

How heat pumps pay off

Comparing heating and cooling options across Canada

Heat pumps can be a cost-effective way to heat and cool homes while reducing climate pollution.

This interactive tool helps you to compare the cost of heat pumps to other home heating and cooling options in five cities across Canada. It was developed by experts at the Canadian Climate Institute based on extensive economic analysis. Results reflect average costs over the lifetime of the equipment and do not reflect individual circumstances of each user.

The calculator includes rebates available through the federal [Greener Homes Grant](#), which paused applications in February 2024. For a more accurate picture of current costs, users should discount rebates from this program if they have not already qualified.



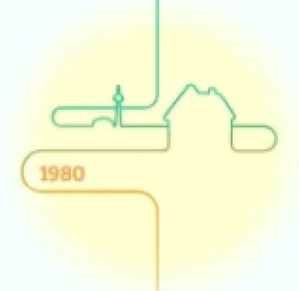
The tool was last updated in March 2024.
More technical detail is [available here](#).



Get Started >

Full cost comparison

Based on our research, a **standard heat pump with gas backup** is the lowest-cost solution for heating and cooling a **single house** in **Toronto** built in **1980**.



Gas heating with air conditioning

Average annual cost

\$2,190

Cost breakdown

Equipment after rebates	\$528
Electricity	\$330
Gas + fees	\$1,336

Avg. carbon emissions



Details



Standard heat pump with gas backup

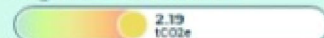
Average annual cost

\$1,970

Cost breakdown

Equipment after rebates	\$262
Electricity	\$832
Gas + fees	\$880

Avg. carbon emissions



Details



Standard heat pump with electric backup

Average annual cost

\$2,330

Cost breakdown

Equipment after rebates	\$235
Electricity	\$1,809
Fees	\$283

Avg. carbon emissions



Details



Cold-climate heat pump with electric backup

Average annual cost

\$2,320

Cost breakdown

Equipment after rebates	\$488
Electricity	\$1,554
Fees	\$282

Avg. carbon emissions



Details

City Toronto

Building Single house

Year built 1940 **1980** 2023

low **mid** high

Heat pump equipment costs ⓘ

low **mid** high

Electricity prices ⓘ

low **mid** high

Gas prices ⓘ

with without

Gas for other household use ⓘ

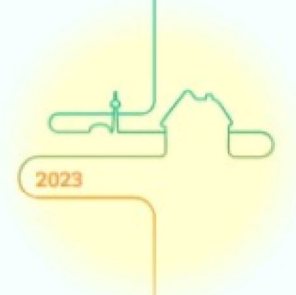
with **without**

Financing on upfront costs ⓘ

Note: These results are based on conservative assumptions about the current cost of heat pump technologies. For example, our cost assumptions include additional expenses that may not be applicable to all households, such as panel upgrades for all older buildings, as well as backup heating systems for all homes, including with cold climate heat pumps and in milder parts of Canada. These results also do not model the future...

Full cost comparison

Based on our research, a **standard heat pump with gas backup** is the lowest-cost solution for heating and cooling a **single house** in **Toronto** built in **2023**.



Gas heating with air conditioning

Average annual cost

\$1,610

Cost breakdown

Equipment after rebates	\$396
Electricity	\$326
Gas + fees	\$890

Avg. carbon emissions



Details



Standard heat pump with gas backup

Average annual cost

\$1,580

Cost breakdown

Equipment after rebates	\$340
Electricity	\$617
Gas + fees	\$626

Avg. carbon emissions



Details



Standard heat pump with electric backup

Average annual cost

\$1,600

Cost breakdown

Equipment after rebates	\$156
Electricity	\$1,166
Fees	\$281

Avg. carbon emissions



Details



Cold-climate heat pump with electric backup

Average annual cost

\$1,720

Cost breakdown

Equipment after rebates	\$469
Electricity	\$973
Fees	\$280

Avg. carbon emissions



Details

City Toronto

Building Single house

Year built 1940 1980 2023

low mid high

Heat pump equipment costs ⓘ

low mid high

Electricity prices ⓘ

low mid high

Gas prices ⓘ

with without

Gas for other household use ⓘ

with without

Financing on upfront costs ⓘ

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