

11/16/16

HPWHs in the Northwest: Where have they been and where are they going?

Jill Reynolds



Heat Pump Water Heaters

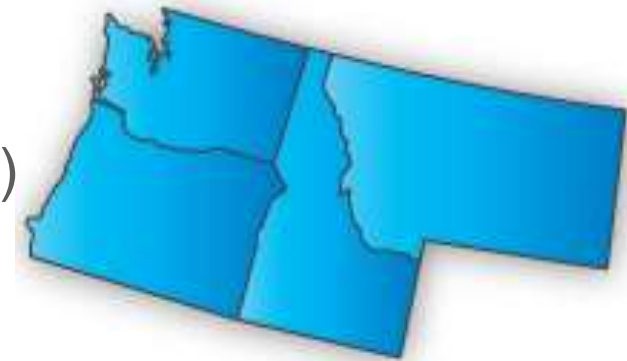


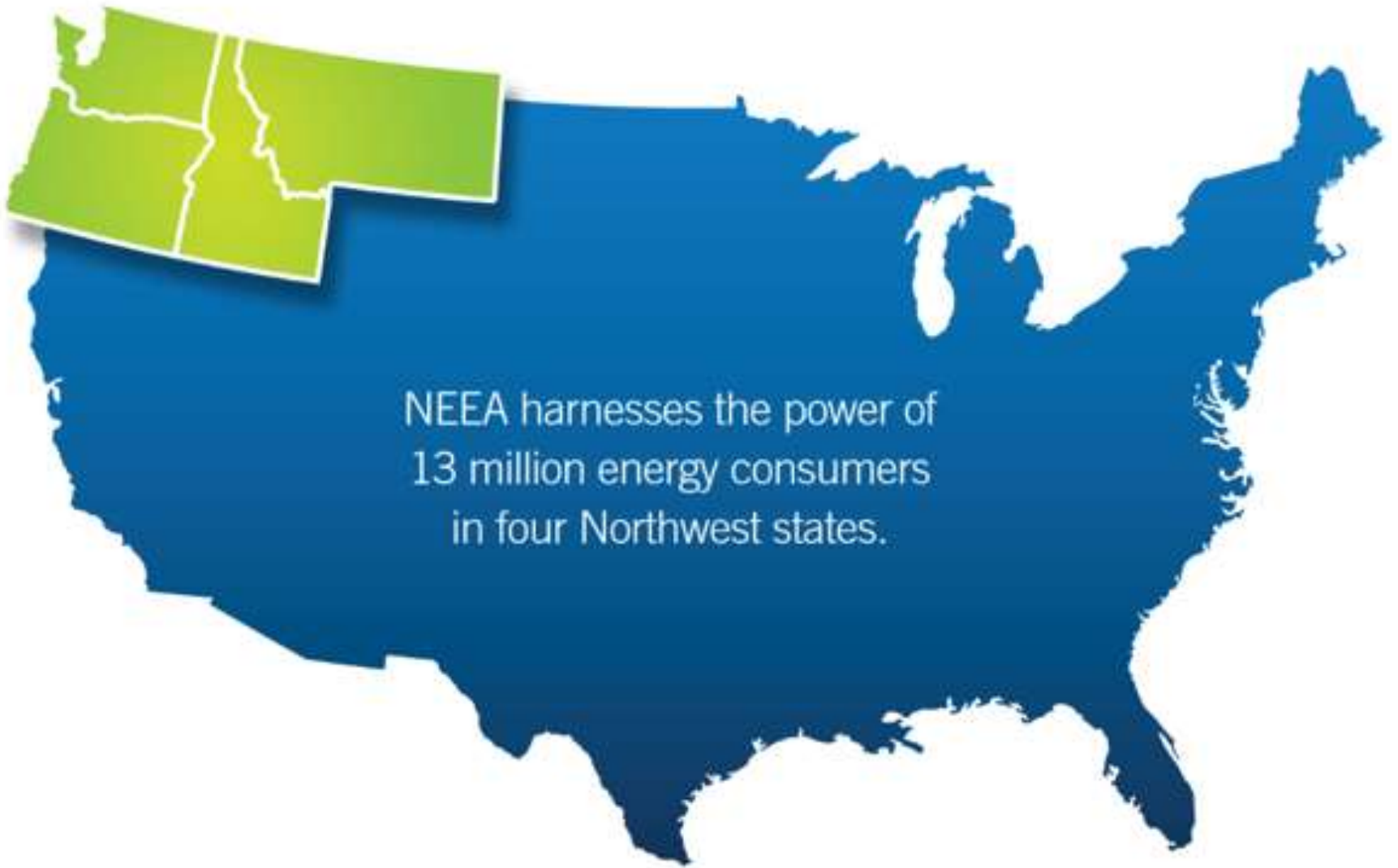
Agenda

- NEEA Overview
- Why HPWHs?
- Advanced Water Heater Specification
- Barriers and Upstream Strategies
- Questions

