tetcogeothermal

How Geothermal Works

Fundamentally, geothermal systems work differently than ordinary heating and cooling systems. Conventional systems have to produce heat by burning some type of fuel, typically propane, natural gas or fuel oil. Geothermal systems don't create heat; instead they collect and distribute it.

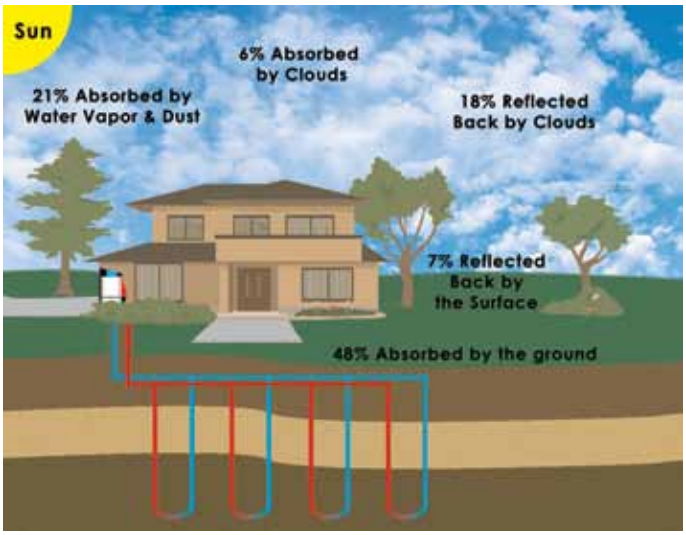
First, you should realize that the earth absorbs and stores nearly half of the sun's solar energy. As a result, at a depth of six feet it maintains a fairly constant temperature of 45 to 70 degrees F. The geothermal system taps into that free, renewable energy and puts it to work.

The earth's natural heat is collected in the winter by a series of pipes called a loop system. Fluid circulating in the loop system carries this heat to the home, where it is compressed and released to raise the inside temperature.

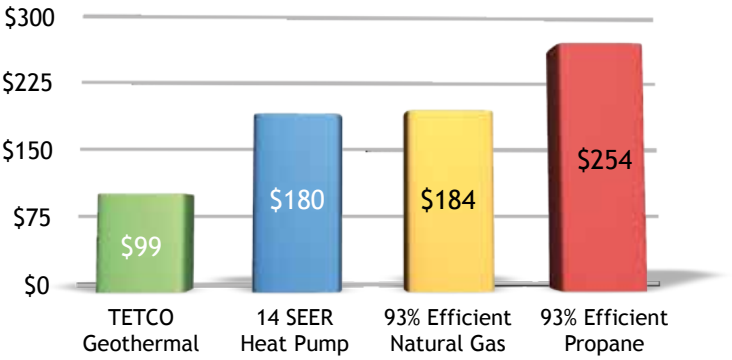
In the summer, this process is reversed in order to cool the home. Heat is drawn from the home, rejected to the loop and absorbed by the earth. The result is a comfortable home all year round.

Since most of the energy used for heating and cooling is free from the earth, geothermal systems are the most efficient and environmentally friendly systems on the market today.

Solar Energy



Monthly Energy Costs



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Thermal Energy Transfer Company
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www.tetco-geo.com

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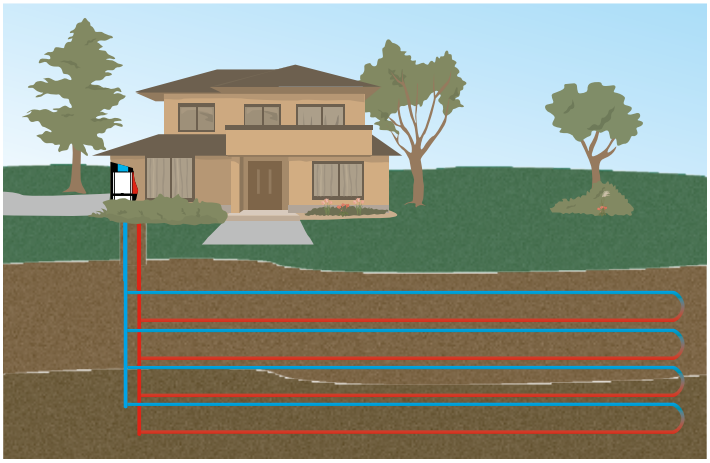
Geothermal Loops

