

Reporting Period: **2022 Calendar Year**
 Property Type: **Office**
 Gross Floor Area: **7,770m²**
 Year Built: **1981**



Your Highlights

- 77** Number of properties of the same type as yours.
- 6%** Your trend in GHGI since the previous year.
(GHGI, greenhouse gas emission intensity, kgCO₂e/m²)
- 63 / 77** Your rank in GHGI compared to the same property type.
(where 1st is the lowest emitter)
- 306 / 374** Your rank in GHGI compared to the whole City of Calgary dataset.

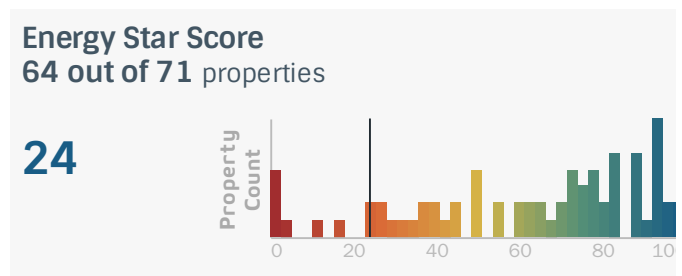
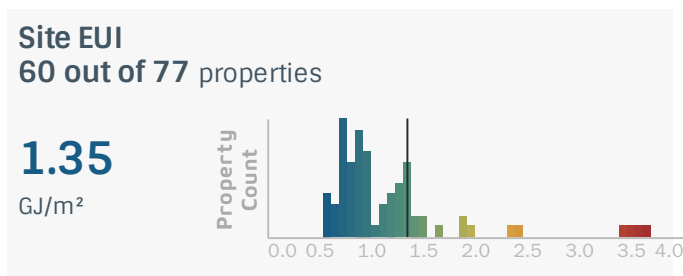
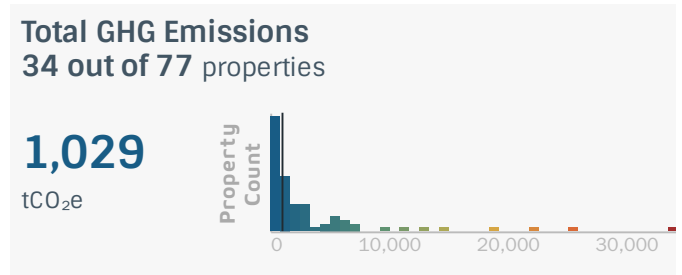
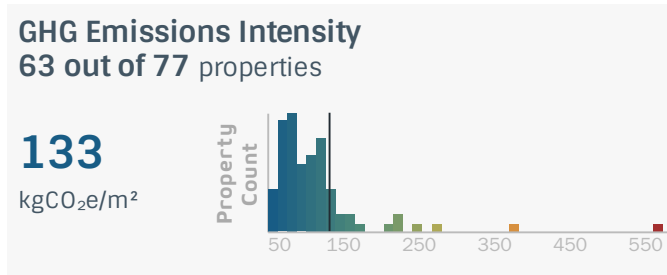
Year-Over-Year

A snapshot of your yearly performance metrics compared to buildings of the same property type, including your recent trend, based on your raw, non-weather normalized, data. Note for percentiles: a high percentile means “good” performance and 100% means “best performer”.

	2020	2021	2022	Since 2021
GHGI Greenhouse Gas Intensity	138.9 kgCO ₂ e/m ² 22nd percentile	141.7 kgCO ₂ e/m ² 18th percentile	132.5 kgCO ₂ e/m ² 19th percentile	-6% → avg building -6%
GHG Total Greenhouse Gas	1079.5 tCO ₂ e 50th percentile	1101.4 tCO ₂ e 55th percentile	1029.3 tCO ₂ e 57th percentile	-7% → avg building -6%
Site EUI Site Energy Use Intensity	1.37 GJ/m ² 21st percentile	1.40 GJ/m ² 24th percentile	1.35 GJ/m ² 22nd percentile	-4% → avg building +0%
ENERGY STAR	26 14th percentile	27 15th percentile	24 11th percentile	-11% → avg building -2%

