

HEAT PUMP INFORMATION

What do heat pumps do?

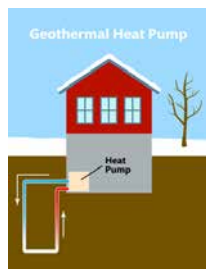
Heat pumps warm buildings in the winter and cool them in the summer, plus control humidity all year long. They replace or supplement traditional furnaces while also providing air conditioning!

How do heat pumps work?

Heat pumps shift heat from one place to another, just like a refrigerator. For buildings, that means moving heat from the outside to the inside, or vice-versa. In winter, they obtain heat from the outside and release it inside. In summer they do the opposite, gathering inside heat (and humidity) and then releasing it outside. Heat pumps run on electricity, eliminating the burning of fossil fuels (oil, propane, natural gas).

Ground Source (also called Geothermal) heat pumps

take heat from underground and use it to warm water. That water holds onto the heat until it gets pumped into your home to warm the air. This system is the most efficient type of heat pump, and it's usually used in whole-home applications.



Air source heat pumps extract heat from outside air that is then used for heating indoor spaces during the colder months. They can also extract heat from indoors and expel it outside to cool indoor spaces during the warmer months. Air source heat pumps like a ductless mini-split can be used to heat or cool single rooms and whole homes.



Why would I want a heat pump?

Heat pumps provide all-season comfort and operate 3 to 5 times more efficiently than the traditional furnace and/or air conditioning systems they replace. Heat pumps also use no fossil fuels, eliminating greenhouse gas emissions that contribute to our climate crisis.

Do heat pumps work in cold climates like Upstate New York?

Yes, very well! New technology allows heat pumps to meet 100% of winter heating needs even when outside temps fall as low as -10 to -20F. Also, at

even lower temperatures, they still provide significant amounts of heat. Heat pumps work at their most efficient capacity in weatherized homes.

How much does it cost to buy and install a heat pump?

It depends. Key cost factors include your building size, the configuration of any existing heat and air conditioning systems, and what type of heat pump is installed – whether “air source” or “ground source” (also called geothermal). In general, air source heat pumps cost less upfront, but ground source (geothermal) systems operate more efficiently. It is important to obtain installation proposals and pricing from several experienced contractors.

How much does it cost to operate a heat pump?

It varies with locality and electric rates, but typically less overall than existing systems. Heat pumps are extremely efficient, typically using 3 to 5 times less energy than the traditional appliances they replace. Your electricity use may rise, but your previous fuel purchases (oil, propane, etc.) will be eliminated.

Are utility rebates and tax credits available?

Yes, and they can be combined!

- Under the NYS Clean Heat program, you can earn a utility rebate of \$1,000 (air source) or \$1,500 (ground source) for every 10,000 BTUH in size of a new heat pump (\$3,000 - \$6,000 for a typical home), provided the system is installed by a qualified participating contractor.
- State Tax credits: In 2022, geothermal systems are eligible for up to a \$5,000 state tax credit and a 26% federal tax credit.
- Starting in 2023, the new federal Inflation Reduction Act includes a \$2,000 tax credit (30% of system installation costs) for both air source and ground source heat pumps.

This is just a brief summary.

Where can I obtain more information about heat pumps?

Besides talking to contractors, good website information sources include:

- * cleanheat.ny.gov
- * nyserda.ny.gov
- * renewableheatnow.org