

Electric Heat Pump Heating & Cooling

Use less energy & stay more comfortable



Your Touchstone Energy® Cooperative



It's A Fact:

Current heat pump installations save more than 14 million barrels of crude oil per year.

Homeowner Benefits

EVEN TEMPERATURES

Temperature swings from heat-up and cool-down cycles, common with gas-fired systems, are virtually eliminated with a heat pump heating and cooling system.

CLEAN, SAFE, HEALTHY

Instead of burning fossil fuel, electric heat pumps collect heat from the air or the ground. There are no flues, flames or exhaust pollutants; and no need for carbon monoxide sensors.

SAVINGS

No other heating and cooling system offers lower operating costs. You can save up to 40% on the energy you use to heat and cool your home.

SATISFACTION

Independent consumer surveys rate heat pump systems as having the highest customer satisfaction compared to other types of heating and cooling systems.

Comfort & Economy

Get the Heat Pump Advantage

HomeWorks Tri-County Electric Cooperative exists to serve our members. We want to help you make the most of the energy we provide. That's why we offer information on the efficient electric heat pump. It's your best option for maximizing your home's year-round comfort and economy.

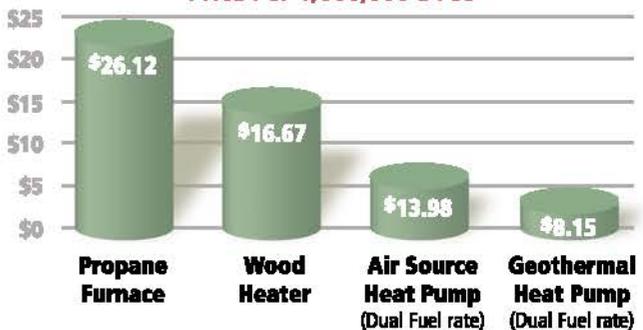
An electric heat pump combines energy efficiency with a lifetime of clean, convenient and safe comfort.

Whether you're building or buying a home, or replacing an air conditioner, you owe it to yourself to install the best heating and cooling value - an electric heat pump. Modern heat pumps offer better-than-ever comfort at lower-than-ever cost. Industry studies confirm that heat pumps, including "dual-fuel" models added to natural gas or propane furnaces, save money and provide true comfort in all seasons, while conserving natural resources.

A heat pump also qualifies you for HomeWorks' lower, dual-fuel rate. That's 26% lower than the standard rate for all of your other household energy. With savings like these, your new heat pump will pay for itself faster than you think.

How Much Can You Save?

Price Per 1,000,000 BTUs



“ There is no comparison. The comfort level is super in both summer and winter. ”

- George and Vidde from Lake, MI

It's A Fact:

At 0° F, air contains 82% of the heat available when it's 100° F outside.

Air Source Heat Pumps

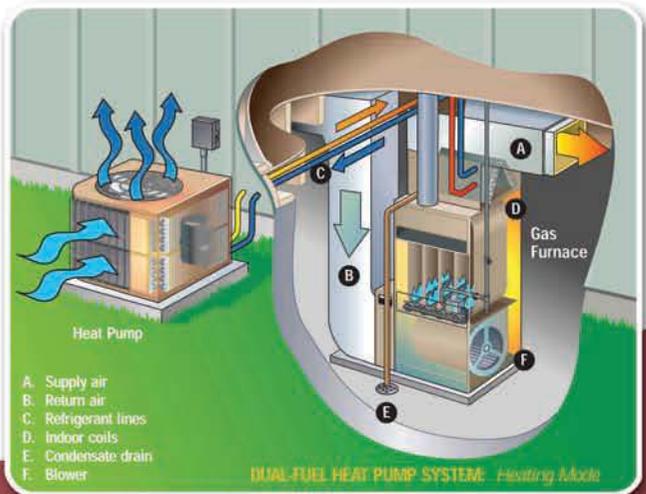
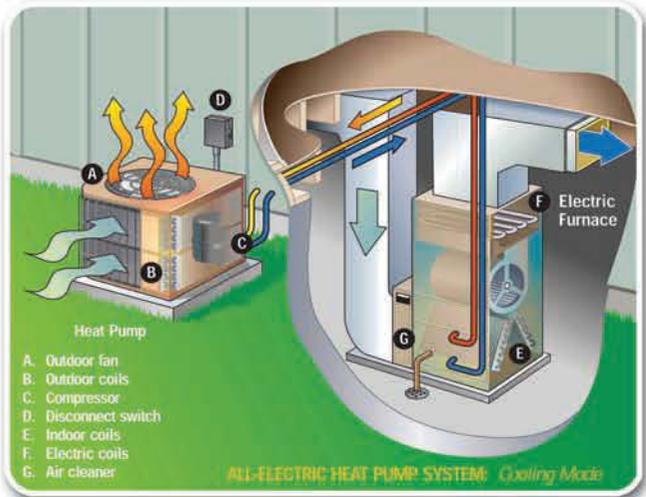
Comfort and Economy for All Seasons.

