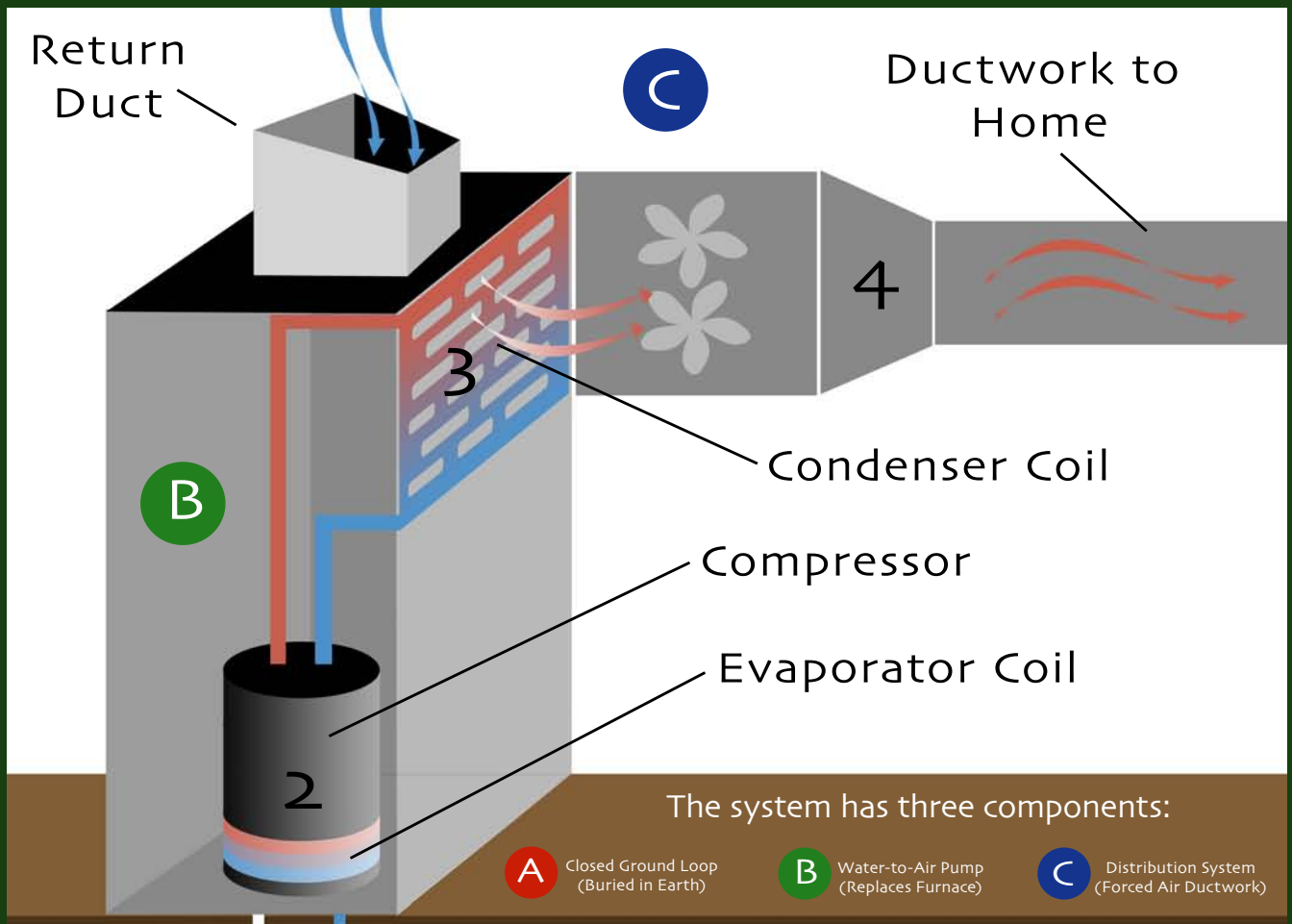
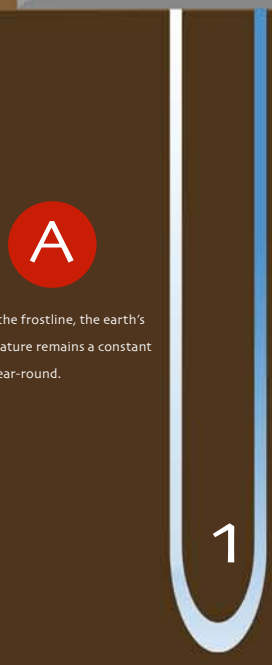
How Your GeoExchange System Works





A

Below the frostline, the earth's temperature remains a constant 54° F year-round.

Step 1

A water/antifreeze solution is pumped through the pipes in the ground (A), where the earth stays a constant 54 degrees year-round. When the solution returns to the heat pump (B), it has either been heated, or cooled to match the earth's ambient temperature.

