

GEOHERMAL HEATING & AIR CONDITIONING



“Geothermal heat pumps are the most energy-efficient, environmentally clean, and cost-effective systems for temperature control.”

United States
Environmental Protection
Agency
www.eia.doe.gov/kids/energyfacts/sources/renewable/geothermal.html

“Surging Oil Prices Crank Up Heating-Cost Forecasts”

USA Today 11/6/2007

“Schools using geothermal heat pump systems save more than \$25,000,000 in energy costs...”

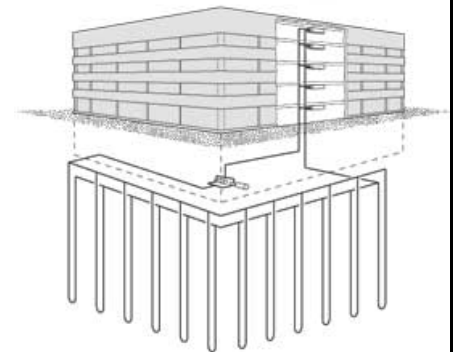
www.geoexchange.org/pdf/GB-030.pdf

“Geothermal is the winner for heating and cooling – there is no emerging technology that will replace it.”

How does it work?

- Geothermal uses the temperature below ground level to heat and cool your building.
- The ground temperature below the frost line is relatively constant throughout the year. The difference between the temperature below and above ground allows a very efficient transfer of temperature between the building and the ground.
- A geothermal heat pump system sends fluid through underground (or underwater) pipes to transfer heat from the warmer earth to the building to obtain heat in the winter. In the summer, the same system is used to discharge heat into the cooler earth to reduce building temperatures.

Geothermal Heat Pump System



Closed Ground Loop

Geothermal heat pumps (GHP) have several advantages over air-source heat pumps including:

- Lower cost – higher return on investment
 - Reduces annual total building energy use by about 30 - 50% *
 - Recoups the installation and equipment investment in only a few years *
 - Takes advantage of tax credits, grants and green credits *
- Less maintenance than conventional systems due to a simpler design and the elimination or reduction in exposed exterior equipment.
- Longer life - the field loop lasts indefinitely, logically 50+ years
- More consistent supply - provides a more stable energy source than air or any other source*
- Provides high tenant satisfaction - increasing settings does not increase cost
- Significantly quieter
- Requires a smaller footprint and no outdoor unit requirement
- Impacts the environment in a positive manner
 - Lower carbon emissions (40-70%)
 - Requires less refrigerant *
- Highly reliable, people love it! - 95% would recommend it to a friend **

* Source: *Geothermal Heat Pumps – Trends and Comparisons*, John W. Lund, Geo-Heat Center and others

** Source: *Geothermal Exchange* - <http://www.geoexchange.org/press/consumers.html>

Greensleeves LLC is happy to assist you in the selection of the best system for your application. Call us at 419-420-1515 to get started today!

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