Instead of creating heat like a gas fired furnace, air source heat pumps take heat from the air around you. In summer, the heat pump works like a central air conditioner, removing heat and humidity from your home and pumping it outside. In the winter, it reverses the process, absorbing heat from outside air and transferring it inside.

Dual-Fuel

Dual-fuel systems pair a heat pump with a gas or propane furnace which provides back-up heating during extreme cold conditions. Heat pumps are most efficient in moderately cold weather, down to about 30° F and gas furnaces reach optimum efficiency in extreme cold. Working in tandem, the systems take turns operating only at the temperature where maximum efficiency is achieved.

The heat pump connects to a furnace like a central air conditioner. As such, dual-fuel heat pump systems are ideal installations for new and existing homes. Their combined efficiency makes them a popular choice for many Michigan families.



With a dual-fuel heat pump system you have the option of selecting the most cost effective heating source. Talk with your dealer about how to set your system controls to take advantage of the best energy prices.

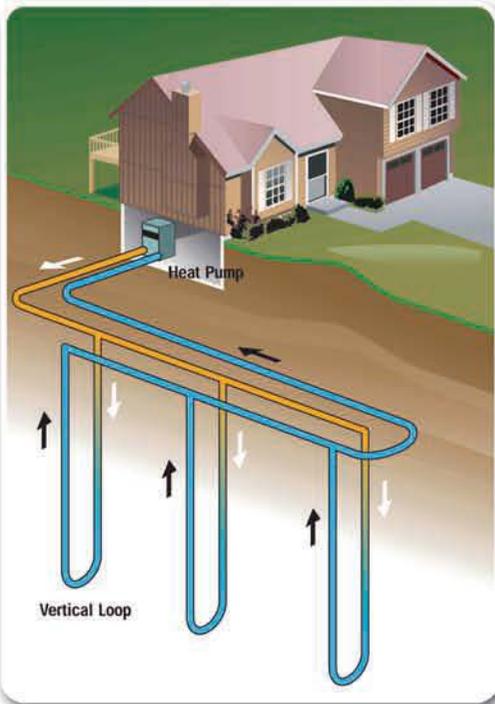
It's A Fact:

The ground absorbs 47% of the sun's energy that reaches planet Earth...

Geothermal Heat Pumps

Good for Your Budget, Good for Our Planet.

Geothermal is a simple technology that uses the earth's renewable energy to provide high-efficiency heating and cooling. In winter, the system draws heat from the ground and transfers it to your home. In summer, it extracts heat from your home and transfers it to the ground. Hardware consists only of a heat pump connected to a series of small-diameter pipes buried underground. A water solution circulating through the pipes carries heat between the ground and the heat pump.



Geothermal heat pumps use stored solar heat from the Earth, giving it back as seasons change. It's a technology that saves the environment while it saves you money.

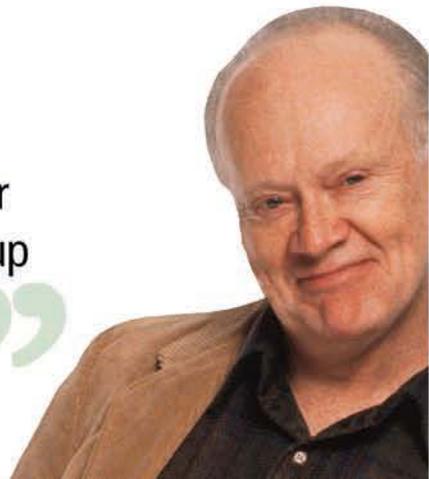
How It Works

Geothermal systems work using a grid of polyethylene (PE) pipe buried beneath the earth's surface. Known as a ground loop heat exchanger, the grid system connects to a high-efficiency heat pump located inside the home.