Step 2

When heating, the refrigerant solution passes through an evaporator coil inside the heat pump (B). When the refrigerant leaves the coil as a gas and flows into a compressor, which puts it under high-pressure and in turn, heats it up.

Step 3

The hot gas from the compressor is pumped to a series of pipes called a condenser, where it expands and gives off heat as a by-product, then condenses back into a cooler liquid.

Step 4

Return duct work fans force the home's (C) cool air over the condenser. The air absorbs the heat and is then blown through ducting into your home. The solution then returns to the ground loop (A) and begins the process again.

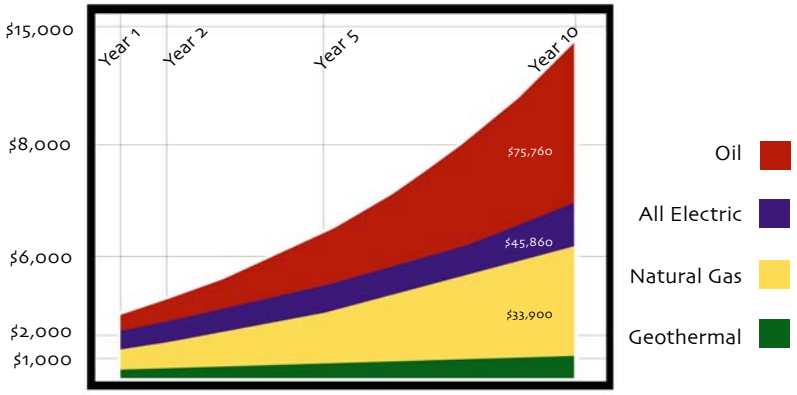
Cooling, with no extra equipment

When cooling, the same system is used, only in reverse: Cooled solution from the ground is passed through the condenser/evaporator coil. As warm air from throughout the home passes over it, the cold liquid refrigerant boils, resulting in a warm gas, which goes to the compressor, condenses in the evaporator/condenser coil, then returns to the earth as a warm solution for cooling. The air from your home has been cooled, and flows out through the vents.

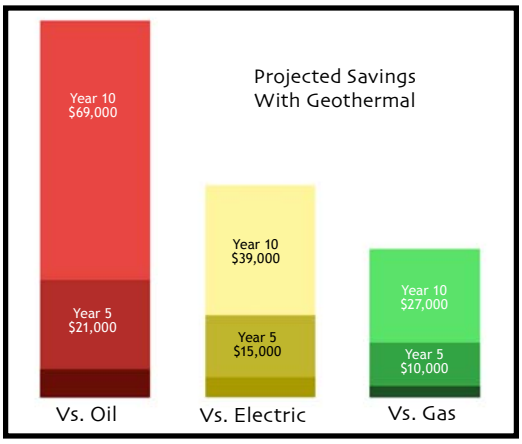
www.geoexchangehomes.com

Why Choose GeoExchange?

Save Thousands Over Conventional Systems & Rely on an Affordable Commodity



Average Annual Cost For Heating + Cooling + Hot Water



Based on information provided by PSE's Rates Department.

Your geothermal system relies mostly on energy from the earth, which is free. The system itself is over 300% efficient, and compared with the average inflation rates for other energy sources, geothermal is the least expensive, and the most stable.

Utilize Eco-Friendly, Replenishable Energy

By installing a geothermal system in your home you will reduce the greenhouse gas emissions by an amount equal to removing 2 cars from the road per year. The Department of Energy and the EPA have both endorsed ground-source heat pump systems as among the most energy efficient and environmentally friendly heating, cooling, and water heating systems available.

Add Value to Your Home

When you decide to sell your home, geoexchange is an added asset. According to a study conducted by the U.S. Department of Housing and Urban Development, home value increases by about $20.00 for every $1.00 reduction in annual utility bills. Ground heat exchangers are also maintenance free and will last 40+ years, as long as two or three conventional furnace systems.

Other Frequently Asked Questions

Will I qualify for energy credits or tax write-offs?

Some lenders, such as Countrywide, are offering discounted rates for financing a geoexchange home. There is an increasing effort from legislators to reward those individuals installing green energy systems, though no tax credits are currently available for geoexchange.

What temperature ranges will the system tolerate outdoors and generate indoors?

The earth provides an extremely consistant source temperature due to the depth of the loops. The system's indoor range is approximately 30% greater than a typical outside heat pump.

Will you warranty the system? For how long?

The Hydron Module is warranted for one year. The ground loops have a 50 year manufacturer's warrantee, but may have up to a 150+ year lifespan.

How far down do you have to drill to achieve the correct temperature?

The optimal depth varies depending on soil type and conductivity, but is usually 250 to 300 feet for both loops.

Will the system work during a power failure?

The ground loop is an uninterrupted fuel source, however the distribution fan needs electricity to operate.

Why hasn't this system been widely used before now?

Thought the technology dates back several centuries, and geothermal has been in use in large facilities for decades, it has only recently become affordable for the average home buyer.

For more information, visit www.geoexchangehomes.com.