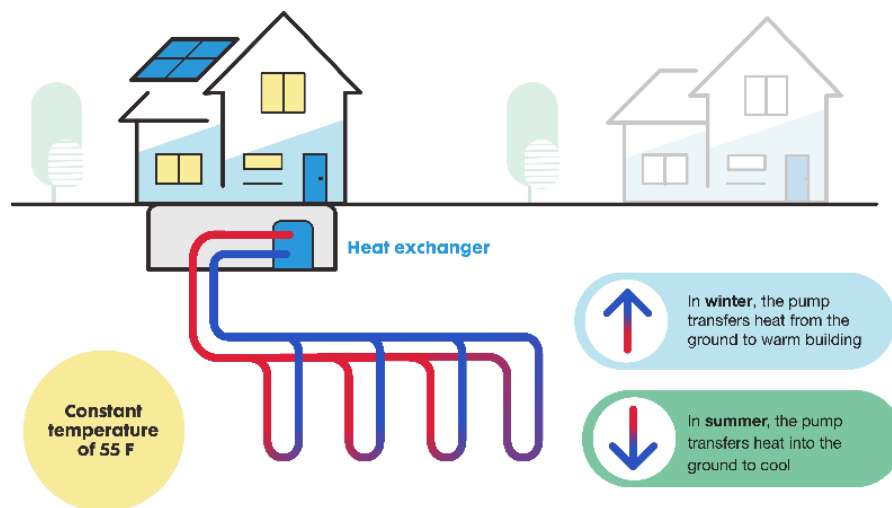


## Geothermal Heat Pump FAQs

Please click on question to reveal answer

- Is a geothermal heat pump right for me?
- Why are geothermal heat pumps considered “clean heating and cooling” technologies?
- How long do geothermal heat pumps last?
- Can geothermal heat pumps provide hot water?
- How well do geothermal heat pumps work in the middle of winter?
- How do the annual maintenance costs of geothermal heat pumps compare to other heating systems?
- What if I don’t have a lot of yard space?
- How far away from the home can the ground source collection system be located?
- We’ve had power outages and expect more. What size generator would be needed to run an GSHP system?
- How are contractors chosen to participate in EnergySmart Homes?
- Which EnergySmart Homes contractors can install a geothermal heat pump?



### **Is a geothermal heat pump right for me?**

GSHP retrofits can work in many homes. 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?

### **Why are geothermal heat pumps considered “clean heating and cooling” technologies?**

Geothermal heat pumps are considered to be “clean” heating and cooling systems because they do not create heat, but rather they transfer renewable heat from the ground into your building. This process is powered by electricity, which can also be sourced from renewable sources like solar, wind, or hydro.

Even though our grid is only about 12% renewable today (and getting greener every year), a GSHP system powered by grid electricity will reduce your greenhouse gas emissions from heating by 30-75+%!

\*\*Based on calculations from EPA eGrid data, ISO-NE data, and DOER guidelines. more, and no other components are exposed to the elements.

### **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.

### **Can geothermal heat pumps provide hot water?**

Geothermal systems can be used to provide supplemental heat to your hot water.

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

Geothermal systems do not have higher maintenance requirements than traditional heating and cooling systems, though annual maintenance is recommended to ensure that it functions well over the course of its lifetime. The ground loop is designed to last for up to 50 years or more.

### **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 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.

**How are contractors chosen to participate in EnergySmart Homes?**

The EnergySmart Homes Installer Partner List is a specially selected group of contractors who meet the service and performance standards established by Sustainable Westchester. These companies are accredited and in good standing with both NYSERDA (New York State Energy Research and Development Authority) and Con Edison. The installers were competitively selected to participate in the community campaigns by the volunteer selection committee, which received support from technical experts.

For more info, including which EnergySmart Homes contractors can install a geothermal system, see the chart below.

**Which EnergySmart Homes contractors can install a geothermal heat pump?**

Contractor Name	Link
<p><b>Bell Heating &amp; Air Conditioning</b></p> 	<p><a href="#">Click here to view full profile</a></p>
<p><b>Bruni &amp; Campisi</b></p> 	<p><a href="#">Click here to view full profile</a></p>
<p><b>Dandelion Energy</b></p> 	<p><a href="#">Click here to view full profile</a></p>
<p><b>Geothermal Works</b></p> 	<p><a href="#">Click here to view full profile</a></p>