



# Heat Pumps

## FACT SHEET

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With the ever-changing landscape of utilities and energy in Illinois, one topic that has recently gained traction is the use of heat pump systems. In addition to their potential to save consumers money, heat pumps are frequently cited as a way to promote more equitable changes in energy policy and the decarbonization of buildings around the state.

### What is a heat pump?

Heat pump systems are another method for heating and cooling your home in a more energy-efficient and cost-effective manner. Much like a refrigerator, heat pump systems utilize electricity to move heat from cool spaces to warm spaces and vice versa. Because heat pump systems move heat rather than generate it, they are a more economically sound way of warming your home.

### Are there different types of heat pumps?

The most common systems are air-to-air pumps, which transfer warm and cold air between the inside of your home and the outside air, depending on the season. These systems are increasingly common due to the development of technology that allows them to operate in subfreezing temperatures. Air-to-air pumps are easy to install and will work regardless of whether the home has existing forced air systems.

A geothermal heat pump is a technology that moves hot and cold air between your home and the ground or a nearby water source like a river. The U.S. Environmental Protection Agency says a geothermal system is the most efficient heating and cooling technology available today, because it doesn't burn fuel for heat. In the winter, it transfers heat from the ground, which is a constant 50-plus degrees year-round, to warm a home. In the summer, the heat pump cools a home by removing heat and transferring it to the ground.

Geothermal systems typically cost more upfront to install: [Penn State educators](#) estimate a typical residential home's 3-ton system would cost about \$7,500 to \$10,500—plus installation costs. But these systems save money—today's models typically offer 500 percent efficiency or more—and they are durable: A geothermal system typically lasts 25 years and loop fields are guaranteed for 50 years.

### Who can use a heat pump system?

Fortunately, the technology behind heat pump systems is continuously advancing, making it more affordable for consumers.



While geothermal systems may cost more upfront, the systems pay for themselves as the consumer uses less energy to heat their home.

Modern infrastructure, particularly the development of all-electric homes and buildings, means that heat pump systems are increasingly common around the U.S. While many people may equate this type of construction with major cities, a recent [Rocky Mountain Institute \(RMI\) study](#) revealed that rural Midwesterners could save up to \$14,000 over 15 years by switching from propane furnaces to electric heat pumps.

A more recent version of that [RMI study](#) found that newly constructed all-electric homes are cheaper to build and operate across the country, including the Midwest.

### Why are heat pump systems important?

Heat pumps can help eliminate carbon pollution that causes climate change. Heat pumps use electricity rather than burning gas on-site at your home or business. As the grid changes and uses more wind and solar and less coal and gas, the pollution associated with heat pumps will continue to decrease as well. Heat pumps already have a pollution profile better than gas furnaces or boilers.

In addition to protecting the environment, heat pump systems are more cost-effective for the majority of consumers around the state. Heat pumps can help save a significant amount of money over the long-term, and these systems are emerging as a reliable alternative to utility-owned natural gas companies, which have raised costs significantly in recent years.

## What are the financial incentives for installing heat pumps?

As you shop for a heat pump, always research what incentives are available.

**Federal tax credits:** Unfortunately, Congress passed legislation that sunsets many provisions in the federal Inflation Reduction Act, and will end a 30 percent federal tax credit for heat pumps on Dec. 31, 2025. But you can still qualify for this tax credit if you make a purchase before that deadline.

**Federal rebates:** The federal Inflation Reduction Act (IRA) provided funds to individual states, including Illinois, to offer rebates connected to heat pumps. That funding has been delayed, but CUB will update this guide when it can confirm that those incentives are being offered in the state.

The IRA created two rebates: the Home Efficiency Rebate Program (HOMES, or HER), which funds energy efficiency upgrades, and the Home Electrification and Appliance Rebate Program (HEAR), which provides point-of-sale rebates for electric appliances like air source heat pumps. Initially Illinois plans to allocate rebate funds to low-income households (i.e., households with less than 80% of the area median income, or AMI).

**Other sources:** Before making your purchase, check with the retailer about heat pump incentives. Also, see if you qualify for incentives through your utility. For example, Commonwealth Edison's website listed rebates of up to \$6,000 for a qualifying ground-source heat pump and \$1,000 to \$1,675 for a qualifying air-source heat pump.

**Note:** Always verify that the system you are looking to purchase qualifies for the rebates. Also, carefully read utility company offers and check with your tax consultant prior to purchasing any heat pump to verify that you qualify for the rebates and tax credits.

## How do I get more information?

If you are interested in obtaining your own heat pump system, an excellent place to start is the [U.S. Department of Energy's \(DOE\) "Heat Pump Systems" page](#). The DOE website provides valuable information regarding the ins and outs of the various heat pump systems currently available. In addition, [Consumer Reports](#) outlines a number of considerations worth mulling over before buying a heat pump.