ENERGY STAR® Certified Air Source Heat Pumps

ENERGY STAR for Residential Products

A Highly Efficient, Tried-And-True Way to Comfortably Heat and Cool Your Home

Keeping your home at a comfortable temperature can be expensive. Almost half of a typical American household's energy bill goes to heating and cooling – more than $900 a year! To cut these costs, an air source heat pump (ASHP) can be installed and connected to the conventional ductwork system that is typical of most American homes. (For homes without ductwork, see http://www.energystar.gov/minisplit). ASHPs that earn the ENERGY STAR label are independently certified **to save on your monthly utility bills, improve the comfort of your home, and protect the climate**.

What is an Air Source Heat Pump

An ENERGY STAR certified ASHP provides highly efficient heating and cooling by extracting heat from outside into your home in winter and pulling the heat out of your home in the summer. For some, it may be helpful to think of a ducted ASHP as a central air conditioner that also works in reverse to provide whole house space heating in winter. See Figure 1 below.

Benefits of an Air Source Heat Pump

- **Cutting heating costs.** When replacing electric resistance heaters with an ENERGY STAR heat pump, you'll save an average of about $460 a year. If you have an oil heating system, replacing it with a heat pump could save you even more on your energy bill - about $950 a year. This is possible because a heat pump moves heat rather than converting it from fuel, like combustion heating systems.
- **Reducing cooling costs compared to conventional room air conditioners**. During summer months, a central ASHP automatically becomes a central air conditioner. Replacing your older central AC with an ENERGY STAR certified heat pump could save you nearly $600 over the life of the product on cooling costs alone.
- **Improve the comfort and health of your home.** Heat pumps are a proven, reliable technology that are healthier and safer for your home. They use 100% electric technology, compared to combustion furnaces which burn fossil fuels inside the home and can be a source of indoor air pollutants.
- **Minimize your impact on the climate**. An ASHP is good for your home and good for the planet. ENERGY STAR certified models avoid more than 17,100 lbs of greenhouse gas emissions, on average, over the course of their lifespan compared to standard systems. If all heat pumps sold in the US were ENERGY STAR certified, the energy cost savings would grow to $1.8 billion per year and 60 billion pounds of greenhouse gas emissions prevented.

Is an Air Source Heat Pump Right for You?

Where are central air source heat pumps commonly used?

- Homes with aging central heat and air conditioning. In most cases, your HVAC equipment shows signs it's under-performing well before you reach the point of needing an emergency replacement. Recognizing the symptoms early can help you plan for a replacement. If your central heating and cooling system is more than 10 years old or needs frequent repairs, the age and condition of your equipment may have caused it to become less efficient.
- Homes with older or failing central air conditioners. In most cases, a central air conditioner can be replaced with a heat pump for a modest additional cost. This could allow you to eliminate or down-size your furnace.
- Homes in areas with high fuel costs, such as those heated by propane or oil. Homes in these areas of the country may benefit from a dual-fuel system. Dual fuel systems allow for the flexibility of heating with a heat pump or with a more traditional gas or oil furnace and enables you to use each system optimally based on costs and environmental benefits.

What if I live in a cold climate? Many new ENERGY STAR certified ASHPs excel at providing space heating in the coldest climates, as they use advanced compressors and refrigerants that allow for improved performance in low temperatures. If you live in a climate where winter temperatures regularly dip below freezing, talk to your contractor to choose an ENERGY STAR unit suited to your home.

Don't have duct work? If your home doesn't have existing ductwork or you are planning an addition or renovation where running ductwork will be difficult, you can still install a heat pump to heat and cool a portion of your house. See Mini Split Heat Pumps at www.energystar.gov/minisplit, sometimes referred to as Ductless Heat Pumps.

Check out the **Clean Heating and Cooling** section of energystar.gov/homeupgrade to see if an ASHP is right for you.

Take Advantage of Incentives

Lower the cost of your upgrade by combining incentives. Find yours at energystar.gov/homesavings.