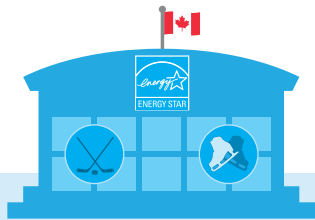




Energy Benchmarking Data Snapshot for Ice/Curling Rinks

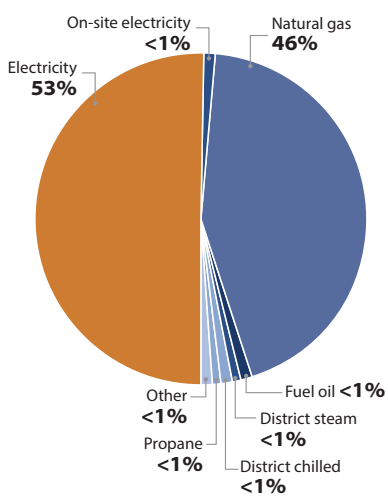


QUICK FACTS

- 225 ice rink buildings
- 1.5 million m² floor area
- 1.5 GJ/m² median **site** energy use intensity (EUI)
- 2.3 GJ/m² median **source** energy use intensity (EUI)
- 3 ENERGY STAR certified ice rinks

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 ice rinks entered into Portfolio Manager as of December 2019.

Figure 1. Total energy use breakdown



Fuel mix breakdown for ice rinks in Portfolio Manager

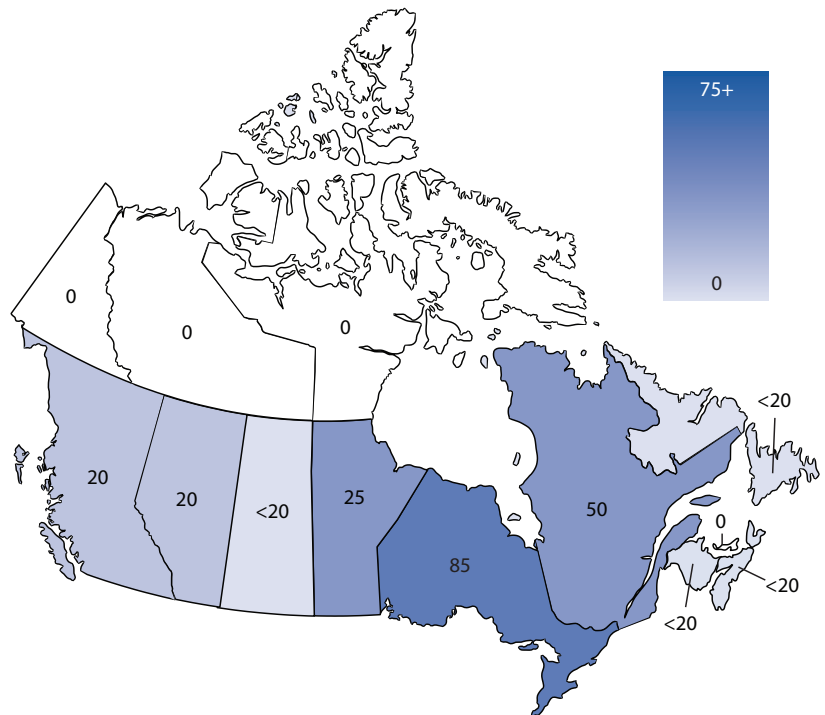
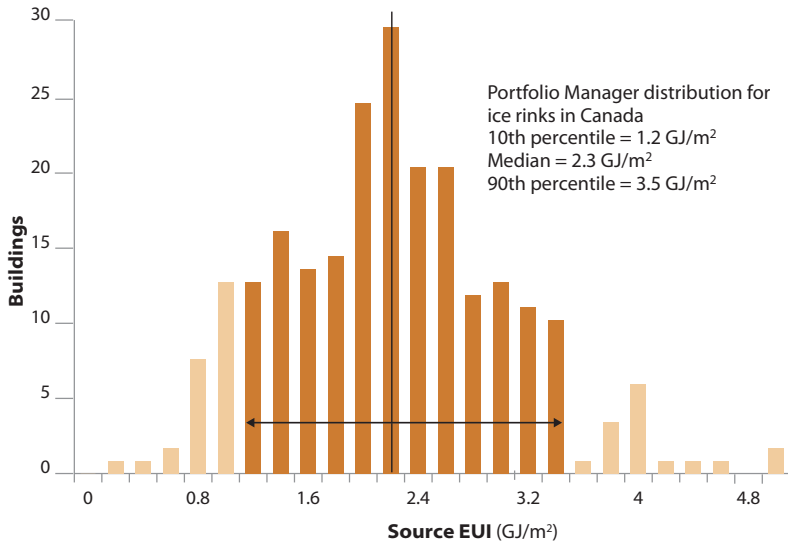


