

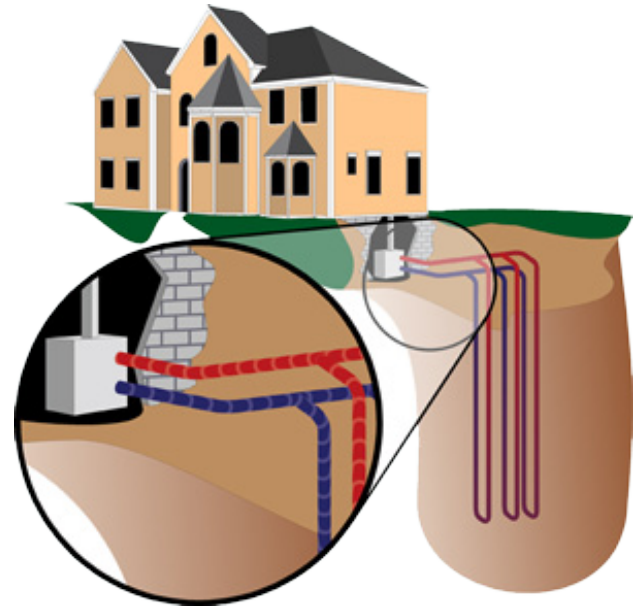


Geothermal Heat Pump Incentive Program

For combined heating/cooling systems in residential and nonresidential facilities

What Is a Geothermal Heat Pump?

A geothermal heat pump (also known as a ground-source heat pump, or GSHP) is a heating and cooling system that operates by transferring heat from the ground to the building (heating cycle) or vice versa (cooling cycle). Like a refrigerator or an air conditioner, it takes heat from one place and transfers it to another. There are two significant differences: 1) the system is reversible, providing heat in the cold months and air conditioning in the warm ones, and 2) the system uses the relatively constant temperature of the ground as a heat source in the winter and a heat sink in the summer. Because the system works by transferring heat energy from one place to another instead of burning fossil fuel to create heat, it is much more efficient than conventional HVAC systems.



Benefits of Owning a Geothermal Heat Pump System

GSHP systems offer many benefits:

- By using a geothermal system to heat your water and your home, you can reduce or eliminate your gas or oil bills. Although the cost of installing a GSHP system is significant, the fuel savings can pay back the cost of the system in approximately 8 to 10 years, with federal and state incentives.
- Geothermal systems maintain a more consistent temperature throughout the home than other systems, and they are safe, low maintenance, quiet and unobtrusive, consisting of components that are either buried in the ground or located inside the home.
- Heating efficiencies are 50-70% higher than other heating systems, and cooling efficiencies are 20-40% higher than available air conditioners.
- The planet benefits from reduced greenhouse gas emissions and preservation of finite fossil-fuel resources. A typical geothermal system in Connecticut supplies about 95% of a home's heat, all of its air conditioning, and 10-40% of its hot water, saving 17.4 barrels of heating oil per year and avoiding the production of almost 8 tons of carbon dioxide!

Incentives Available to Help Pay for Geothermal Heat Pump Systems

The Clean Energy Finance and Investment Authority (CEFIA) offers rebates to homeowners and commercial, industrial or institutional building owners in Connecticut who wish to install GSHP systems at suitable sites. Developers of new residential or nonresidential facilities in Connecticut may also apply for the incentives.

Information about the CEFIA Geothermal Heat Pump Incentive Program is found online at: www.ctcleanenergy.com/geothermal

The Connecticut Energy Efficiency Fund (CEEF), which is administered by the utilities CL&P and United Illuminating, also provides an incentive for GSHP systems. In addition, CEEF offers incentives for many of the energy efficiency measures that must be implemented to qualify for the CEFIA geothermal rebates. Information about CEEF's incentives may be found at: www.ctenergyinfo.com.

How Are Incentives Calculated?

Rebate amount (as of 5/15/2010):

- Residential (new construction) – \$1,050 per ton of air-conditioning capacity
- Residential (retrofits of existing building) – \$1,200 per ton
- Commercial for-profit – \$1,050 per ton
- Not-for-profit – \$1,750 per ton

Maximum project size incented per installation as follows:

- Residential – 6 tons
- Nonresidential – 100 tons (schools – 150 tons)

The incentive will be reduced in stages as the program progresses toward its installed capacity goal of over 3,000 tons. See the program website for current incentive levels.

How Do I Get Started?

Prospective applicants who are interested in the Geothermal Heat Pump Incentive Program are encouraged to review the detailed program requirements found at www.ctcleanenergy.com/geothermal.

If you do not have a geothermal system contractor, contact CEFIA for a list of approved contractors operating in Connecticut. A good contractor will review your project with you, provide information on geothermal systems, assist you with CEFIA's incentive program and provide an accurate estimate of costs and savings. As with any significant purchase, you should shop around when considering a geothermal system, check references, seek as much information as possible and obtain more than one quote.

Because it doesn't make sense to put an expensive geothermal heat pump system into a poorly insulated building, the CEFIA requires that new homes meet

EnergyStar standards to qualify for the geothermal heat pump rebate. Existing homes must meet the building envelope requirements of the current state building code or must implement energy efficiency measures that allow the house to meet or exceed the code. Assistance in identifying and funding the required energy efficiency measures can be found at www.ctenergyinfo.com.

Special Note

Funding for this program is being provided through the American Reinvestment and Recovery Act of 2009 and is expected to support approximately 500 residential and 120 nonresidential projects. Being federally funded, there are some special requirements for this program: commercial projects must comply with the Davis-Bacon Act for prevailing wages; projects over ten tons in capacity must comply with the National Environmental Policy Act; and all projects for municipal, state or federal buildings are subject to "Buy American" requirements for major items.

The Clean Energy Finance and Investment Authority

CEFIA was created by the Connecticut General Assembly in 2011. It is the successor organization to the Connecticut Clean Energy Fund. CEFIA's mission is to promote, develop and invest in clean energy and energy efficiency projects in order to strengthen Connecticut's economy, protect community health, improve the environment, and promote a secure energy supply for the state. As the nation's first full-scale clean energy finance authority, CEFIA will leverage public and private funds to drive investment and scale up clean energy deployment in Connecticut.

CEFIA's main goals are to:

- create a clean energy supply for Connecticut;
- accelerate the development of clean energy and energy efficient technologies; and
- educate Connecticut consumers about the benefits and availability of clean energy.



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