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## Geothermal - How Does It Work?

Imagine a heating and cooling system that delivers up to four units of energy for every unit you purchase. A system so efficient that it saves you energy and money on winter heating, summer air conditioning and year round water heating. An environmentally friendly system that uses a clean, safe, natural and renewable source of heat -- the sun.

### Harvest the Sun -- In Your Own Back Yard!

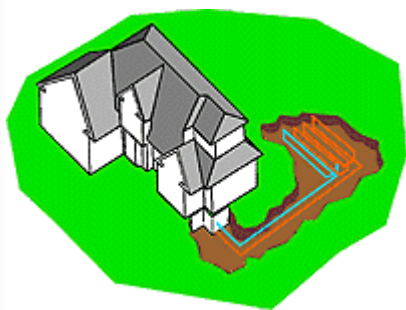
Ultimately the sun is always the energy source. The 'burning' question though is: How do we tap into this energy source? The answer may be buried right in your back yard. Deep below the earth's surface, the temperature is close to the average annual temperature for the area. There, thanks to the earth's insulating quality, seasonal variations in temperature have little effect. The technology to take advantage of this energy source is surprisingly simple. Dig a trench or drill a well, use everyday commodity materials and you have it: An Earth Heat Exchanger. Couple it to a TETCO geothermal heat pump and the result is year around comfort.



### How Does a TETCO Work?

There are many ways to harvest the free natural energy of the earth. The most common are the **closed loop** and the **open loop**. With either loop, only a fraction of the energy comes from electricity. Most comes from the earth itself. Therefore, the cost of operation is lower than any other comfort alternative. The energy savings actually pay for the investment.

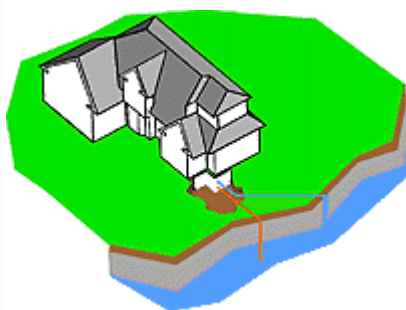
#### Closed Loop



The Closed Loop is a two-way heat transfer method. A small pipe is buried below the earth's frost line. A small pump circulates a water solution in the piping loop and the TETCO. The TETCO heats and cools simply by changing the temperature of the water solution.

An open (vertical) loop requires less space and is an excellent alternative.

### Open Loop



Some locations have an abundance of ground water and opportunities for returning the water to nature. When conditions are right, the open loop offers the lowest operating costs and the smallest initial investment.



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