

What is a Heat Pump and Why Might You Want One?

Residential energy use accounts for about 20% of climate-heating pollution emitted in the U.S. A major source is the oil, natural gas, and wood burned to heat millions of homes. Switching from fossil fuels to heat pumps is a great way to reduce carbon emissions and air pollution, and it's also more efficient.

EFFICIENT SIMPLICITY: Like your refrigerator, heat pumps use electricity to transfer heat from a cool space to a warm space, making the cool space cooler and the warm space warmer. During the heating season, heat pumps move heated air from the outdoors into your house (see diagram below). During the cooling season, heat pumps move heat from your house into the outdoors. Because they transfer heat rather than generate heat, heat pumps can efficiently provide comfortable temperatures for your home.

CHOICES: There are three main types of heat pumps connected by ducts: air-to-air, water source, and geothermal. They collect heat from the air, water, or ground outside your home and concentrate it for use inside. The most common type of heat pump is the air-source heat pump, which transfers heat between your house and the outside air.

ELECTRICITY REDUCTION: Today's heat pumps can reduce your electricity use for heating by approximately 65% compared to electric resistance heating such as furnaces and baseboard heaters. High-efficiency heat pumps also dehumidify better than standard central air conditioners, resulting in less energy usage and more cooling comfort in summer months.

HEATING & COOLING IN ONE SYSTEM: An air-source heat pump can provide efficient heating AND cooling for your home. When properly installed, an air-source heat pump can deliver up to three times more heat energy to a home than the electrical energy it consumes. This is possible because a heat pump transfers heat rather than converting it from a fuel, like combustion heating systems.

POWER, as a nonprofit focused on saving energy for Oberlin residents, can help with this process. Please contact us for more information and assistance making informed decisions about heat pumps and if one may benefit your home.

