

GEO THERMAL SPACES

BRINGING THE COMFORT OF
THE EARTH INTO YOUR HOME





MOTHER NATURE

Meets Human Nature

Today's green space is all about being extraordinarily efficient and environmentally friendly. And

it's not just happening in new home construction. The truth is that geothermal spaces are transforming existing homes and new construction into spaces that are not only good for the environment but create the most comfortable living space you'll

ever experience. And the best part? Geothermal technology has been around for years, meaning it's not a risky, trendy gadget, but a proven investment in your home's comfort.



Today's Innovation Stems from Years of Experience

TETCO, founded in 1977, is one of the oldest dedicated geothermal brands on the market today. In fact, we're often called the "Grand Daddy" of geothermal. It's all we do, and we've dedicated over 30 years to making sure our products provide the comfort that your family deserves while making strides to move this technology forward. And it's not as complicated as you might think...

Geothermal heating and cooling is all about harnessing the power of the earth and utilizing it to transfer

heat. Much like a refrigerator, a geothermal system has the ability to move heat from one location to another. With the earth absorbing 48% of the sun's solar energy, the result is a fairly constant underground temperature of 45 degrees in northern climates to 70

degrees in southern climates.

Through pipes buried in the ground, we transfer heat from the earth to your home in the winter, then reverse the process by pulling heat from your home in the summer and releasing it into the cooler ground during the summer months. The result is the most comfortable living environment imaginable that is both eco-friendly and provides substantial cost savings on your utility bills. It's an all-around win for every homeowner.

It's all we do, and we've dedicated over 30 years to making sure our products provide the comfort that your family deserves



Today's green space is more than just contemporary finishings, sustainable flooring, and repurposed items.

Simply choosing how you heat and cool your home carries the most weight out of any of your choices. In fact, nearly 40% of all U.S. emissions of carbon dioxide are the result of using energy to heat, cool and provide hot water for buildings. We can't simply tear all of those buildings down to build them more sustainably. However, you can make a significant impact on the planet just by installing a geothermal system. Plus, your

home's heating and cooling system affects the comfort of everyone living and visiting in your home, and geothermal creates the perfect environment for everyone. When installing in an existing home, it's called a retrofit application, and we have several options in our product line to make this a simple switch.

In fact, systems that are 10-15 years old are extremely inefficient compared to geothermal systems. Even if your system is at 90% efficient, which most installed prior to 1992 are around 65%, that's like getting 90 cents worth of heating for every \$1 you spend. When you install a geothermal system, you'll get \$5 worth of

heating for every \$1 you spend. There has never been a better time to look into replacing it with a highly efficient geothermal system. And even if your system is new, there are options to make it more efficient.

You might consider installing a geothermal split system in addition to your traditional furnace. This creates a hybrid heating system, allowing the geothermal system to provide the first stage of heating for your home and allowing the

When you install a geothermal system, you'll get up to \$5 worth of heating for every \$1 you spend.



existing furnace to kick in during extreme temperatures. A geothermal split system is a great way to reduce your carbon footprint without the cost of overhauling your entire system. Plus, your utility bills will be less when you decrease your usage of fossil fuels.

Your knowledgeable TETCO dealer can help you decide which geothermal system is right for your home. Whether you're looking for a forced air system, a water-to-water unit for radiant floor heating, or a combination, TETCO has you covered. In addition to adding

a highly efficient geothermal system, consider your home's insulation and high air infiltration. Making sure these are updated will only help to improve the efficiency of your home and new geothermal system.

Turning existing spaces *Green*

REAL RESULTS. REAL SAVINGS...

WITH REBATES AND INCENTIVES.

When you install an ENERGY STAR qualified geothermal heat pump, you may qualify for a variety of tax credits, rebates and incentives to support your choice to go green.

State and local governments recognize the energy saving potential of geothermal heating and cooling systems. They know that by installing geothermal in your home, you will use less energy, decrease pollution, and reduce your dependency on fossil fuels.

Many of these entities are now providing incentives such as rebates, tax credits, or even low interest loans to support your installation. These are available from numerous states/provinces, local municipalities and utilities. Talk to your TETCO dealer for more

information about what's available in

your area. You can also check the

Database of State Incentives for

Renewables and Efficiency by

going to www.dsireusa.org, or

visit www.energy.gov/savings.



Radiant Floor Heating – The best in comfort and efficiency

The idea of radiant floor heating is becoming increasingly popular these days, thanks in large part to home remodeling shows. When you install a geothermal system, you have the option of utilizing this type of heating, also called hydronic heating. And it goes beyond just toasty warm feet.

With radiant floor heating, you can eliminate the noise, dust and draft issues typically associated with a forced air system. That's right. No clanking radiators or dust being blown around. While this is not a do-it-yourself system, there are many advantages to calling in the professionals.