Northwest Energy Efficiency Alliance (NEEA)

- Northwest Energy Efficiency Alliance (NEEA) - Nonprofit organization using **market transformation** to maximize energy efficiency and meet future energy needs
- Funded by:
 - » Bonneville Power Administration (BPA)
 - » Energy Trust of Oregon
 - » More than 100 Northwest utilities
- Covers Idaho, Montana, Oregon and Washington
- Energy efficiency is now the region's third largest power resource

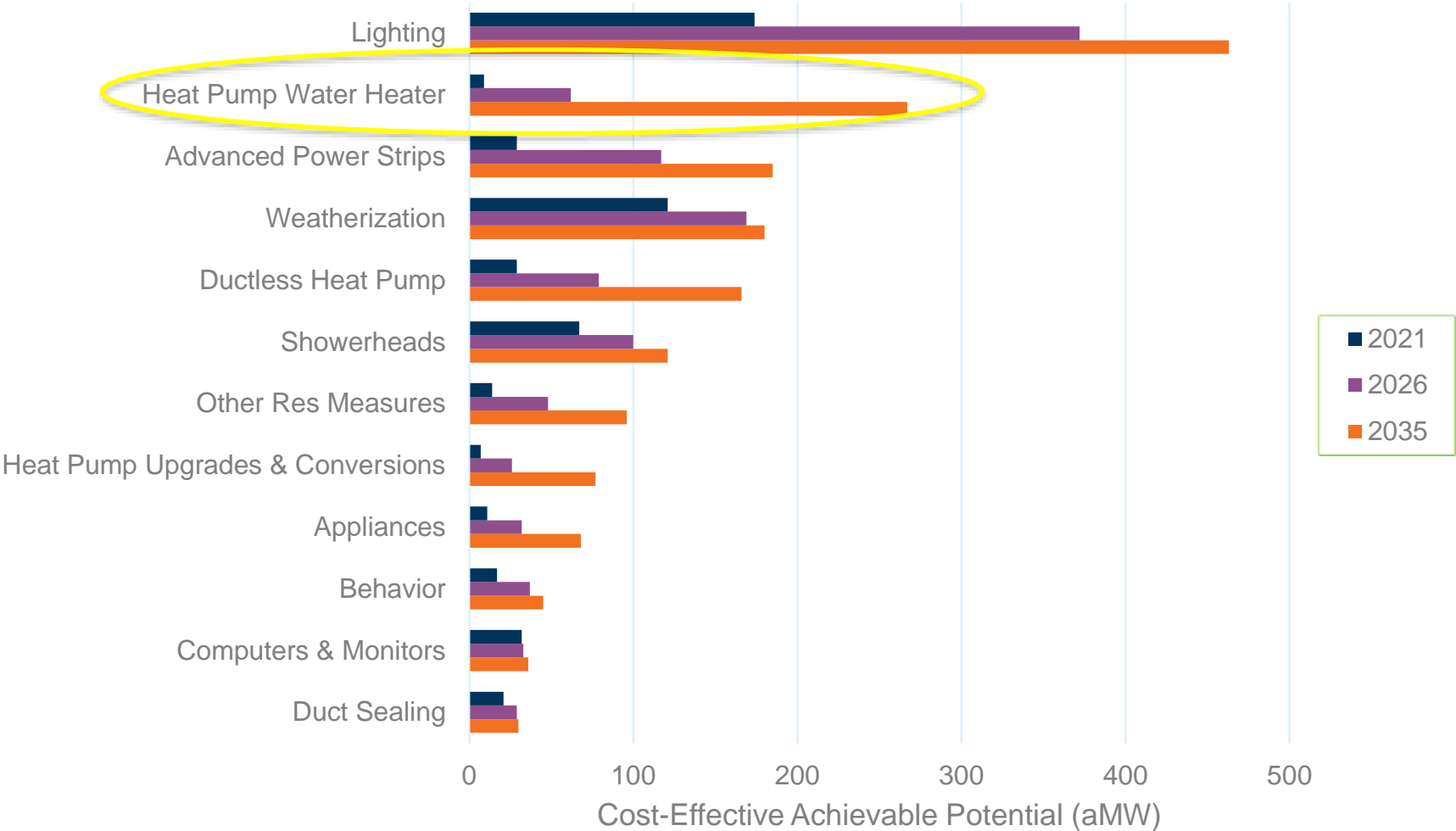




NEEA harnesses the power of
13 million energy consumers
in four Northwest states.