Current Year Benchmarks

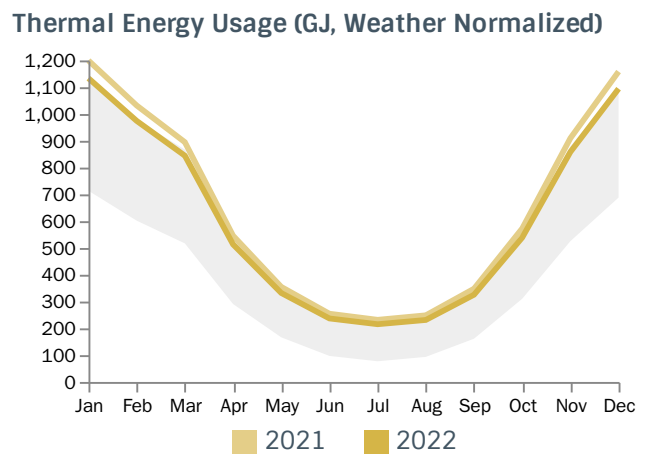
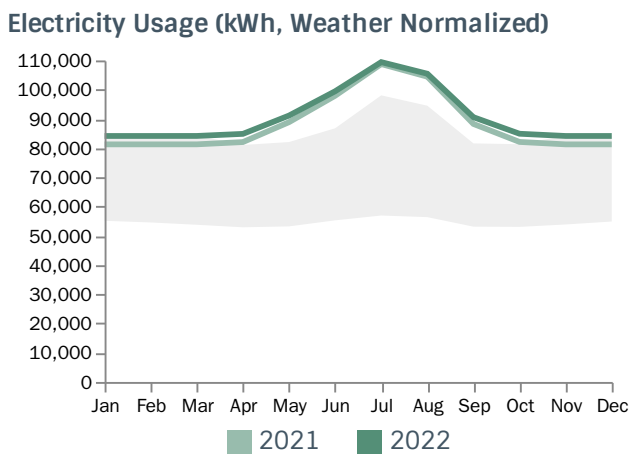
For the most recent year of data, a comparison of your building performance (the black line) against buildings of the same property type. The height of each bar shows how many properties have the same performance score.



Monthly Performance

A comparison of your building's monthly energy performance, by energy type, year-over-year. When a significant correlation between energy consumption and weather was detected, the data was "weather-normalized" with the 30-year average weather. Otherwise, your billed data is presented.

Note: "thermal energy usage" combines natural gas, renewable natural gas, district hot water, district steam, propane, fuel oil, and biomass. District chilled water is not yet accounted for.



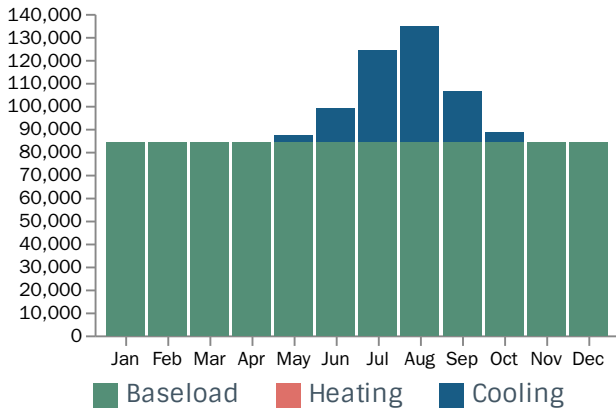
The grey band represents the 25th and 75th percentile performance for the same property type.

Energy Load Breakdown

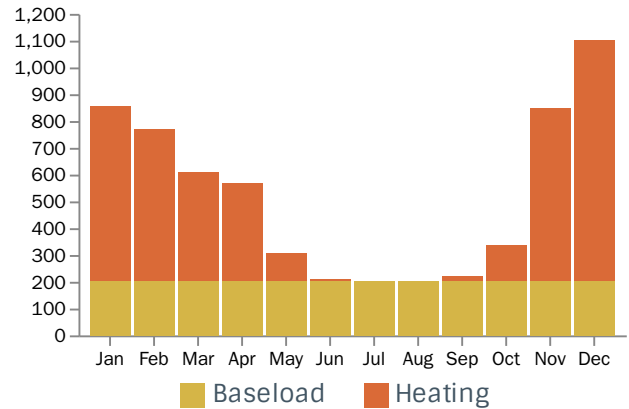
A modelled breakdown of your building's energy consumption into its main components: heating load, cooling load, and baseload.

