

# **Home Energy Savings Program**

California

Plumbing Trade Ally Manual

Version 1.1

Release Date – May 12, 2014

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## Glossary

<b>ACCA</b>	Air Conditioning Contractors of America
<b>AFUE</b>	Annual Fuel Utilization Efficiency
<b>AHRI</b>	Air Conditioning, Heating and Refrigeration Institute
<b>CAC</b>	Central Air Conditioner
<b>CAZ</b>	Combustion Appliance Zone Testing
<b>CFM</b>	Cubic Feet per Minute
<b>ECM</b>	Electronically Commutated Motor
<b>EER</b>	Energy Efficiency Ratio
<b>HES</b>	Home Energy Savings
<b>HSPF</b>	Heating Seasonal Performance Factor
<b>HVAC</b>	Heating, Ventilation, and Air Conditioning
<b>PP</b>	Pacific Power
<b>SEER</b>	Seasonal Energy Efficiency Ratio
<b>TXV</b>	Thermal Expansion Valve
<b>QPL</b>	Qualified Products List
<b>Electric Heat</b>	Permanently installed, ducted system consisting of an electric furnace, heat pump or electric zonal heating system (baseboard or ceiling/wall heaters) serving as the home's current primary heat source (space heaters do not qualify)
<b>Electric Cooling</b>	Permanently installed, electric heat pump or ducted electric central air conditioner serving as the home's current primary cooling source. Room air conditioners and evaporative cooler do not qualify
<b>Non-Electric Heat</b>	Heating system with gas, oil, wood, pellet stoves, or propane serving as the home's current primary heat source

## Version History

Version #	Section	Release Date	Revision
1.1	All	May 12, 2014	Creation of a separate plumbing trade ally manual with the California Public Utilities Commission's approved changes.

*Pacific Power's HES program will update this trade ally manual periodically.*

## Purpose of This Manual

This manual is meant to provide trade allies with a comprehensive overview of Pacific Power's Home Energy Savings program. It has been developed with a companion set of reference materials and applicable worksheets to assist trade allies with the installation of program-approved plumbing equipment and services.

## Home Energy Savings Overview

The PP HES program offers cash incentives on a variety of HVAC, plumbing, and weatherization equipment and services. The program promotes installation practices that are designed to maximize system performance and efficiency. By helping customers minimize their energy use, the HES program saves customers money on their energy bill and also reduces the growing demand for power in the region.

The program was originally designed for single family installation. However, due to increased interest in multifamily<sup>1</sup> and manufactured home installations, the program has extended incentives for each category in select states, each involving its own unique application process. For multifamily projects, please refer to the Pacific Power Trade Ally Manual and contact the program via the website at [homeenergysavings.net](http://homeenergysavings.net), by phone 1-800-942-0281, or [HesTradeAllyPP@pacificpower.net](mailto:HesTradeAllyPP@pacificpower.net) for additional requirements or to make an appointment for a pre-qualification inspection. Please refer to the HES website at [homeenergysavings.net](http://homeenergysavings.net) for additional requirements regarding new or manufactured homes incentives.

## Trade Ally Overview

A trade ally is a contractor (general, HVAC, weatherization, or plumber) or retailer who sells or installs qualifying equipment or performs services for home energy efficiency upgrades. There are two types of program trade allies: participating or qualifying.

### Participating trade allies:

Participating applies to a trade ally that has met the basic requirements (outlined on the next pages) to perform work for the HES program.

### Qualified trade allies:

Qualified applies to a trade ally that has met the basic requirements (outlined in the next pages) and that has also successfully completed additional relevant industry training(s) required for specific services (e.g. PTCS, BPI, NATE, etc.). Documentation of the completed training must be submitted with the participation agreement and must include the name of the individual trained, certification number, certification type, date trained, and expiration date (if applicable). If you or your technicians require additional training in order to meet program requirements, please let us know and we will work with you to identify appropriate local resources or provide on-site technical coaching.

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<sup>1</sup> 5 or more attached units with shared floors and/or walls

**Program-Eligible trade allies:**

The term “program-eligible trade ally” is used when an installation can be completed by either a participating or qualified trade allies. This term is used on HES marketing materials and the website to explain to customers what type of trade ally they need to hire in order to receive an incentive.

<b>California Plumbing Trade Ally Requirements</b>		
<b>Equipment or Service</b>	<b>Trade Ally Type</b>	<b>Additional Qualifications</b>
Heat Pump Water Heater	Program-Eligible Trade Ally	None

## **Existing Single Family Homes Incentives**

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### **Heat Pump Water Heater**

**Customer Incentive:** \$600

**Trade Ally Incentive:** \$200

#### **Qualifications:**

- Work must be completed by a Program-Eligible Trade Ally or self-installed by homeowner
- Product must meet the Northern Climate Specifications found at [neea.org/northernclimatespec](http://neea.org/northernclimatespec)
- Previous product must be an electric water heater
- Replacing heat pump water heater does not qualify
- Installation must meet the specifications found on page 6

#### **Ensure the home qualifies:**

- Must be an existing home, not new construction

#### **Application:**

- **Heat Pump Water Heater Application** - completed and signed

#### **Itemized receipt or invoice:**

- Model number
- Product and installation costs
- Date of purchase
- Date work initiated
- Date work completed

#### **Additional Documents:**

- W-9 for businesses receiving an incentive
  - Third party addendum for property owners who are not listed on the utility account and who are applying for incentives
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## Heat Pump Water Heater

# BEST PRACTICES for Heat Pump Water Heater Installation

An Installer's Guide

- Properly installed heat pump water heaters save homeowners hundreds of dollars in water heating costs each year. By following best installation practices and providing homeowner education, you'll ensure satisfied customers.

