

# How Geothermal Technology Can Keep Your Heating and Cooling Costs Low, While Helping to Save the Environment.

According to the U.S. Environmental Protection Agency (EPA) geothermal systems are,

**“the most energy-efficient, environmentally clean, and cost-effective space conditioning systems available today.”**

Extremely high levels of efficiency are possible because a geothermal heat pump only uses electricity to move heat, not produce it. A geothermal unit typically supplies 4 to 5 kilowatts of heat for every kilowatt of electricity used. Three to four of these kilowatts of heat come directly from the earth itself, and are clean, free and renewable. The other kilowatt is used to power the compressor, fan, and controls. Geothermal heat pumps also take advantage of the mild ground temperature for extremely high efficiency cooling. Most systems also include a hot water generator, which diverts a portion of the supplied heat to the domestic water heater. This provides a substantial portion of a family's hot water needs at a very low cost. Overall, geothermal technology offers the highest cooling and heating efficiencies of any system available today.



Geothermal vertical loop installation

## How It Works

Geothermal systems transfer heat from your home to the earth in the cooling mode, or from the earth to your home in the heating mode. Water is used as the heat transfer medium through a closed loop piping system buried either horizontally or vertically in the ground. By using this stable thermal source, geothermal heat pumps provide energy efficient comfort year around with a factory-tested and sealed packaged unit, and without the need for a noisy outdoor fan, or a flue.

The environmental advantages of geothermal systems have caught the eye of governmental agencies such as the Environmental Protection Agency (EPA) and the Department of Energy (DOE). Because geothermal technology is lowest in CO2 emissions, it provides a solution to global warming by primarily using the natural energy of the earth. Puron® (R-410A) zero ozone depletion refrigerant is available for Bryant geothermal heat pumps for an even friendlier system.



## Benefits Of Geothermal Heating:

- Highest efficiency of any system at 400 – 600%
- All electric (no flue, fumes, combustion)
- 20+ years average life expectancy
- Low maintenance costs
- Quiet operation
- Clean operation
- Environmentally responsible
- Can also provide cooling
- Can also provide domestic hot water

## Use a Professional Installer

Geothermal systems are not difficult to install by trained professionals. However, they are also not “do-it-yourself” projects. Finding the right geothermal dealer for installing a geothermal system is important to insure that the system will operate at its peak performance and provide years of trouble-free performance, as well as be eligible for the tax credit. Be sure to go with a professional who follows the procedures established by the International Ground Source Heat Pump Association (IGSHPA).

## The Stimulus Bill Offers Incentives for Geothermal Systems

As part of an effort to reduce dependence on foreign sources of energy, the American Recovery and Reinvestment Act of 2009 (ARRA) provides a tax credit to help offset the costs of making residential energy efficiency improvements.

The tax credits apply to a variety of products such as windows, doors, heating and cooling equipment and more. Geothermal



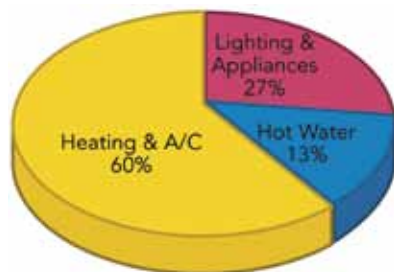
systems and other renewable energy technologies such as solar water heating and small wind systems have tax credits available for qualifying models from January 1st, 2008 – December 31st, 2016. Tax credits are 30% of the installed cost, with no upper limit, for both existing homes and new construction.



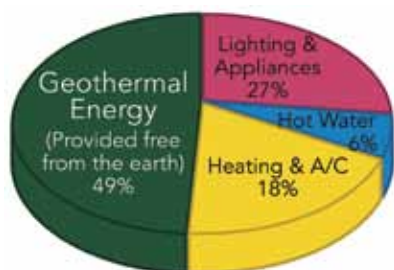
To be eligible, the standards that must be met are 14.1 EER and 3.3 COP for closed loop and 16.2 EER and 3.6 COP for open loop systems.

## Choose Bryant

A Bryant Geothermal Installer will help you calculate your energy cost savings and simple payback from a geothermal system investment. To learn more, visit [www.bryantgeo.com](http://www.bryantgeo.com) or find a dealer at [www.bryant.com](http://www.bryant.com).



Energy Consumption with Home with Traditional Heating/Cooling



Energy Consumption with Home with Geothermal Heating/Cooling

**Geothermal systems operate for 1/2 to 1/4 the cost of most other heating and cooling systems!**

**1-888-999-BRYANT**  
**[www.bryantgeo.com](http://www.bryantgeo.com)**