Frequently Asked Questions about Geothermal

How can I tell if geothermal is right for me?
There are several factors that need to be considered when you are determining whether or not to go geo. The first piece of advice is to simply go and ask others that have chosen geothermal energy what their reasons for going geo are. The next step would be to contact Dalton at 319-266-3513 for a no-obligation discovery on whether or not geothermal is right for you.

What is a ground source heat pump?
Ground source heat pumps (GSHPs) are electrically powered systems that use energy from the sun that is collected using the greatest solar collector in existence: our earth. Using the earth's relatively constant temperature a geothermal system can provide heating, cooling, and hot water for homes and commercial buildings.

How do ground source heat pumps work?
Ground source heat pumps get their energy from one of two types of loops; closed loops or open loops. Closed loops can be installed in three ways: horizontally, vertically, or in a pond/lake. The type chosen depends on the available land areas and the soil and rock type at the installation site. These factors will help determine the most economical choice for installation of the ground loop. Dalton can review your site and help recommend the system that best matches your application.

How do you get heat out of 50 degree ground water?
You have a heat pump in your house right now! Your refrigerator takes heat out of the food and releases the heat to the outside. (Feel how warm it is behind your refrigerator.) A heat pump works in much the same way. It removes heat from the water that is circulated through the loop field and concentrates it before releasing it into your home.

How much does it cost?
Of course, the costs vary depending on the size and complexity of the system you choose. Generally speaking, a geothermal system will be more expensive than a conventional system up front, but its low operating costs more than offset the initial expense.

Just how efficient are these systems?
Here is where geo systems excel! While gas furnaces compete with each other over 92% or 96% efficiencies, geo systems are upwards of 300% efficiencies. That's not bragging. That is ARI certified test data.

How can any system be more than 100% efficient?
Geothermal systems don't make heat: they simply move it from the earth into your home. In essence, you are just paying for the transportation. In fact, for every BTU of energy you use, you will get back 3 BTU's of heat making geothermal heating 300% efficient!

Are geothermal systems safe?
They are the safest heating system you can put in your home. They use no combustion gasses or fossil fuels of any kind nor do they produce carbon monoxide or carbon dioxide. There is no risk of explosion since there is no flame at all!

What about the environmental impact of removing heat from the earth?
The EPA has called geothermal heat systems the “most environmentally friendly system you can put in your home”. They burn no fuel and therefore, they produce no byproducts. The little heat that is borrowed from the earth over the winter is put back in the summer making the cycle complete.

Are geothermal units difficult to install?
Most units are easy to install, especially when they are replacing another forced-air system. This is known as a retrofit. Geothermal units can be installed in areas unsuitable for fossil fuel furnaces because there is no combustion and thus no need to vent exhaust fumes. Ductwork must be installed in homes without an existing air distribution system. Contact Dalton at 319-266-3513 to inquire about ductwork installation.

What about comfort?
A geothermal unit system moves warm air (90-105(F) throughout your home or business via standard ductwork. An even comfort level is created because the warm air is moved in slightly higher volumes and saturates the building with warmth more evenly. This helps even out hot or colds spots and eliminates the cold air blasts common with fossil fuel furnaces.

Do utility companies offer rebates on ground source heat pumps?
Many of them do but the purchase of a ground source heat pump should make sense without rebates. If they offer rebates, that is the icing on the cake but the real value is in your monthly savings on your energy bill. Contact Dalton at 319-266-3513 for the most current utilities rebate program that would benefit you.

How does geothermal compare with other renewable energy technologies?
A geothermal system will give you the quickest return on investment of any form of renewable energy. Often, the price difference between a conventional heating system and a geothermal system can be paid back in 5-7 years. In fact, the savings realized on your energy bills from your geothermal system can be used to finance additional renewable energy technologies for your home if you choose.