Water circulating through the ground loop absorbs the earth's heat in the winter, where it is compressed by the heat pump and transferred inside to heat the home - even when outside air is below freezing! In the summer, the system's operation reverses; removing heat from the home and transferring it to the ground loop, and in turn, back to the earth. And, because ground temperatures typically remain constant between 55° F and 65° F, these systems work much more efficiently than air source heat pumps.

“It's clean and quiet. And we never have to worry that we're running up our heat or air conditioning bill.”

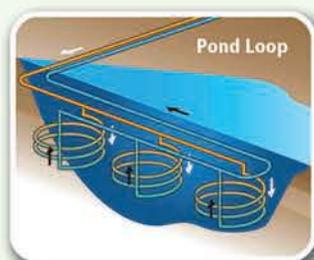
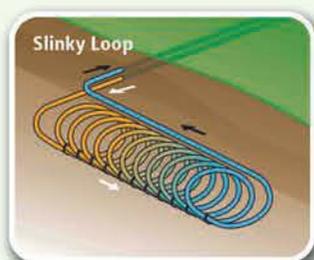
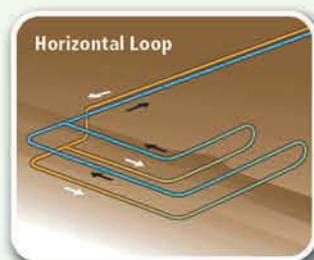
- Scott and Brenda of Portland, MI



...that's 500 times more energy than mankind needs every year!

The Inside Scoop on the Geo Loop

Geothermal Heat Pump heat exchangers are available in either vertical or horizontal configurations. The best layout for your home depends on the available land and other features including terrain, the cost of trenching or drilling, and the availability of quality ground water. Your geothermal installer will help you make the best choice.



If adequate land is available, **horizontal** loops can be installed. In horizontal systems, PE piping is buried in 5' to 6' deep trenches across a wide area of land. A typical home requires 1/4 to 3/4 of an acre for a horizontal loop system.

A **slinky** loop is a variation of the horizontal loop where PE piping is placed in an evenly spaced coil to provide the maximum surface area in the same amount of space as a horizontal loop.

If an adequately sized body of water is available, a **pond** loop can be installed using a series of closed loops coiled and sunk to the bottom. A 1/2-acre, 8-foot-deep pond is usually sufficient for the average home.

- ◀ **Vertical** loops (shown left) are used where space is limited or where soil conditions are rocky or otherwise not favorable for installing a horizontal system. In a vertical system, PE pipe is inserted vertically in 150' to 250' deep bored holes.



Tips to Help You Find the Best Installer

Whether you're building a new home or considering a heat pump for your present one, here are some ideas to help you find an installer.

- 1 GO WITH A PRO** accredited by the International Ground Source Heat Pump Association (IGSHPA).
- 2 EXPECT AN IN-HOME EVALUATION** so that your contractor can make the best recommendation.
- 3 GET WRITTEN ESTIMATES** from two or three contractors, including a breakdown between equipment and labor.
- 4 GET A WRITTEN CONTRACT** including all terms, costs and start-stop dates, and **WRITTEN GUARANTEE** on the system & installation.
- 5 ASK FOR REFERENCES** where the contractor has installed heat pump systems, and call them.

Your Touchstone Energy[®]
Cooperative 

Touchstone Energy is a national alliance of local, consumer-owned electric cooperatives providing high standards of service to customers large and small. HomeWorks Tri-County Electric Cooperative is one of more than 600 Touchstone Energy cooperatives in 44 states which are delivering energy and energy solutions to more than 17 million customers every day. Touchstone Energy cooperatives serve their members with **integrity**, **accountability**, **innovation** and a long-standing **commitment to communities**.

Need More Info? Some Helpful Heat Pump Resources

For more detailed information or specific questions about heat pumps, contact a certified heat pump dealer or call HomeWorks at 1-800-562-8232. Attend one of our Heat Pump Seminars or visit any of these web sites:

[HomeWorks Tri-County Electric Cooperative
www.homeworks.org](http://www.homeworks.org)

[U.S. Department of Energy
www.eere.energy.gov](http://www.eere.energy.gov)

[International Ground Source Heat Pump Association
www.igshpa.okstate.edu](http://www.igshpa.okstate.edu)

[Geothermal Heat Pump Consortium
www.geoexchange.org](http://www.geoexchange.org)

[EPA Energy Star
www.energystar.gov](http://www.energystar.gov)



www.homeworks.org

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3681 Costabella Ave.
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