

Q&A on Heat Pump Water Heaters

What is a heat pump water heater?

Heat pump water heaters (HPWHs) are more energy efficient than conventional gas or electric water heaters. They pull heat from the surrounding air and transfer that heat to the tank's water using a refrigerant loop (like a refrigerator in reverse). As an added benefit, they naturally dehumidify the space they are installed in.



Are heat pump water heaters better for the environment?

If you currently have a natural gas water heater, replacing it with a HPWH can save more than 2,000 pounds (1 ton) of CO₂ emissions annually, and that's the carbon dioxide equivalent of growing more than 17 trees for 10 years.

This makes heat pump water heaters a win-win: they are good for your wallet and our planet.

How much does a heat pump water heater cost? How much will I save on energy bills?

A. HPWHs can be more expensive to purchase and install than conventional electric or gas water heaters, but the long-term cost savings are significant. Installing an HPWH can save a household of four approximately \$470 per year on electricity bills compared to a standard electric water heater, according to ENERGY STAR. That's a savings of more than \$4,500 over HPWH's lifetime.

The following incentives can be applied to dramatically reduce the price.

- 1) **Georgia Power Rebate** - Georgia Power offers a \$500 rebate on HPWHs. <https://www.georgiapower.com/residential/save-money-and-energy/rebates-and-discounts.html>
- 2) **Federal Tax Credit** - This year, and for the next decade, households have even more financial incentive to install an HPWH. The Inflation Reduction Act includes a federal tax credit of 30% of the total cost of purchasing and installing a HPWH up to \$2,000. <https://www.energystar.gov/about/federal-tax-credits/heat-pump-water-heaters>

Assuming an installed cost of \$4,000, here's how the dollars break down:

- HPWH total installation cost → \$4,000.
- Georgia Power HPWH rebate → \$500.

- Net cost → **\$3,500**.
- 30% federal income tax credit on \$3,500 → (**\$1,050** tax credit)
- Total effective cost → \$2,450

Together, the rebate and tax credit bring HPWHs close to price parity with the upfront expense of a conventional water heater. Plus, even without the above incentives, an HPWH typically pays for itself in about 3 years by significantly reducing energy bills.

What does a heat pump water heater look like?

HPWHs are a bit larger than standard electric water heaters but generally look just like conventional hot water heaters. The size varies depending on manufacturer and capacity (such as 50-gallon or 80-gallon tanks). While features vary, most units have a control panel on the front of the tank that allows homeowners to adjust the temperature and operation mode.

How much can I save on electricity costs with a heat pump water heater?

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What type of maintenance does a heat pump water heater require?

Unlike standard electric water heaters, heat pump water heaters use an air filter that needs to be cleaned periodically to ensure efficient operation. Other maintenance needs are similar to those of standard electric water heaters.

Where can I install a heat pump water heater and are there any other considerations I should know about?

Heat pump water heaters can be installed in a variety of locations, from an unheated garage to a heated utility room. Things to consider include space, sound, air temperature and the unit's size/height. A professional installer will be able to determine the appropriate location to install the heat pump water heater.

Furthermore, when replacing a gas water heater with an HPWH, you may need to install a 30Amp, 240-volt circuit. This is a consideration your installer can help you with.

For much more on HPWHs, please refer to the following.

<https://newbuildings.org/this-earth-day-invest-in-a-heat-pump-water-heater-and-do-the-equivalent-of-planting-a-tree-or-a-forest/>