



ADVANCED WATER HEATING INITIATIVE™

Opportunity to Participate

120-Volt Plug-in Heat Pump Water Heater Field Study

The [Advanced Water Heating Initiative \(AWHI\)](#) has developed a study to validate the technical performance of plug-in, heat pump water heaters (HPWH) in homes across California. The study is seeking installers and participants that would like to replace their existing gas water heater with a new 120-Volt HPWH.

This research aims to validate an exciting new technology of efficient, grid connected, and low-global warming potential heat pumps that can be plugged into a standard outlet.

Why Participate?



Save energy.

Water heating is the second largest energy use in U.S. homes, combining with space heating to represent nearly two-thirds of a home's total energy use. Heat Pump Water Heaters are two to four times more efficient than typical electric resistance and gas-fired water heaters. This can drastically reduce the energy used to create hot water.



Build support for an emerging technology.

While 240-Volt HPWHs are on the market today, most homes are not configured to install these units without expensive upgrades to the electrical panel. The 120-Volt technology is especially well suited to replacement applications. Since it can be plugged into a standard existing outlet, no expensive panel upgrades are needed. Participants and installers in this field study will help pave the way for widespread adoption of 120-Volt equipment.



Decrease greenhouse gas emissions.

Replacing gas water heaters with efficient, grid connected, and low global warming potential HPWHs eliminates a primary source of gas combustion on site in many homes. Electrifying water heating allows use of carbon free renewable energy which is increasingly plentiful in California.

Despite being more energy efficient, switching from a gas water heater to an electric HPWH may not directly reduce utility bills, since gas is much cheaper than electricity. The project team will provide support to participants to minimize the adverse impact of electric bill increases.

What Are Participant Obligations?

- Complete a pre-installation survey to characterize existing equipment, household characteristics, and hot water use habits.
- Sign participant agreements with the manufacturer and research team.
- Sign an electronic disclosure to allow research team access to utility bills.
- Allow the field study team to replace the existing gas water heater with a new 120-Volt heat pump water heater at no cost to the participant.
- Allow the field study team to install monitoring equipment to measure and verify the performance of the water heater for a one-year period after the equipment is operational. Monitoring equipment will be removed after the study.
- Share your experience with the equipment through periodic satisfaction surveys conducted via mobile application or online survey platform.

All personally-identifying information provided by the participant to the field study team will be strictly confidential. Field study data will be aggregated and anonymized prior to results publication.

What Are Installer Obligations?

Installers participating in this study will be compensated for participating in the study. Installers will be asked to:

- Remove the gas water heater and replace with the 120-Volt model.
- Confirm information collected in pre-screening process.
- Share feedback on installation.
- Report on the costs associated with the removal and installation.
- Replace water heater at end of study for participants who were not satisfied with the 120-Volt HPWH performance.

Is Your Home Eligible?

Researchers are looking for variation in sites across California. Sites will be individually selected based on the following criteria:

- Existing gas water heater.
- Utility customer of:
 - » Pacific Gas & Electric (PG&E),
 - » Sacramento Municipal Utility District (SMUD), or
 - » Southern California Edison (SCE).
- Small households (maximum 4 people) with low to medium hot water demand.
- Single family and multifamily homes.
- Climate zones throughout California.



Servicing the water heater.
Credit: NEEA.

For More Information

For more information about the study, or to indicate your interest in participating, email info@advancedwaterheatinginitiative.org

or visit:

advancedwaterheatinginitiative.org/120v-field-study

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