

From LaFayette Advisory Conservation Commission

Why Is NYS Promoting Use Of Heat Pumps?

This article is the second in a series and answers the last question in the first article about what any of us can do to further protect our health from air pollution.

What is a heat pump?

Heat pumps are the latest in technology to keep our home comfortable year-round. Heat pumps pull heat from the air or from underground and use it to heat our home in the colder months. They flow in reverse and use a refrigerant to cool our home in the warmer months.



Are there the different types of heat pumps?

These are three different types: geothermal, air source, and water heaters. Geothermal heat pumps extract heat from the ground, are 4 times more efficient than oil-fired systems, and use ductwork or radiators within a home to heat or cool the living spaces.

Air source heat pumps extract heat from the air, are 3 times more efficient than oil-fired systems, and can use existing ductwork or single fan units (ductless) to distribute the conditioned air. Air source heat pumps utilize electric heat strips to supplement their heating when outdoor air goes below 20°F for standard systems or 5°F for cold climate systems (recommended for CNY).

Heat pump water heaters extract heat from the surrounding air and are 3 times more efficient than conventional electric water heaters.

What are the advantages of heat pumps?

- Less costly to operate: Heat pumps typically cost less to operate than oil, propane, and electric baseboard heat, as well as window A/C units. They cost less because the heat source (air or ground) is free and so the only cost to operate is electricity for a compressor, circulation pumps, and an air blower.
- Environmentally friendly: Operation of heat pumps result in less greenhouse gas emissions and lower air pollution compared to all other HVAC systems. Environmental benefits are greater when local utilities, which produce the heat pumps' electricity, increase usage of non-fossil fuel sources, such as solar, hydro, wind and nuclear.
- Easily supplements existing systems: Heat pumps can easily supplement under-performing heat systems and can add just air conditioning even to homes without ductwork.

Are there financial incentives available?

Financial incentives are available to make purchasing and installing heat pump technology even more affordable. NYS has a good online resource that provides information about tax credits and rebates and Clean Heat contractor at: <https://cleanheat.ny.gov/find-available-rebates/>. Additional funding may be available, especially for low-to-moderate income households. EnergySmart CNY is a program run by local organizations that assists residents in connecting with funding programs and contractors to improve their home's energy efficiency, including with heat pumps. Contact an Energy Advisor at 315-313-5050 or EnergySmartCNY.org.

What are the disadvantages of heat pumps?

- On very cold days, air source heat pumps lose efficiency when their supplemental electric heat strips are activated. However, over an average winter, their energy costs will still be less than electric baseboards, propane and fuel oil systems.

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- Some home owners may need to install a new electric panel or breaker box.
- When converting HVAC to all electric, there is a risk that the cost of electricity increases more than fossil fuels, and thus the cost to operate becomes less of an advantage.
- Based on current costs of electricity and natural gas, it is cheaper to heat with natural gas than a heat pump.

How do I know what kind of heat pump system is right for my house?

Asking a couple of contractors for their recommendation is one way to answer this question. NYS has a

good online resource that can tell you your best options: <https://cleanheat.ny.gov/planner>.

Why is NYS promoting use of heat pumps?

It is all about the long-term benefits: they save consumers money and lessen the impact on our health and environment. Three important benefits that improve the quality of our lives.

—Mark Distler

