



Hot Water Heating w/Heat Pumps

What is great about Heat Pump Water Heaters?

- Provide reliable hot water for your home.
- Reduce energy use (almost 20% of all home energy use goes to heat water).
- Have an overall annual performance for operation that is 2 to 3 times more efficient than conventional storage or demand water heaters.
- Inexpensive to operate. Often pay for themselves out of energy savings and are an extremely cost-effective way to reduce the greenhouse gas footprint of a home.

Efficiency in hot water heaters



Source: CleanTechnica April 26th, 2020

How do they work?

- Heat pump water heaters use electricity to move heat from one place to another instead of generating heat directly. This makes their operation far more energy efficient than conventional resistance electric heaters or those fired by natural gas, oil, or propane.
- Heat from the air is transferred to water in a tank, which is heated to 130 to 135 F. This is the process of a refrigerator, in reverse.

Where can they be installed?

- Hot water heat pumps are best in a location where the temperature remains 40° - 90° F (4.4 - 32.2° C), but most can function like a traditional electric water heater if conditions get colder.
- Location needs to have at least 1,000 cu ft. of air space around the heater; heat pump unit is on top and so required floor to ceiling clearance is higher than conventional models.
- HeatSmart encourages a full replacement of fossil fuel systems, but, if that isn't practical, positioning it to capture waste heat from a furnace or boiler can enhance energy efficiency.
- Operation of the unit both slightly cools and helps dehumidify the space it is in.
- Installation is comparable to traditional electric storage hot water heaters; a drain for condensate is required.



How Much Do They Cost?

- Total cost (unit plus installation) is about \$2800 from any of our installer partners, currently about twice that of conventional water heaters. However, lower operating costs can offset the higher purchase price in just a few years.
- NYSEG now offers a **\$700 rebate** for ASHP water heaters.
- HeatSmart & Sustainable Tompkins have additional rebates for income-qualified households. Stacking incentives can bring the cost below \$500!

HeatSmartTompkins.Org

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