



GeoExchange Comfort In Princeton, Minnesota

Located in the middle of the State of Minnesota where temperatures can range in one year from 90EF with 95% humidity to -18EF with windchills of -70EF, a GeoExchangeSM (geothermal) heating and cooling system comfortably and efficiently heats and cools this 3,400 sq ft home. When Dennis Eichinger built his home in 1993, he was offered \$2,000 in rebates for a GeoExchange system. In an area where natural gas is not readily available and propane tanks are cumbersome, costly, and dangerous, Dennis chose to install a GeoExchange system specifically designed for cold climates.

Dennis has been very satisfied with the unit's quietness, high quality, reliability, and low maintenance. He is also pleased with the appearance of his home's exterior—there are no outside units to interfere with his landscaping. Dennis has also been told by visiting relatives how comfortable his home is because they don't feel any drafts, just an even temperature throughout the house.

The ground heat exchanger consists of five horizontal slinky loops, buried next to the home at a depth of 8 ft. The monthly electric bills average \$44.64 with 9,000 heating degree days and 850 cooling degree days, and an average winter temperature of 4EF. Dennis feels that this is proof of the ability of GeoExchange technology to heat and cool as well as or better than conventional systems, even in Minnesota's

extreme temperatures. Eichinger resides in East Central Electric Cooperative's service area.

System features

- C 3,400 sq ft
- C Two-story colonial
- C 5-ton ECONAR GeoExchange system
- C \$2,000 utility rebate
- C \$44.64 average monthly cost
- C 9,000 heating degree days
- C 850 cooling degree days

Loop field

- C Horizontal slinky, buried 8 ft
- C 5 loops, 600 ft x 80 ft
- C 3,000 ft of pipe

Design temperatures

- C Winter, -18EF (Winter average, 4EF)
- C Summer, 90EF

Key Players

Homeowner: Dennis Eichinger

ECONAR Energy Systems Corporation:

Scott Jones, 612.241.3110

S & B Geothermal:

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