

CENTRAL DUCTED AIR SOURCE HEAT PUMPS

2010

Electric rate: 5.9 cents per kWh

(same value per BTU as 71¢ per gallon for propane or 78¢ per therm natural gas)

When adding or replacing your central air conditioning system, consider an air source heat pump. Together with your existing forced-air furnace, the system combines a very high-efficiency heat source with a high-efficiency central air conditioning system. It looks almost like a standard central air conditioner on legs, and maintenance costs are about the same. An air source heat pump also might be called an add-on heat pump, air-to-air heat pump or air conditioning plus.

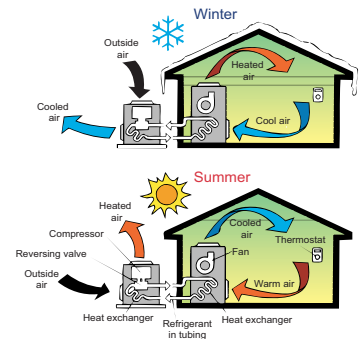
Why install an air source heat pump?

- Increases value and reduces energy costs when adding or replacing central air conditioning system.
- 5.9¢/kWh – 45 percent less than the general service rate
- Cycling of the air source heat pump is required.
- The 5.9¢/kWh brings so much added value per BTU as if you could buy propane (LP gas) for 71¢ per gallon or natural gas for 78¢ a therm (based on a typical of 200 percent efficiency heating mode at outdoor temperatures above 25° F and gas heating equipment at 85 percent efficiency).
- Radio-receiver control equipment provided by ECE.
- Provides up to half your heating needs and costs less to operate than natural gas.
- Air source heat pump rebates available for qualifying systems with a SEER rating of 13 or higher.

Here's how an air source heat pump works

- In the heating mode, air source heat pumps transfer heat from the outdoor air into your home, reducing your reliance on propane, fuel oil or other fuel sources.
- When outdoor temperature drops below a pre-set level, usually around 20-25 degrees Fahrenheit, your primary heating system takes over.
- In the cooling mode, your air source heat pump works like a standard central air conditioning system, transferring heat out of your home.
- To receive the reduced rate, a radio-receiver control is installed which is able to cycle the outdoor condenser unit on and off at approximately 15 minute intervals when in the air conditioning mode (May-Sept.), and usually only during summer peak demand periods or system emergencies.
- When in the heating mode (Sept.-May), the outdoor condenser can also be controlled during peak demand periods, monthly billing peak periods, or system emergencies for up to a maximum of 12 hours per day, and 400 hours total per heating season.*
- A reduced-rate meter is also installed which records the electric use of the heat pump when operating in both the heating and cooling mode.

*Winter peak control periods are often during outdoor temperature conditions below that which allow the heat pump to operate (approx. 20-25 degrees), thereby reducing the impact of winter control on actual hours of heat pump operation.



High-efficiency/quality installation rebate qualifications

The 2010 air conditioning rebate program focuses on quality installation as well as high-efficient equipment. Basic rebate qualifications are as follows:

- System must be a central ducted system with outdoor condenser unit and indoor evaporator coil designed by manufacturer to work together to perform maximum efficiency.
- System must be installed within ECE service territory, and between January 1 and December 31, 2010.
- A registered contractor must perform the installation and complete all required system sizing, testing and documentation. Rebate forms are available through your registered contractor.
- Call ECE or visit www.eastcentralenergy.com for registered contractor list.
- Rebate amounts depend on seasonal energy efficiency ratio (SEER) of equipment installed. Verification of rating is available at www.ahridirectory.org.

SEER rating	Central Air Conditioner	Central Air Source Heat Pump
13.0 – 13.9	\$30	\$330
14.0 – 14.9	\$180	\$480
15.0 – 15.9	\$280	\$580
16 +	\$330	\$630

- Rebates are awarded on a first-come-first-served basis and will be issued in the form of a billing credit.
- Cycling of A/C or ASHP system is encouraged, but not required to receive rebate. Cycling of ASHP is required to receive reduced kWh rate.
- Limit one rebate per customer account.

Call your East Central Energy trusted energy advisors or visit www.eastcentralenergy.com for more information.



Electric heat is a great deal!

Compare the facts. With ECE's off-peak rates, electric heat can be more economical than other fuel sources. And because there's no flame or danger of harmful fumes, electric heat is the safest heating option available.

Annual fuel cost comparison

System	Efficiency	Energy	Unit cost	Annual heating cost
Ground source heat pump rate	350%	7,500 kwh	\$0.064/kwh	\$480
Elec. thermal storage on ES rate	100%	26,255 kwh	\$0.042/kwh	\$1,103
Conventional electric system on dual fuel rate	100%	26,225 kwh	\$0.048/kwh	\$1,259
LP gas furnace LP gas/air source heat pump	90%	1,067 gal 534 gal/6,556 kwh	\$2.00/gal \$.059/kwh	\$2,134 * \$1,591 **
Oil furnace	85%	763 gal	\$3.00/gal	\$2,289 *
Natural gas Natural gas/air source heat pump	90%	995 therms 498 therms /6,556 kwh	\$1.10/therm \$.059/kwh	\$1,095 * \$935 **

* to determine a more accurate heating cost, multiply the energy number shown by the unit cost that you are currently charged for your fuel.

** Air source heat pump is calculated to provide 50% of the heating energy.

Annual energy use based on heating a 1600 sq. ft. (32'x 50') home with R=19 walls and R=44 ceiling including an insulated lower level requiring 89,506,000 BTUs heat energy annually.