What you typically see portrayed on home remodeling shows are electric radiant heating systems. While these work nicely in small areas like a bathroom, it does use a lot of electricity and can raise your utility costs. It's not meant to be installed as a whole-home system. With geothermal, radiant floor heating can be installed underneath every square foot of your home, and the comfort you'll experience is unmatched.

The secret is warming objects in the space, not the air. With forced

air, the temperature difference between the floor and the ceiling can vary significantly. By warming the room from the ground up evenly, you can rid your space of uncomfortable up and down temperature swings. And when you warm the space more evenly, you eliminate hot and cold spots as well as have the extra benefit of feeling more comfortable at a lower temperature.

Once installed, you can cover the in-floor tubes with any type of flooring you'd like. Typically, tile and hardwood are the more popular choices. You can use carpet, however because it acts as an insulator, it will slow or reduce the heat entering the space making the system less efficient. This type of system can also be

used to heat your pool and for ice and snow melt.

With the variety in our product lines, you have the ability to utilize different types of systems, too. Maybe you'd like radiant heating in your basement, but forced air upstairs? Our combination unit allows you to do both all with one unit. Talk to your TETCO dealer about the options that make the most sense for your home.



Safety First

Our systems don't burn fossil fuels, meaning there is no combustion, hazardous fumes or risk of carbon monoxide poisoning.

Cut Utility Costs

Because a geothermal system is up to 500% efficient, it's like getting \$5 of heat for every \$1 you spend.

Compare that to your traditional furnaces, which are always under 100%, meaning you lose heat that you pay for.

Green Living Made Easy

Because geothermal systems don't burn fossil fuels and are extremely

energy efficient, the U.S. EPA and Natural Resources Canada recognize geothermal systems as the most environmentally friendly way to heat and cool your home. In fact,

over an average 20 year

unit life cycle, the

carbon footprint

reduction

would be

equivalent

to

planting

120,000

acres of

trees or

converting

over 58,000

cars to zero emission

vehicles just by making the

switch to geothermal in your home.

Quiet Comfort

Forget noisy air conditioners that intrude on your outdoor living space. With a geothermal system, you can enjoy blissful quiet. Our systems are placed in a mechanical area, such as

a basement, closet or crawl space.

Once running, you won't even know it's there. Our unique cabinet design insulates the unit's compressor, which eliminates rattling or vibration when the system is operating.

Comfort Satisfaction

With increased air purification and dehumidification, our systems provide unmatched comfort when compared to a traditional system. Plus, geothermal systems provide more consistent heating and cooling, so you can forget about hot and cold spots. You can even utilize zoning within your home, allowing different areas of your home to have its own distinctive temperature.

Free Hot Water

A fantastic byproduct of geothermal systems is free hot water. With a desuperheater unit, we have the ability to capture reclaimed heat during heating and cooling modes to heat your domestic water. For a family of four, this can save you up to

A
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BENEFITS OF GEOTHERMAL

Peace of Mind You Can Feel

50% just by heating and cooling your home with geothermal.

Built to Last

TETCO systems are built to last an average of 20-24 years. Compare that to your typical life cycle of a traditional furnace of only 13-15 years, and you can see TETCO offers reliability that lasts. And, loops last even longer, and don't need to be replaced.

A Design for Every Installation

Whether you're looking to build or outfit your existing home, we have a geothermal system that is ideal for any situation. With a wide range of options from radiant heating to forced air systems, the versatility of geothermal means there is no job too small or too large.



18%
reflected
by clouds



6%
absorbed
by clouds



48%
absorbed
by earth



21%
absorbed by water
vapor and dust



7%
reflected
by earth

How Geothermal Works

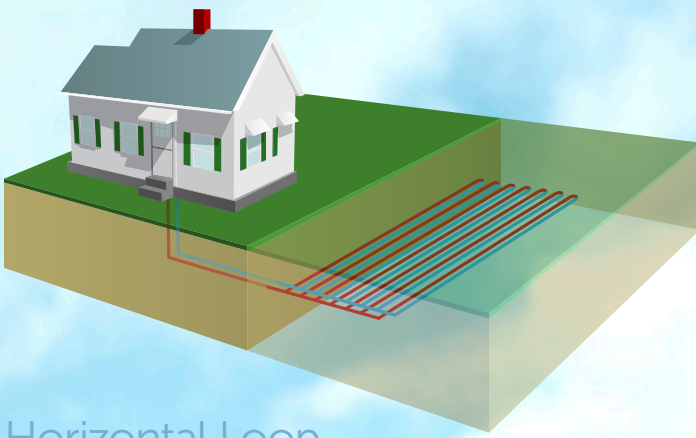
The key is solar energy...