When there is a correlation between energy consumption and weather, the approximate load breakdown for the current year is presented. Otherwise, the billed data is shown, and the entire load is assumed to be "baseload".

Electricity Breakdown (kWh, Approximate)



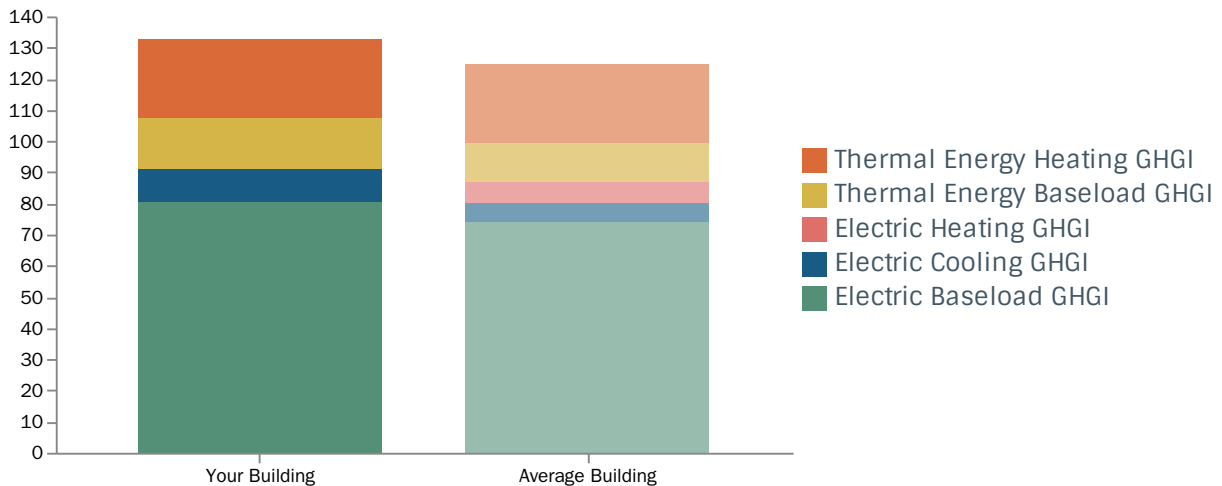
Thermal Energy Usage Breakdown (GJ, Approximate)



Greenhouse Gas Intensity Breakdown by End-Use

Building operations in Calgary contribute a significant proportion of the city's annual, community-wide greenhouse gas emissions (GHGs). The graph below shows how each end-use creates GHGs at your property. It also compares your property to the average similar building in BenchmarkYYC.

Greenhouse Gas Intensity (kgCO₂e/m²)



How Can You Improve?

This section contains insights and recommendations based on comparing each of your energy loads (heating, cooling, baseload) to those of the same property type.

For each energy end-use, your percentile ranking is provided (higher percentile ranking is better). Also provided are the carbon and dollar savings if you achieved the "75th percentile", or if you are already above the 75th percentile, 10% savings above current performance.

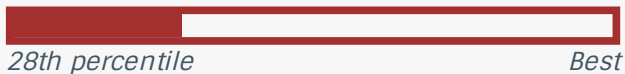
Energy costs are approximated and based on average blended rates, combining consumption and demand charges (\$0.156/kWh for electricity and \$5.82/GJ for thermal energy), and include a \$50/tCO₂e carbon price.

General Recommendations

- ✓ Undertake Retrocommissioning to ensure all equipment is operating at optimal efficiency
- ✓ Consider upgrading to a more efficient heating system.
- ✓ Participate again in next year's program!

