

Buying guide for ground-source heat pumps



An agency of the Government of Ontario

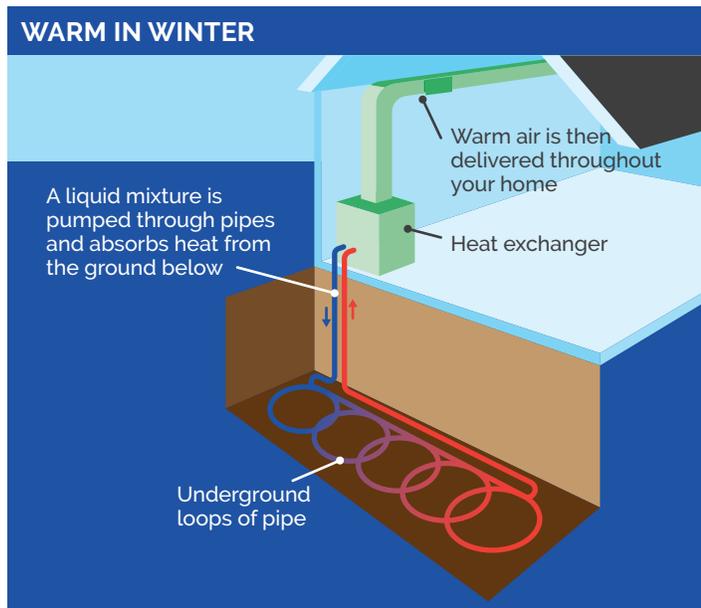
Ground-source or geothermal heat pumps cost considerably less to operate than other heating systems because they use the earth's constant underground temperatures for heating and cooling. They can also dehumidify a home and supply hot water efficiently, even in cold climates, so homes with a GSHP have a small carbon footprint.

GET
REBATES UP TO
\$20,000
FOR ELIGIBLE
GSHPs

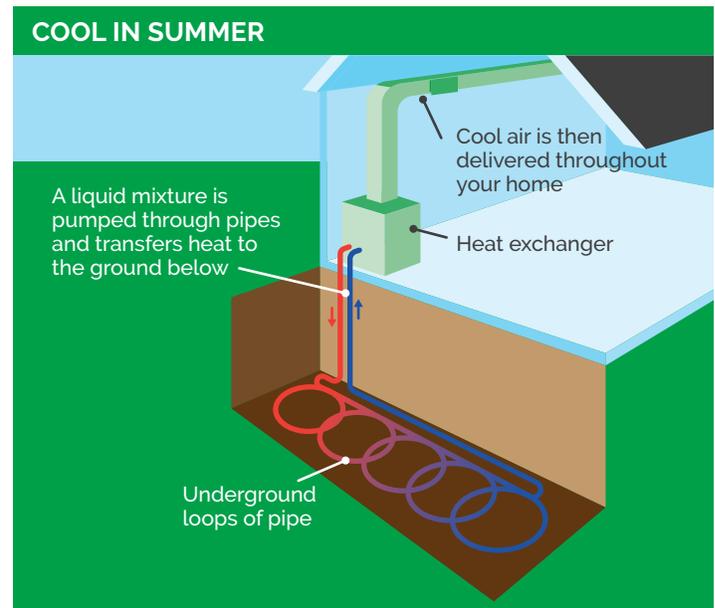
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How it works

Ground-source heat pumps (GSHPs) collect natural heat from below the earth's surface using a continuous loop of plastic piping. The pipes are placed vertically or horizontally underground, depending on the size of the home and property and the soil conditions. Some systems can also heat hot water, which can reduce water heating bills by **up to 50%**. A GSHP is a smart investment for the long term; underground components can last **up to 75 years** and indoor components for about 25 years.



During the heating cycle, water mixed with antifreeze is pumped through pipes buried in the ground outside your home. Through a heat exchanger, the earth's heat is delivered as warm air through ducts in your home.



During the cooling cycle, the system works in reverse, removing heat and humidity from your home and transferring it back into the ground – just like an air conditioner, only much more efficient.

Which system is right for me?

Different systems work best for different homes, depending on location, layout and size. The larger your home, the more heat pump capacity is needed.

HORIZONTAL CLOSED-LOOP

If you have sufficient land and the right soil conditions on your property



VERTICAL CLOSED-LOOP

If your lot is smaller or the soil is too shallow or difficult to trench



POND CLOSED-LOOP

If you have a pond on your property with the right depth, volume and quality of water



What's a loop ton?

GSHP systems are sized in tons. An average home might require a three-ton (three-loop) system, while a larger home might require a six-ton (six-loop) system.

Already have a GSHP?

Get a rebate of up to \$4,500 if you repair or replace an existing system that's at least 20 years old.

New systems must be ENERGY STAR® certified or AHRI certified. Closed-Loop Water to Air System must meet minimum 17.1 EER and 3.6 COP. Closed-Loop Water to Water system must meet minimum 16.1 EER and 3.1 COP. Other terms and conditions apply.

What do COP and EER mean?

When you're shopping for energy-efficient products, think of two costs: first, the purchase price and second, monthly operating costs. A more efficient system can pay for itself in lower heating and cooling costs over time. Your GreenON Rebates participating contractor will tell you which systems are eligible for the program.

Coefficient of Performance (COP)

COP measures heating efficiency: the ratio of total heating capacity to electrical energy input

Energy Efficiency Ratio (EER)

EER measures cooling efficiency: the ratio of total cooling capacity to electrical energy input

Go with a pro

GSHPs require specialized design and installation. To qualify for GreenON Rebates, be sure to choose a GreenON participating contractor, obtain at least three quotes to compare, and check references. For independent expert advice, contact GreenON Support at 1-888-728-8444 or info@GreenON.ca.

Questions to ask your GreenON participating contractor

- What energy savings can I expect from my new system?
- Which rebates do I qualify for?
- Will a GSHP handle my total heating and cooling needs or will I need supplementary heating?
- What is the warranty coverage and maintenance schedule?

Questions? Ask us!

Contact GreenON Support for independent expert advice.

1-888-728-8444 • TTY 1-844-466-2017
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The Green Ontario Fund is a not-for-profit provincial agency that invests proceeds from Ontario's carbon market into climate actions that help people and businesses reduce greenhouse gas emissions and use cleaner technology to power their homes and workplaces. The GreenON Rebates Program is delivered by the Independent Electricity System Operator. Equipment must be purchased from and installed by a participating contractor. Actual energy savings may vary. Rebates under this program cannot be combined with other rebates or offers and are subject to additional terms and conditions. For more information, visit greenon.ca/terms-and-conditions.

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