Why HPWHs?

Residential Measure Categories



Characterization of the NW market

- **55%** of all water heaters in the NW are electric.
- Water heaters are replaced roughly every **13** years.
- More HPWHs sold through retail than contractors and most are planning replacement – **86%**.
- On track to achieve over **16,000** HPWH installations by end of year.



Advanced Water Heater Specification

- Developed to ensure energy savings & customer satisfaction in cooler “Northern” climates
 - Ensure customer satisfaction for hot water delivery, performance, noise, reliability, etc.
 - Reliable energy savings in real world, real climate conditions
 - Performance that lead to incentives to promote efficiency
 - Create volume for manufacturers to achieve economies of scale, improved pricing and market support.

SPECIFICATION EVOLUTION

ENERGY STAR®
recognizes heat
pump water
heaters



2008

2010

2012

Spec updates



2014

Draft v6 released
to market and
stakeholder
partners



2016

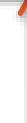
Product Tiers
(QPL) and
detailed testing
requirements



Qualification
process updated,
disqualification/re
qualification
process defined



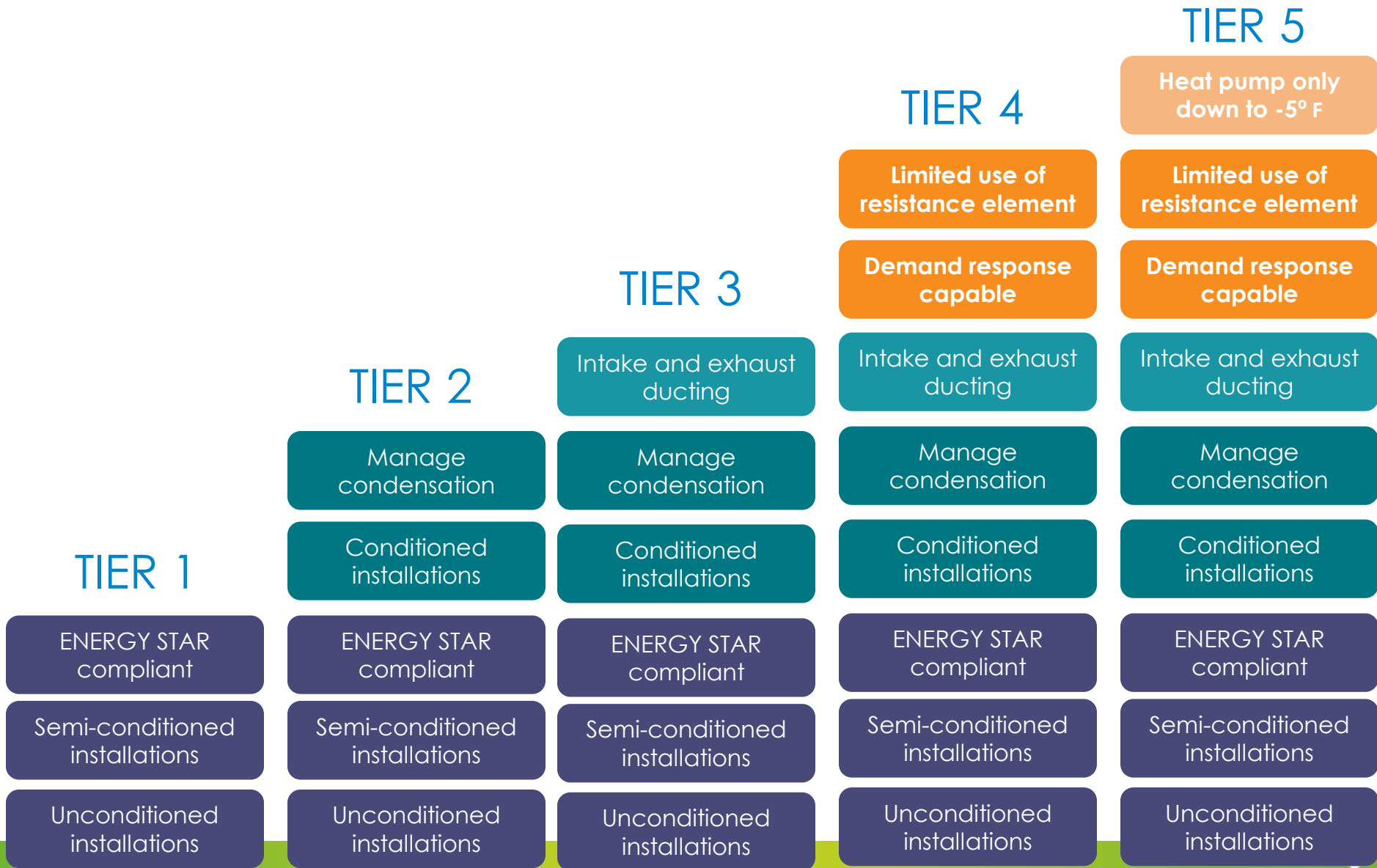
AWHS 6.0 Active
clarity, expansion
of tiers and
inclusion of DR
language



