

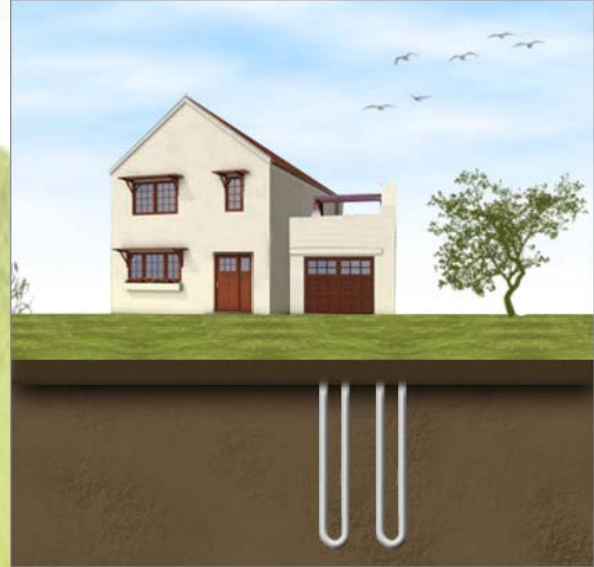
# Is Green the New Status Symbol?

*As energy costs and green awareness rise, a very surprising must-have is gaining popularity around the world.*

There's a new must-have status symbol among the famous these days. It isn't the new 1000 HP supercar from Italy. Nor is it a diamond encrusted smart-phone from Paris. It's a geothermal heat pump and everyone from the Queen of Country Music, to Queen Elizabeth II has been lining up to get one.

Geothermal heat pumps—also known as GeoExchange—take advantage of the fact that the ground is able to maintain a relatively constant 50°-55° in N American. That's because it absorbs 47% of the solar energy that reaches the Earth's surface. Geothermal systems are able to tap into this free energy with a series of water-filled underground pipes called a "loop." During the heating cycle, a geothermal system pulls heat from the ground, concentrates it with a compressor, and distributes it through a conventional duct system as warm air. The same heat energy can also be used for a radiant floor system or domestic hot water heating. In the cooling mode, the system air conditions your home by reversing the heating process. Instead of extracting heat from the ground, it's extracted from your home and is either moved back into the earth, or used to preheat the water in your hot water tank. The U.S.

Environmental Protection Agency (EPA) has called geothermal "the most energy-efficient, environmentally clean, and cost-effective" way to heat and cool our buildings. That may explain why Microsoft cofounder Paul Allen has geothermal. As does singer Sir Elton John. Vice President Al Gore has it installed in his home and President George W. Bush does too. George Lucas turned to geothermal for Lucas film's new 185,000 square-foot office and entertainment complex. "Green" chic may appeal to the rich and famous, but the fact that geothermal can lower utility bills up to 70% is making it attractive to ordinary people. An estimated 1 million buildings in the US have geothermal installed, according to John Kelly, executive director of the Geothermal Heat Pump Consortium. He says that number is growing at more than 10 percent a year. Some industry players believe even that estimate is conservative. The boom has U.S. heat pump makers working overtime, according to Mr. Kelly. "WaterFurnace, has been hiring steadily and experienced record-breaking growth and profits,"



says Andy Fracica, the company's Director of Marketing. "We've also been chosen by many funds and market analysts as a green company to watch." Traditionally, geothermal systems are more expensive to set up than conventional heating systems. Although payback is usually short at between 5 and 7 years, the initial cost has still been a barrier for some. New federal tax benefits and utilities offering rebates for installing geothermal heat pumps are effectively erasing that obstacle. Homeowners can receive a tax credit for 30% of installation costs in the U.S. and many states offer their own additional incentives. Canada has instituted similar programs to speed adoption. Even without financial incentives, Geoexchange makes sense in larger buildings. More than 1,500 schools and colleges in the U.S. now use geothermal heat pumps. According to the EPA, schools using GeoExchange today are saving an estimated \$25,000,000 in energy costs and save a halfbillion pounds of Carbon Dioxide (CO2) emissions per year. It may not go from 0-60 in 2.9 seconds or come encrusted with Swarovski crystal, but from big names, to big business, to the Big Ten, it's easy to see why geothermal is so attractive.

