



Heat Pump Performance at Very Low Temperatures

Fact 1

Cold climate heat pumps can keep your home warm even when it is very cold outside.

There is a myth that heat pumps are inappropriate for cold climates. That is not true. Modern heat pump systems can keep your home warm and cozy 100% of the time, even on the coldest days, and even in old homes. They need to be properly sized and installed, but so do all other heating systems.

A heat pump system will be most efficient when it is sized to provide all of the home’s heat down to the local design temperature — the temperature the locality will be warmer than for 99% of the year (e.g. -18°C in Toronto). If your heat pump system is sized in this way, supplemental heat from either a built-in electric backup heater or an existing furnace will only be used for very cold days. Some years you may never actually use the back up at all.

It is important to remember that if you can get your home completely off gas, you can avoid paying Enbridge’s fixed service charges totalling over \$300 per year.

Fact 2

There are many brands of cold climate heat pumps.

Some common brands of cold climate heat pumps with excellent performance at very low temperatures include Bosch, Carrier, Daikin, Fujitsu, GE, Lennox, Mitsubishi, Moovair, Panasonic, Trane and others¹. Ask your local installers about what products they recommend and what their performance is for the temperatures seen in your area.

Fact 3

It may feel cold outside, but for most of Ontario temperatures are rarely very cold.

The average number of days with very cold daily lows is actually pretty small for most of Ontario and that number is shrinking with climate change. Just like people often overestimate the distance they travel on average when looking at EVs, many potential heat pump buyers worry too much about extreme cold performance.

Average number of days per year with very low minimum temperatures²

City	Days with min temp below -15°C (5°F)	Days with min temp below -30°C (-22°F)
Toronto	12	0
Ottawa	41	1
North Bay	57	4

Fact 4

Heat pumps are popular in cold regions for good reasons.

Homeowners in many cold climates are rushing to buy heat pumps because they provide very efficient heating and cooling, and can save a household many thousands of dollars on heating bills while reducing carbon emissions. We often hear that homes are more comfortable after installing a heat pump with more consistent and even heat. Finland, Norway, and Sweden have very cold climates, yet they also have some of the highest rates of cold climate heat pump adoption in the world.

For more information about heat pumps, please click here to visit the Ontario Clean Air Alliance’s heat pump information page

Learn More About Heat Pumps >

1 We are not endorsing any model or brand, just noting the wide availability of high-quality systems.
2 <https://climateatlas.ca/>