National
stakeholders
develop Advanced
Water Heater
Specification



Product Tier Overview



Primary Market Barriers



Consumer familiarity



Engaged installer base



Upfront cost



Not aligned with market needs

Barrier: Consumer Familiarity



Consumer Research

Key product influencers (in order of influence)

- Utilities
- Peers
- Contractors/plumbers

Motivating messaging

- Saving money on energy bills
- Saving energy
- Durability/reliability of equipment

Key consumer insights

- Consumers want known, reliable products
- Advanced/new tech is scary
- When in emergency replacement scenarios, consumers are not open to researching or considering new technology



Hot Water Solutions

HOT WATER SOLUTIONS

WHAT IS A HEAT PUMP WATER HEATER? FIND AN INSTALLER RETAILERS PROMOTIONS PARTICIPATING UTILITIES **GET STARTED** 🔍

Your Electric Utility ▾

Select **YOUR** Electric Utility

Zip Code ▾ **FIND UTILITIES** 🔍


📍 Use Current Location

HEAT PUMP WATER HEATER RETAILERS

Visit a retailer to buy a heat pump water heater. Enter your location for retailers near you.

Location ▾ **SEARCH** 🔍

📍 Use Current Location 🗺️ View on Map



Is a HPWH Right for Me?

TELL US ABOUT YOUR HOME!

IT'S A BED, BATH HOME

MY WATER HEATER IS POWERED BY



ELECTRICITY



NATURAL GAS



SOLAR

HPWH Awareness Video

Consumer Awareness Video Messages:

- HPWHs offer the **same reliable hot water**, but can cut your electric water-heating costs by up to **60%** by working more efficiently than their standard electric counterparts.
- Additional **utility incentives may be available**, so you can save even more with a HPWH.

HPWH Awareness: Educational Materials

- [Technology information](#)
- [Do-It-Yourself Installation Tips Sheet](#)
- [Homeowner Quick Reference Guide](#)
- ['Is a HPWH Right for You?' Tool](#)
- [Utility incentive listings](#)



GET THE MOST OUT OF YOUR HEAT PUMP WATER HEATER: A QUICK REFERENCE GUIDE

A heat pump water heater's special features offer more flexibility than standard electric water heaters, providing you with reliable hot water and saving you up to 50% on water heating costs.

USE THESE FIVE QUICK STEPS TO MAXIMIZE THIS ENERGY-SAVING TECHNOLOGY

- 1. GIVE IT SPACE**
Heat pump water heaters need space around them for airflow and maintenance. Clearing the area surrounding it can reduce its energy efficiency and heating potential.
- 2. SET THE RIGHT TEMPERATURE**
Both heat pump water heaters and standard electric water heaters are preset to 120°F, a good starting temperature for the average homeowner. Most models allow temperature adjustments between 80°F and 150°F.
SCALD WARNING! Water temperatures over 120°F can cause severe burns or death. Children, the disabled and the elderly are at a higher risk of being scalded.
- 3. DIAL IN EFFICIENCY**
Efficiency/Economy—We recommend starting in this mode, as it maximizes energy efficiency and savings.
Auto/Hybrid—The default setting is ideal for daily use, providing energy-efficient water heating with sustained heat.
Electric/Heater—This setting heats water quickly but only uses the electric heating elements, making it the least energy-efficient setting. Use this mode during high-demand situations (such as when you have guests or high multi-appliance demand) to make sure there's no delay in hot water delivery.
Some units have additional settings, including a cold climate setting ideal for the Northwest—please refer to your manufacturer's manual for more information.
Vacation and Travel—This mode saves energy when you're away from home by placing the unit in a "sleep" mode until you return. Available on select models.
- 4. THE SOUND OF HOT WATER**
Your heat pump water heater will generate sounds similar to an electric fan. Don't worry, it's just the sound of energy-efficient hot water.
- 5. KEEP IT RUNNING**
All water heaters require maintenance. With heat pump water heaters, there are a few extra things to consider:
 - The air filter must be cleaned at least once a year.
 - A visual inspection should be done periodically to ensure the moisture drain is clear.
 - Punctured, frayed or clogged ducts must be free of dust and debris.**WARNING!** Always shut off power to the unit at the circuit breaker/fuse box before inspecting and clearing moisture drains.

