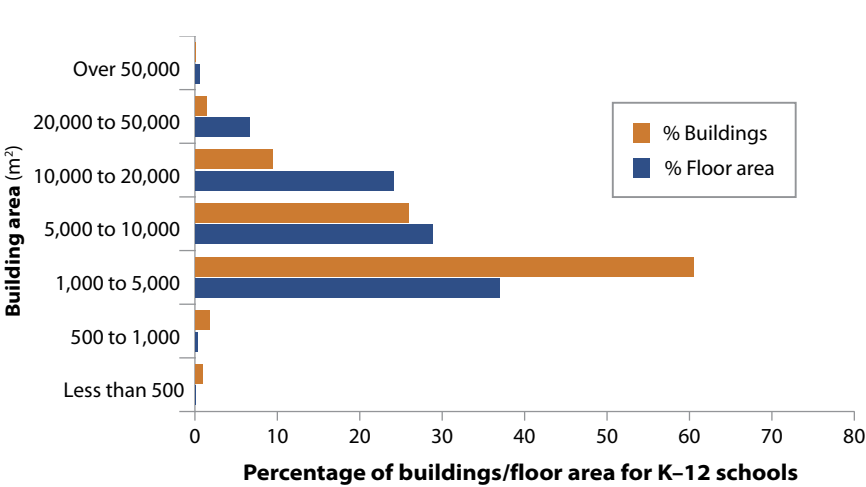
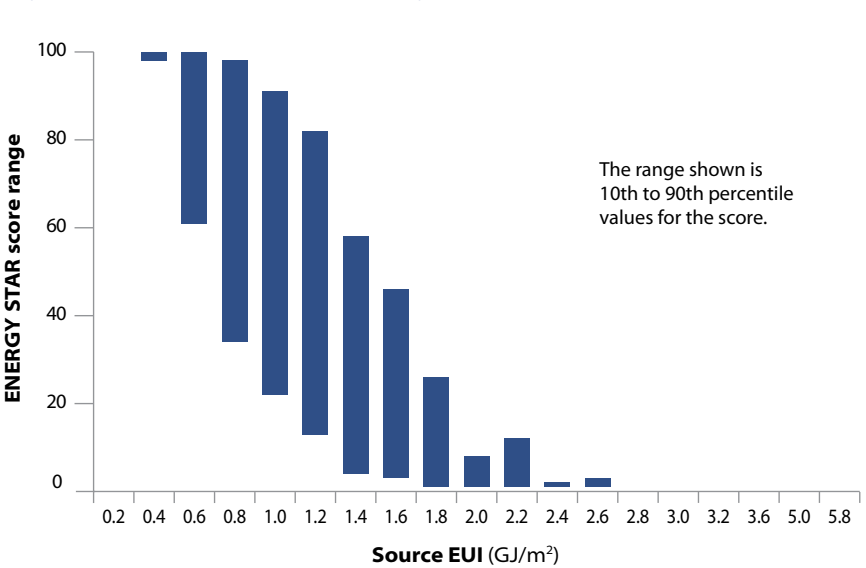


Figure 4. ENERGY STAR score range – K–12 schools



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 4.5% of the floor area and 9.5% of the buildings registered in Portfolio Manager in Canada.

Distribution of floor area and buildings

Figure 3 shows that 60% of K–12 schools are 1,000 to 5,000 m². The median gross floor area is 4,140 m².

ENERGY STAR score ranges

Figure 4 shows the range (10th to 90th percentile) of ENERGY STAR scores given source EUI. At the median source EUI of 1.0 GJ/m², the range of ENERGY STAR scores was 22 to 91.

METRICS AND ACRONYMS

ENERGY USE INTENSITY (EUI)

EUI is the energy use per square foot at a property (energy divided by square foot). 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 measures not only 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 and test cases. 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.nrcan@canada.ca.