In its purest sense, geothermal systems use solar energy. As outlined above, 48% of the sun's rays are absorbed by the earth, leaving a fairly constant underground temperature between 45 and 70 degrees Fahrenheit. Our ground loops take advantage of this

consistency by transferring heat back and forth to make your house the perfect temperature no matter the season. And loops, also called a heat exchanger, can be varied to fit your application...

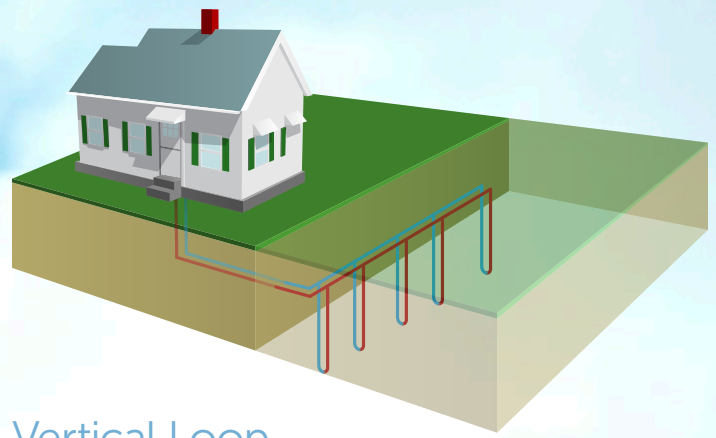
Whether you are in the country with lots of land or in the heart of downtown, there's a specific loop field that will fit your needs. See below for all of the options and how they work. Your dealer will help you decide which loop system is right for your home.





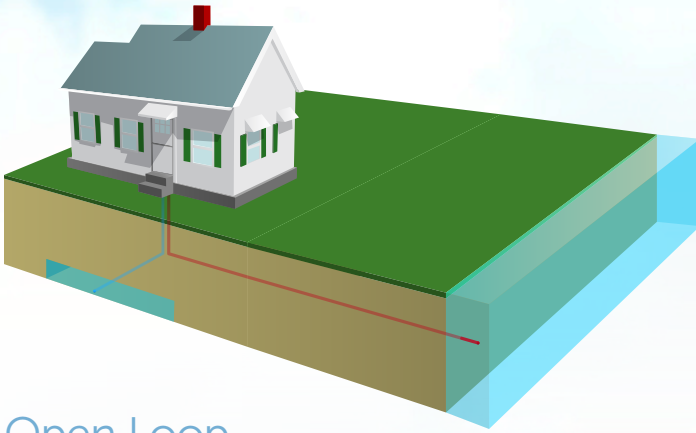
Horizontal Loop

When more open land space is available, horizontal loops are typically used. Loop installers can use equipment such as chain trenchers, backhoes and track hoes to dig down 4-8 feet, with trench lengths 100-300 feet per ton.



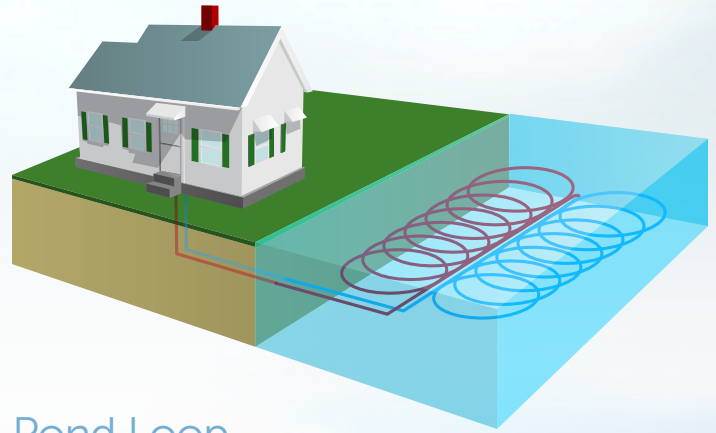
Vertical Loop

Perfect for those who have less land space, the vertical loop system is typically used in retrofit situations and works well with all units. Utilizing a drilling rig, bore holes are drilled to a depth of 150-300 feet per ton. After drilling, high density pipe is placed in the bored hole, then backfilled with a sealant.



Open Loop

When you have a ready supply of high quality well water, you can utilize an open loop system. Typically, a home requires 4 to 8 gallons of water every minute to be effective. You also have to have access to a discharge area like a river, drainage ditch or pond.



Pond Loop

If you live within 200 feet of a large body of water, you can also utilize what is called a pond loop. You simply need $\frac{1}{2}$ an acre with water 10-12 feet deep to heat and cool the average home. With coils 300-500 feet long, they're anchored on the bottom of the body of water.

The Loops

THE SCIENCE BEHIND THE MAGIC



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