Table 1. Benchmarking by province and territory

Province or territory	Buildings	Floor area (m ²)
Alberta	20	100,000
British Columbia	20	100,000
Manitoba	25	100,000
New Brunswick	<20	<100,000
Newfoundland and Labrador	<20	<100,000
Northwest Territories	0	0
Nova Scotia	<20	<100,000
Nunavut	0	0
Ontario	85	750,000
Prince Edward Island	0	0
Quebec	50	250,000
Saskatchewan	<20	<100,000
Yukon	0	0
Total	225	1,500,000

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

Figure 2. Source EUI distribution



Source EUI distribution

The median source EUI for ice/curling rinks in ENERGY STAR Portfolio Manager is 2.3 GJ/m².

Characteristics

The buildings in Table 2 represent almost 1% of the floor area and almost 1% buildings registered in Portfolio Manager in Canada.

Distribution of floor area and buildings

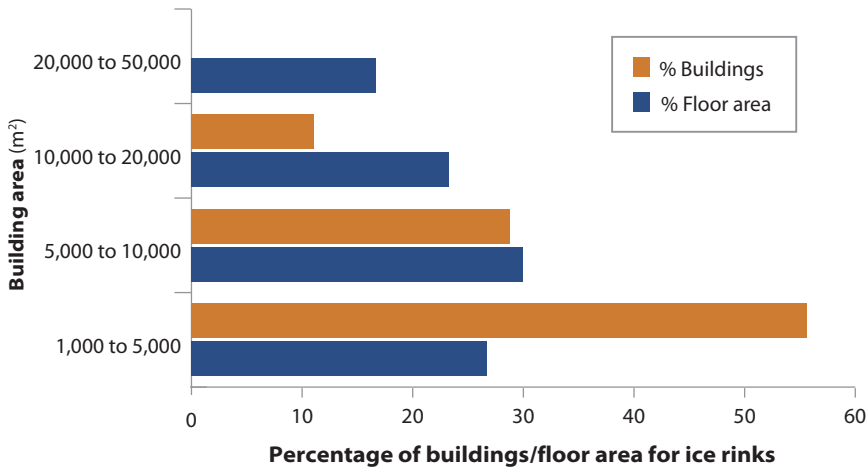
Figure 3 shows that buildings with a gross floor area between 1,000 and 5,000 m² account for more than 50% of the ice rinks benchmarked in Portfolio Manager. The average gross floor area is 6,700 m², and the median is 4,160 m².

Table 2. Characteristics of ice rinks – range of values			
Building characteristics	10th percentile	Median	90th percentile
Gross floor area (m ²)	2,480	4,160	13,395
Heating degree days	3,445	4,245	5,895
Cooling degree days	40	240	395
Number of ice rinks	1	1	1
Total ice resurfacings	54	54	84

ENERGY STAR score ranges

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

Figure 3. Distribution of floor area and buildings



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.

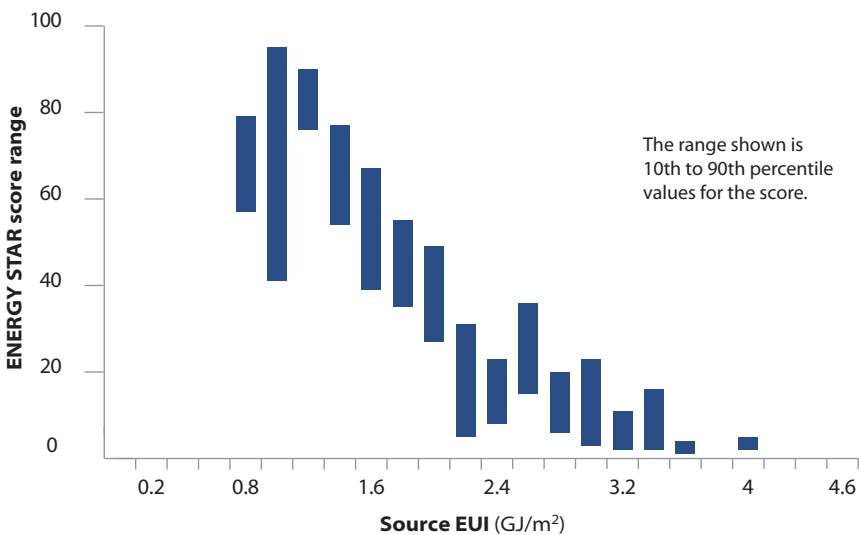
SITE ENERGY is the simplest way to measure energy because it accounts only for the energy your property itself uses, as measured by your energy meters. The usage that appears on your utility bills is a site energy measurement.

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**.

Figure 4. ENERGY STAR score range – ice rinks



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.