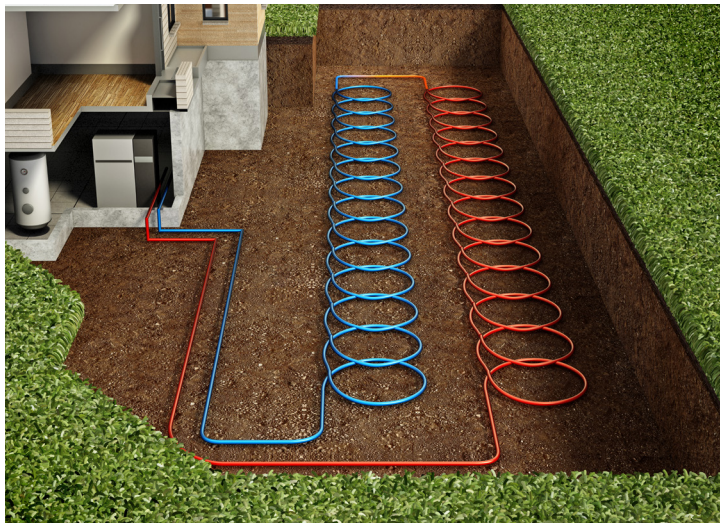


Ground Source Heat Pumps

Ground Source Heat Pumps (GSHPs), also known as Geothermal Heat Pumps, are among the most efficient and cost-effective technologies available for maintaining home comfort in every season. By leveraging the earth's stable temperature, GSHPs provide space heating, cooling, and the option for hot water. They can use up to 61% less energy than conventional electric resistance heating and standard air conditioning systems.¹ GSHPs operate quietly, require minimal maintenance, and last longer than many traditional heating systems with indoor components lasting up to 24 years and the buried ground loops lasting up to 50+ years.²

By adding an additional component called a "Desuperheater," GSHPs can use excess heat pulled from the ground in the winter or rejected heat from the living space in the summer during cooling to heat household water, often at zero cost in the summer, and reducing water heating cost by about 50% in winter.¹

In colder regions, GSHPs often outperform other heating and cooling systems because the ground temperatures at the level of the buried piping stay consistent at between 45-75 degrees F.²



Systems typically consist of an indoor unit that replaces your furnace which is connected to a liquid-filled ground loop. Heat is pulled from the earth into the liquid in the ground loop in cold months and delivered to the living space, and heat is pulled from the home, cooling the space, and dumped back into the ground during the warm months. These ground loops can be buried in trenches just below the surface, or in deeper bore holes, depending on climate, soil composition, ground density, or availability of surface water. Things like the location of underground utilities, as well as the presence of extensive rock, and property size and shape can affect the design and installation of a ground source heat pump.¹

To learn more about Ground Source Heat Pumps and find a qualified installer, contact your local electric utility, the [International Ground Source Heat Pump Association](#), or the [Geothermal Exchange Organization](#).

Cost, Payback and Incentives

The total cost depends on the size and efficiency of the system, the cost of excavation, and the complexity of the installation.

The typical payback period for ground source heat pumps is 5–10 years.³

A utility incentive of up to \$3,500 may be available for GSHPs installed in certain regions. **Check with your local electric utility.** To receive an incentive, installers must be a licensed contractor, IGSHPA certified, and should be experienced in installing GSHPs. Systems must be ENERGY STAR® certified and installed according to IGSHPA guidelines.

Customer Benefits

- Reduces heating energy use by up to 61% compared to electric resistance heating systems.¹
- Supplies both heating and cooling in one unit.
- Compatible with smart thermostats.
- Can be paired with Desuperheater to reduce water heating costs by up to 50% in the winter and up to 100% in the summer.¹

Recommended For

- Homes with land available for excavation for horizontal or vertical piping.
- Homes with existing ductwork.
- Homes with electric furnaces, particularly in cold climates.
- Homes with existing heating systems that are more than 15 years old.
- Homeowners who are looking to add air conditioning.

Source:

1. Energy Saver: Choosing and Installing a Geothermal Heat Pump System
2. Energy Saver: Geothermal Heat Pumps
3. U.S. Department of Energy: Guide to Geothermal Heat Pumps

Digging into the Benefits of Ground Source Heat Pumps



Grab your shovel and dig into what makes ground source heat pumps an underground force to be reckoned with. Also known as geothermal heat pumps, these fantastic systems use the Earth's consistent temperature to achieve the highest efficiencies while delivering comfort in the coldest conditions. Watch this video:

<https://www.youtube.com/watch?v=e9OnwPE3rml>

To find a qualified contractor, visit our [contractor finder](#).



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