VISITHOTWATERSOLUTIONSNW.ORG FOR MORE INFORMATION

The Quick Reference Guide provides general tips for operating your heat pump water heater. For complete information regarding features, operation and maintenance, please see your manufacturer's product literature manual.

Hot Water Solutions is an affiliate of the Northwest Energy Efficiency Alliance (NEEA), an affiliate of more than 140 Northwest utility and energy efficiency organizations working to advance the Northwest's adoption of energy-efficient products, services and practices to the fullest.



Barrier: Engaged Installer Base*



****This is critical***

Emergency Replacements

- Will wait maximum 1-3 days to get a new water heater
- Few open to researching new technology in emergency situations
- Look to installers to provide immediate guidance and solutions



Everyone Likes Rewards

state
WATER HEATERS

EARN REWARDS FOR HEAT PUMP PURCHASES

CONTRACTOR REWARDS
Build up the rewards you deserve.

**ENTER ANY FIVE (5) STATE
HEAT PUMP WATER HEATER CODES AND
EARN A \$500 VISA CARD!**

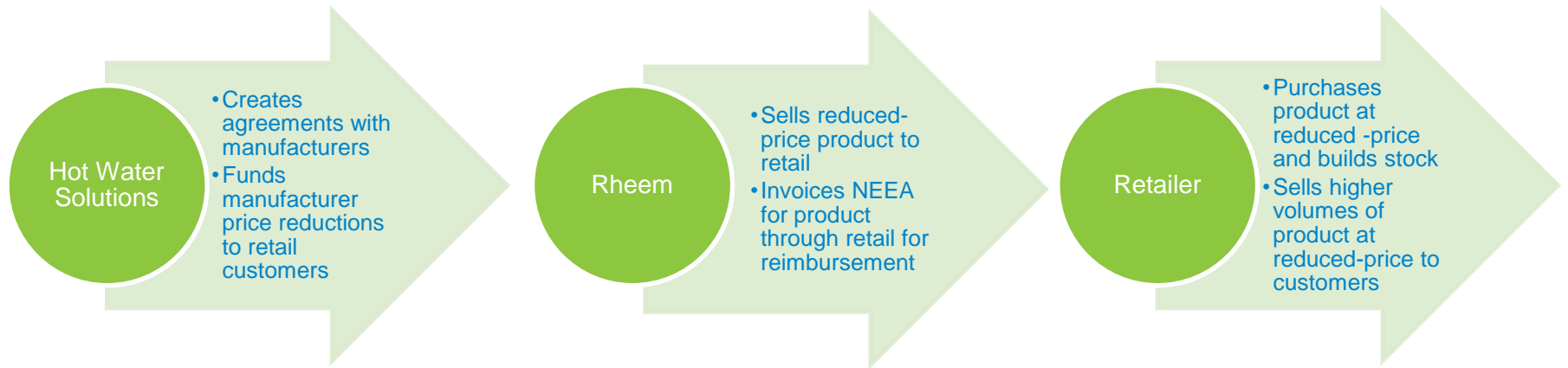
Champions Sell



Barrier: Upfront Cost

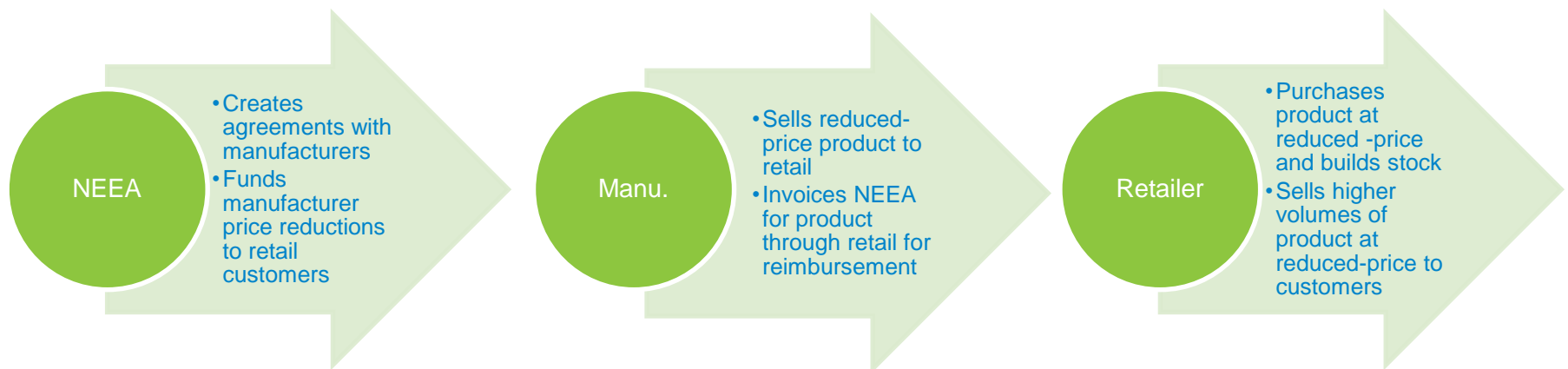


Go Upstream



Go Upstream: Retail Model

- NEEA offers instant markdown funding on Tier 2 and above; current funding:
 - \$200 on tanks <55 gallons
 - \$300 on tanks >55 gallons
- **Instant product markdowns increase sales volume 400-600%**



Make It Easy

PUMP UP CUSTOMER SAVINGS

Save up to \$400 now on A. O. Smith Tier 3 Voltax® hybrid electric heat pump water heaters. They could reduce your customers' electric heating costs by up to 71% and save them an additional \$300 in federal tax credits.*

Contact your local A. O. Smith distributor for more information.



FEATURES

HIGH EFFICIENCY
 QUIET OPERATION
 RELIABLE HOT WATER

4 OPERATING MODES
 AIR DUCT ADAPTER KIT
 ENERGY STAR® QUALIFIED