## Installation Location

Heat pump water heaters are suitable for installation in a variety of locations inside the home, depending on the unit's ducting capabilities.

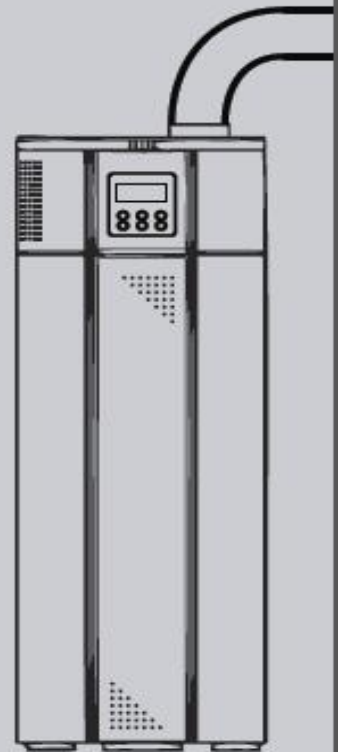
- Tier 1 units are best suited for unconditioned spaces, such as garages
- Tier 2 units are specially designed for colder climates and can be ducted to move cool air generated by the unit to the outside, allowing for installation in smaller spaces and inside the home.
- Ensure minimum clearance requirements are met on both the top and sides of the unit to ease installation, provide proper air flow and allow for maintenance



Please refer to the chart below for criteria used to determine appropriate installation location.

	Tier 1	Tier 2*
Unconditioned space installation	✓	✓
Conditioned space installation		✓
Minimum 40-45 degree installation location	✓	✓
Installation location > 1,000 cu ft (garage, etc.)	✓	✓
Installation location < 1,000 cu ft (utility room)		✓

\*Note: A heat pump water heater that is ducted to exhaust cool air to the outside may create a negative pressure within the home, with the highest levels of negative pressure in the installation space. If the home has combustion appliances that use indoor air for combustion (a non-sealed combustion furnace, gas fireplace or a non-direct vented wood-burning stove or insert) a combustion safety test should be performed by a qualified professional prior to heat pump water heater installation. The qualified professional can assess the risk of back-drafting combustion gases into the home during water heater operation. Visit [www.neea.org/northerncimatespec/](http://www.neea.org/northerncimatespec/) for information on Tier 1 and Tier 2 specifications.



■ ■ ■ Generate customer referrals and increase sales through quality installations

SmartWaterHeat.org



## Heat Pump Water Heater Continued

### An Installer's Guide

## Installation Considerations

Verify all unit-size requirements are met for the home. Refer to the unit selection tool available on [SmartWaterHeat.org](http://SmartWaterHeat.org) for more information.



### Ducted

- Prepare for ducted installations by carrying a wide variety of duct components and fittings to allow for installation flexibility around unforeseen constraints and site conditions.
- Install ducting per manufacturer's specifications
- Install a constant airflow regulator (CAR) inside the ducting, close to the unit, to limit airflow exiting the home to between 150 and 200 CFM
- Terminate the ducting fully outside the building
- Ensure that a functional carbon monoxide detector is installed near the primary sleeping area of the home



### Non-ducted

- Protect unused duct attachment points to prevent obstruction or damage to mechanical component

## Homeowner Education



- Review controls, operation mode, maintenance and clearance requirements with homeowner
- Discuss water temperature setting with homeowner to ensure comfort
- Refer to manufacturer's instructions for detailed operation information
- Instruct homeowner on who to contact for questions, service and repair of the unit
- Attach your contact information to the unit near the control panel

## Installation Tips



- Install vibration-dampening mounts on units installed inside the home or against walls adjoining living spaces
- Condensate must be removed from the installation space via a properly sloped drainage system, condensate pump or connection to an existing plumbing drain; avoid creation of a slip hazard over sidewalks or driveways
- Install per local plumbing, electrical and building codes and always obtain necessary licenses and installation permits; verify requirements with your local jurisdiction

## Maintenance



- Inspect and clean air filter in accordance with manufacturer's recommended schedule
- Inspect and clean condensate drain periodically
- Perform routine maintenance for water heaters

■ ■ For more information visit  
**SmartWaterHeat.org**

*Disclaimer: This document is only to be used as a general guide for providing quality installations. For complete information regarding installation requirements, features, benefits, operation and maintenance, review the manufacturer's installation manual for the product being installed. Images of specific manufacturer product lines are not placed as endorsements nor does this guide guarantee their quality.*

*Smart Water Heat is an initiative of the Northwest Energy Efficiency Alliance, an alliance of Northwest utilities and energy efficiency partners.*

[SmartWaterHeat.org](http://SmartWaterHeat.org)