*Create a Greener, More Energy Efficient Home by installing a GeoExchange system*

# DIGGING DEEP INTO TAX BREAKS AND YOUR FRONT YARD TO UNEARTH CHEAP ENERGY

## TOP 5 REASONS TO SWITCH TO A GROUND SOURCE HEAT PUMP



A 30% government tax credit thanks to the Federal Stimulus package. This credit can be used in more than one year and can be combined with solar and wind tax credits. It can also be combined with energy efficiency upgrade credits.



Propane, Heating Oil, and Natural Gas prices are all expected to rise through 2020. Since a Geothermal heat pump does not burn any fuel, the price of it will never spike. Geothermal heat pumps use a small amount of electricity to exploit the free heating and cooling found in your backyard. Harvest the power you already have.



Cut your carbon footprint by 50%. Save on average about four tons of CO2 a year. Ground-source heat pumps have unsurpassed thermal efficiencies and produce zero emissions locally. Installing a 3 ton system is equal to planting 1 acre of trees or removing 2 cars from the road.

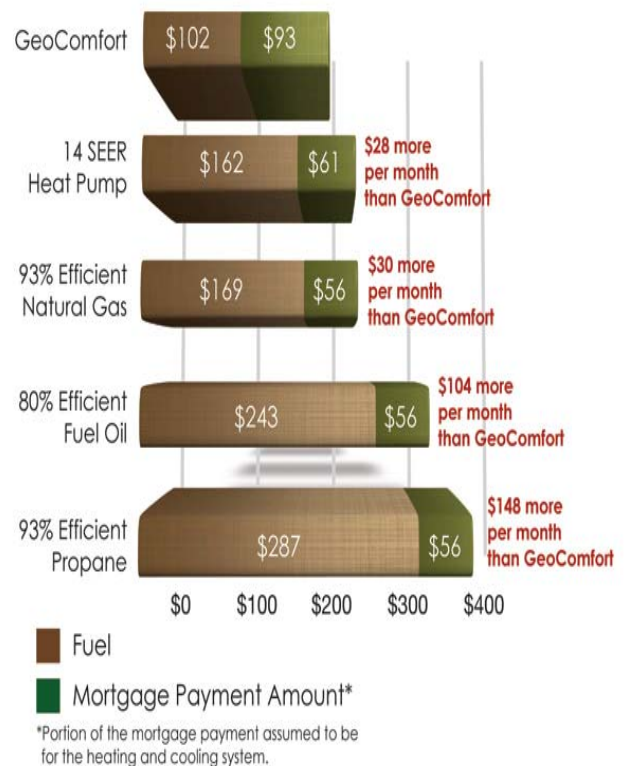


It goes from a heat plant to AC unit with the flip of a switch while also heating your home's hot water. Just one heat pump can heat and air condition and provide hot water ...no more noisy air conditioner outside.



Geothermal is an investment. For many retrofit applications and especially new construction the energy savings more than offset the cost of installation over a short period of time. Think of geothermal in terms of Net Present Value (NPV). If you install a system which produces significant cashflow savings over its lifetime with a salvage value (equal to the value of the ground loop),

**Positive Cash Flow** From the day you install your new Geothermal System, you'll see immediate savings. A perfect example of this is in new home construction. The table below shows that while the extra cost of installing geothermal marginally raises the mortgage payment, the energy savings more than make up the difference. So, not only do you have better comfort, higher property value, and lower energy costs, it's like someone is paying you to live in your new home from day one!



the NPV is almost always positive. Many people want to know the "payback" period. Geothermal will produce energy savings, which will equal and exceed the cost of the system installation over a period of time. That period of time is dependent on the situation, but with the recent 30% tax credit the period has decreased nicely. (3-8 years)

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