



BUILD ELECTRIC TECHNICAL BRIEF

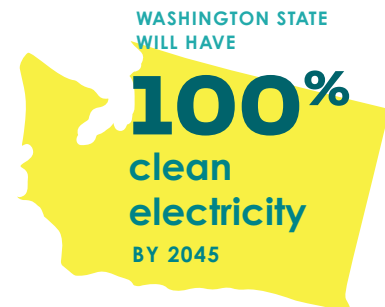
High Efficiency

Heat Pump Water Heaters

for single family homes



Hot water typically accounts for the second largest portion of a home's energy use and greenhouse gas emissions. Electric heat pump water heaters (HPWH) are 3x more efficient than standard electric or gas water heaters, providing a super efficient hot water solution powered by Washington's increasingly clean electricity.



SIGNIFICANT OPPORTUNITY

Heat pump water heaters are a proven technology that can **dramatically reduce greenhouse gas emissions** from single family homes.



HPWHs **reduce energy USED TO HEAT WATER BY UP TO 66%**

BENEFITS



Efficient

Three times more energy efficient than gas or standard electric water heaters.



Durable

Proven technology from multiple manufacturers that offer up to 10 year warranties.



Healthy

Clean electric HPWHs don't rely on combustion of gas, removing a source of indoor air pollution.



Smart

Control your water heater temperature and vacation settings with a computer or smart phone.



Affordable

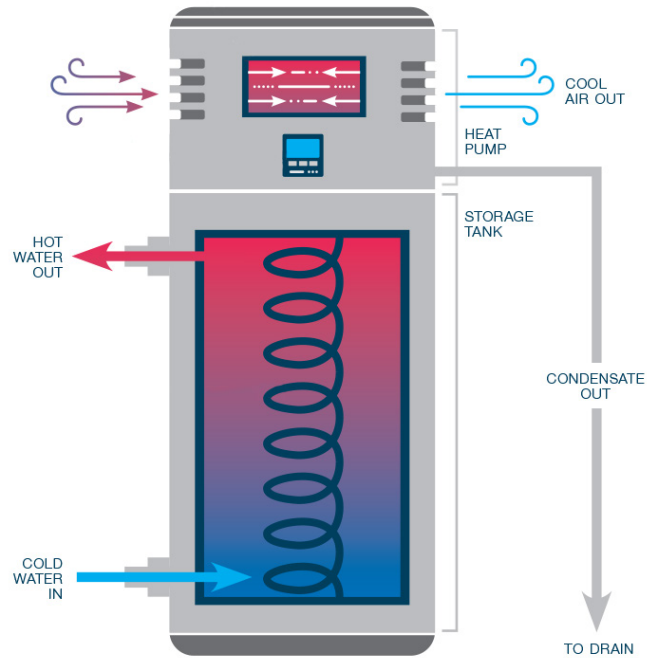
The cost of operating a HPWH is comparable to gas, and 60% less than a standard electric water heater. Utility incentives may be available.

How do they work?

HPWHs use electricity to draw heat from the surrounding environment.

To move heat, HPWHs work like a refrigerator, except in reverse. Heat from the air is absorbed by an evaporative coil which transfers the heat to the water in the tank. Cooled, dehumidified air is then pushed back out into the surrounding space or ducted outside. The hot water produced is stored in the water heater and sent through your home's water pipes.

Heat pump water heaters are also called "hybrids" because in addition to a heat pump they have a traditional heating element for times when demand exceeds what the heat pump can produce.



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CONSIDERATIONS

Location

Because of their modest noise and cooling effect, HPWHs work best in garages or unheated basements rather than living spaces. They will dehumidify the air so they are great for slightly damp basements. A drain and/or condensate pump is needed at the installation location.

Water heater capacity

HPWHs are slightly larger than a typical gas water heater, so consider tank dimensions for your space. Several tank capacities are available for different household sizes.

Electric requirement

HPWHs currently require a 240 volt dedicated circuit, but soon 120 volt water heaters will be available. A standard electric water heater will already have a 240 volt circuit.

3x more efficient
THAN GAS OR
STANDARD
ELECTRIC WATER
HEATERS



0 direct
emissions



components of an
all electric
home

INSULATE &
AIR SEAL



HEAT PUMP
WATER HEATER



HEAT PUMP
SPACE HEATER



INDUCTION
COOKTOP



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