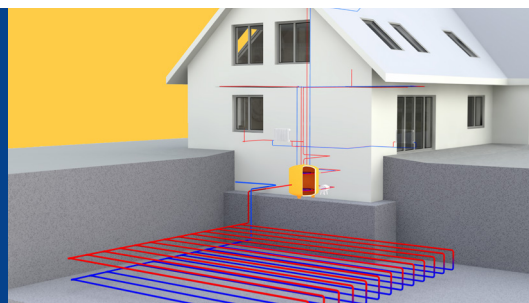


Ground Source Heat Pumps



Save on Heating and Cooling Reduce Your Carbon Footprint

Lower your energy use, increase comfort, and reduce your impact on the environment with a ground source heat pump system.



Installing clean HVAC technologies, including ground source and air source heat pump systems, can reduce your energy costs, decrease your carbon footprint, and increase everyday comfort. When paired with improved insulation and air sealing, the benefits are even greater.

Heat pump systems heat and cool your home or office without burning fossil fuels. No on-site combustion means no risk of dangerous carbon monoxide fumes.

How do ground source heat pumps work?

Ground source heat pumps extract heat from the ground during cold weather via an underground pipe system, which is then distributed throughout your home or business. During warmer months, the process is reversed to provide cooling. These systems are sized to provide 100 percent of your heating and cooling needs.

What are the benefits?

- **Lower energy usage, predictable energy bills.**
Heats and cools your home more efficiently than traditional HVAC systems like oil, propane, and electric resistance.
- **Increased comfort.**
Get quiet, comfortable heating and cooling throughout your home or business.
- **Low maintenance, long lasting.**
Ground source heat pumps last up to 25 years, compared to 15 years for furnaces and conventional AC units, and require little maintenance.
- **Clean, healthy, and safe.**
No combustion of fossil fuels, no fuel storage, no emissions, and no risk of carbon monoxide fumes.

HeatSmart Dobbs Ferry • Hastings

HeatSmartWestchester.com | 914-302-7300 ext. 1



NYSERDA
Supported

Turn page over for Frequently Asked Questions

Is a geothermal heat pump right for me?

If you answer “yes” to any of the questions below, a geothermal system may be a good fit for you:

- Do you heat with oil, propane or electric resistance?
- Do you want whole-home central air conditioning and heating in one system?
- Are you concerned about aesthetic disruptions to your home?
- Do you want the most efficient, environmentally-friendly system available?
- Is your boiler/furnace, central AC system, or existing heat pump system 15+ years old?

Can geothermal heat pumps provide hot water?

Each Dandelion Geothermal home system comes with a 50-gallon preheated water tank. This buffer tank stores excess system heat to pre-heat your hot water before it enters your hot water heater. Our installer partner Dandelion can explain more about water heaters and their compatibility with geothermal.

How do the annual maintenance costs of geothermal heat pumps compare to other heating systems?

Geothermal systems don’t have higher maintenance requirements than traditional systems, though annual maintenance is recommended to ensure that it functions well over the course of its lifetime.

How long do geothermal heat pumps last?

The ground loop piping is designed to last for up to 50 years or more. The indoor heat pump unit has a life expectancy of around 20 years, similar to conventional heating and cooling systems. Some pumps, controllers, or other components may require replacement sooner than the indoor unit.

What if I don’t have a lot of yard space?

You only need a lot of space for a horizontal ground loop installation. A vertical closed-loop system will require only a few small boreholes and can take up as little space as two parking spots.

How well do geothermal heat pumps work in the middle of winter?

Very well, as the earth maintains a more consistent temperature throughout the winter than the air. As a result, geothermal heat pumps will perform better than air source heat pumps during the coldest parts of winter. In addition, GSHP systems are not exposed to atmospheric conditions and thus do not need to perform more wasteful defrost cycles as with ASHP systems. Near the end of winter, efficiency may be reduced slightly as the temperature of the ground has dropped. While air source heat pumps can perform well in cold climates, if you want a central heating and cooling system with stronger year-round performance, geothermal may be a better fit for you.

How far away from the home can the ground source collection system be located?

The typical limit is 100 feet. It must be at least 25 ft from a septic system and 50 ft from a domestic water well.

We’ve had power outages and expect more. What size generator would be needed to run an GSHP system?

Speak with your installer, as each GSHP system is customized for your home. It is worth noting that furnaces and boilers also require electricity to run, so an alternative for a backup generator for extended power outages could include a wood or pellet stove.

A typical air-handler fan needs less than 500 W, thus in the event of a power outage, the GSHP could be put in a fan-only mode and powered from the generator to circulate hot air from a central wood stove or other backup heater.