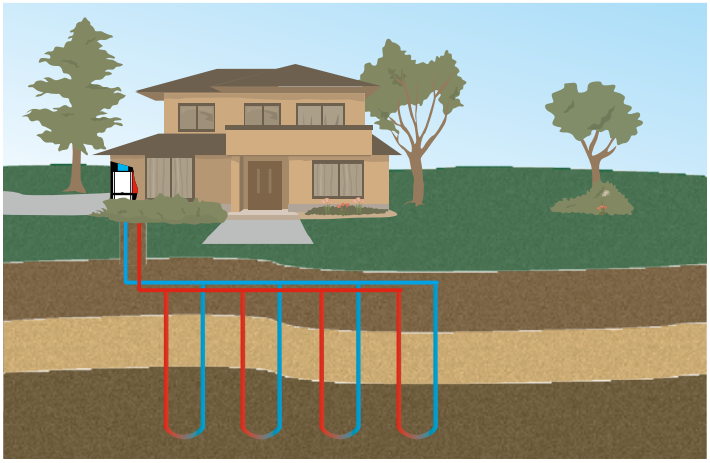
Your loop system is the heart of geothermal technology. Regardless of the option you select, it will deliver over 300% efficient comfort and savings for many years into the future. Your local geothermal dealer will help you select the proper loop system based on a site survey and by conducting a detailed energy analysis of your home. Installing a geothermal loop system is like getting a 70% discount on energy for the life of your home.

Horizontal



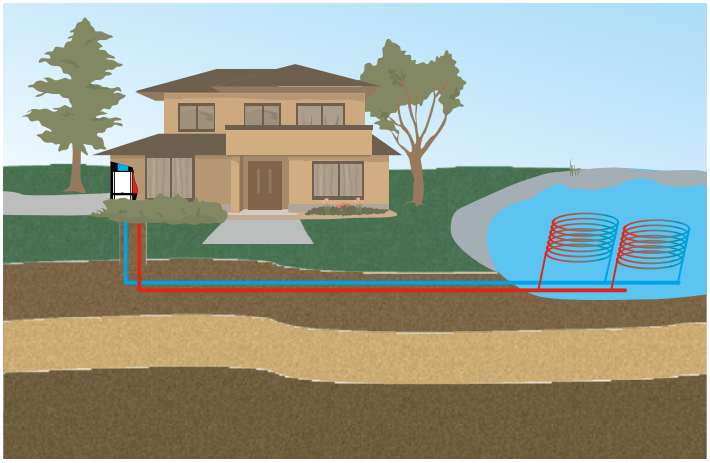
Horizontal Loop: This is the most common loop used when adequate land area is available. Loop installers use excavation equipment to dig trenches approximately 6-8 feet deep. Trench lengths range from 100 to 300 feet per ton, depending on the loop design and application

Vertical



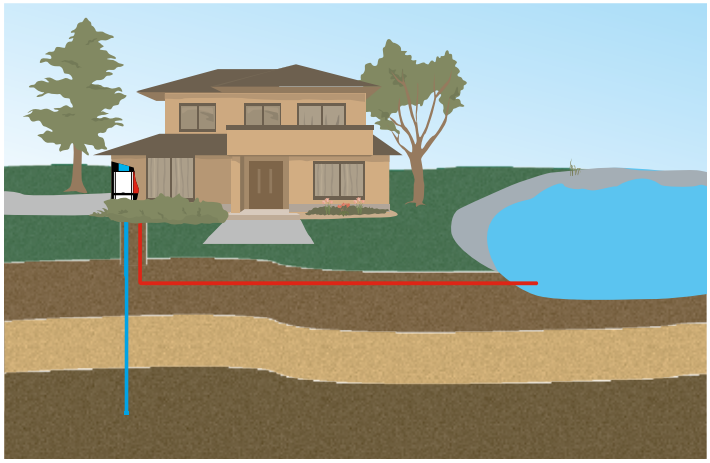
Vertical Loop: This loop is used mainly when land area is limited and also in retrofit applications of existing homes. A drilling rig is used to bore holes at a depth of 150 to 300 feet per ton. A U-shaped coil of high-density pipe is inserted into the borehole. The holes are then backfilled with a sealing solution.

Pond



Pond Loop: A pond loop is an option if a large body of water is available within approximately 200 feet of the home. A ½ acre, 10 to 12 foot deep body of water is usually adequate to support the average home. The system uses coils of pipe typically 300 to 500 feet in length. The coils are placed in and anchored at the bottom of the body of water.

Open



Open Loop: This system can be installed if an abundant supply of high quality well water is available. A typical home will require 4 to 8 gallons of water per minute. A proper discharge area such as a river, drainage ditch, stream, pond, or lake must be present. Check for local restrictions before selecting a specific discharge method.

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