Note: "thermal energy usage" combines natural gas, renewable natural gas, district hot water, district steam, propane, fuel oil, and biomass. District chilled water is not yet accounted for.

Heating Energy



If you achieved the **75th percentile**, you would:

Reduce: 63 tCO₂e/yr

Save: \$10,244/yr

Where to look: The heating load of your property is typically driven by the interior temperature set points and the amount of heat lost through the building envelope (windows, walls, doors, and roof). *Consider performing air tightness testing to determine the air leakage rate, higher efficiency heating equipment heat recovery ventilation, minimizing simultaneous heating and cooling, and optimizing equipment and temperature setpoints.*

Electric Baseload



If you achieved the **75th percentile**, you would:

Reduce: 20 tCO₂e/yr

Save: \$6,155/yr

Where to look: The electric baseload typically consists of lighting loads, plug loads (computers, block heaters), appliances, and equipment (pumps, elevators). *Consider upgrading to LED lighting, utilizing smart LED control systems, and deploying plug load management tactics.*

Thermal Energy Baseload



If you achieved the **75th percentile**, you would:

Reduce: 7.05 tCO₂e/yr

Electric Cooling



If you achieved the **75th percentile**, you would:

Reduce: 60 tCO₂e/yr

Reduce: 7.00 tCO₂e/yr

Save: **\$1,151/yr**

Where to look: The thermal energy baseload typically consists of domestic hot water heating (boiler, high-flow water fixtures), gas-consuming process loads (e.g., cooking/kitchens), and potentially summer ventilation “reheat”. *Consider higher efficiency water heating equipment, fuel-switching to electric equipment, and if applicable, minimizing simultaneous heating and cooling of ventilation air.*

Reduce: 60 tCO₂e/yr

Save: **\$18,156/yr**

Where to look: The electric cooling load typically consists of equipment loads from chillers and/or air conditioning units. *Consider upgrading to higher-performance equipment and reducing heat gain through the building envelope.*

Glossary

CO₂ equivalents (CO₂e): Greenhouse gases consists of many different gases. In order to have a common unit of measure, all constituent gases are converted into carbon dioxide equivalents, CO₂e. This is referred to as "carbon" or "carbon emissions" in business sustainability circles.

ENERGY STAR Score: The 1-100 score calculated by ENERGY STAR Portfolio Manager® that measures how well the property is performing relative to similar properties, when normalized for climate and operational characteristics. 1 represents the worst performing buildings and 100 represents the best performing buildings. [Learn More.](#)

End-Use: An end-use is a categorization of where energy (or greenhouse gases) is being consumed or used in a building.

Fuel-Switching: Refers to changing a building's thermal energy to electrical energy. For example, instead of heating with natural gas or district hot water, using electricity.

GHGI: Greenhouse gas intensity in kilograms of CO₂ equivalents per square metre of gross floor area (kgCO₂e/m²).

GHG: Greenhouse gas emissions, in tonnes of CO₂ equivalents.

Greenhouse Gas Emission Factors: GHG emission factors are multipliers used to calculate how much carbon dioxide equivalents (CO₂e) are emitted for each energy type. The following factors were used for this program, as per ENERGY STAR Portfolio Manager: <https://www.energystar.gov/buildings/tools-and-resources/portfolio-manager-technical-reference-greenhouse-gas-emissions>

Gross Floor Area: The building's gross floor area as reported in ENERGY STAR Portfolio Manager or as provided by the owner.

Percentile: A ranking within a group. The higher the percentile, the better. A percentile ranking of 50 means "average", whereas a percentile ranking of 100 means "best".

Site EUI: The site energy use intensity (or Site EUI) is the measure of the total energy use at the property divided by the reported gross floor area.

Thermal Energy: Thermal energy consists of the combination of natural gas, renewable natural gas, district hot water, district steam, propane, fuel oil, and biomass.

Weather-normalization: Weather-normalization is the process of modelling (i.e., predicting) energy consumption based on historic performance and applying specific weather data (e.g., the 30-year average weather). It allows you to compare the performance of a building over time periods that had different weather.