



When it comes to home heating, homeowners and builders need to know the facts about operating costs savings, return on investment and environmental impact. We want you to have the information you need to select the best heating option for your home.

Costs comparison

A high-efficiency natural gas furnace and electric central air conditioner are the most economical and environmentally friendly options for home heating and cooling. The charts below illustrate how the facts on ground-source (or geothermal) heat pumps just don't add up for Minnesota customers:

- \$10,000 to \$25,000 – typical range of increased installed cost for a geothermal heat pump over a high-efficiency furnace and central air conditioner combined
- Over 25 years, the simple payback with the heat pump on a 3,500 square foot home even after including the federal tax stimulus and credits benefits

Natural gas furnace and central AC vs. geothermal heat pump

Cost comparison: Save by choosing natural gas		
	Conventional natural gas furnace 95% AFUE & 16 SEER	Geothermal heat pump 3.5 COP & 16 EER
Annual heating and cooling energy required	180 mm Btu	180 mm Btu
Annual operating cost*	\$1,420	\$1,100
Annual savings using geothermal heat pump		\$320
Equipment costs	\$9,000	\$25,000
Federal energy tax credit		-\$7,500
Net cost to homeowner	\$9,000	\$17,500
Incremental cost to purchase geothermal heat pump		\$8,500
Annual savings using geothermal heat pump		\$320
Payback on geothermal heat pump		27 years

* Using \$0.80/Therm natural gas and \$0.075/kWh electricity prices.

Sizing Matters

Since Minnesota is a heating climate, it is not possible to properly size one piece of equipment to do both heating and cooling. Geothermal heat pumps require an external or built-in heater for the cold winter months.

Often these heat pumps have built-in electric resistance heaters which could add more than 10 percent to your operating costs and provide a detrimental impact on the environment.

High efficient natural gas furnaces are more economical, environmentally-friendly and are your best choice for home heating when compared to geothermal heat pumps.

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Environmental impact

Geothermal heat pumps are less environmentally friendly than natural gas furnaces because they require electricity to operate. In Minnesota, over 60 percent of the electricity is produced by burning coal. Clean burning natural gas releases far fewer harmful emissions into the environment than heat pumps, when comparing the same heating load.