GET UP TO **\$400 OFF**
 AT PARTICIPATING DISTRIBUTORS

VOLTEX HYBRID ELECTRIC HEAT PUMP WATER HEATERS

Advanced Water Heater Specification Tier 3 Qualified

Model Number	Gallon Capacity	Northern Climate Energy Factor	First Hour Rating (hybrid mode)	Height	Diameter	Shipping Weight (lbs.)	Warranty Term	Instant Discount
HPTU-50V	50	2.43	70	63"	22"	196	10	\$300
HPTU-66V	66	2.56	80	61"	27"	289	10	\$400
HPTU-80V	80	2.7	95	69"	27"	307	10	\$400

To learn more about the Northern Climate Energy Factor, reference the Advanced Water Heater Specification at neea.org/advancedwaterheaterspec.

UTILITY INCENTIVES FOR CUSTOMERS

In addition to manufacturer discounts and tax credits, your customers may qualify for utility incentives. Use the table on the back of this flyer as a quick reference for incentives on Tier 2 and above electric heat pump water heaters provided by utilities in your area. Incentive amounts and availability are subject to change; this information is current as of May 2016. Please contact the utility to verify availability, amount and requirements for incentive eligibility prior to installation.

*Based on a national electricity rate average of \$0.12 per kWh. State and federal tax credits available. Learn more at dsvusa.org



UTILITY INCENTIVES FOR CUSTOMERS

Utility	Location	50-75 Gallon Tanks	75+ Gallon Tanks
City of Barley	Barley, ID	\$270	\$450
City of Rupert	Rupert, ID	\$270	\$450
City of Soda Springs	Soda Springs, ID	\$270	\$450
City of Weiser	Weiser, ID	\$270	\$450
East End Mutual Electric	Rupert, ID	\$270	\$450
Farmers Electric	Hayden, ID	\$270	\$450
Idaho County Light & Power Cooperative Association, Inc.	Grangeville, ID	\$500	\$500
Idaho Falls Power	Idaho Falls, ID	\$250	\$450
Kootenai Electric Cooperative	Hayden, ID	\$300	\$500
Riverside Electric Company	Rupert, ID	\$270	\$450
Rocky Mountain Power	ID	\$500**	-
Blackfoot-Latah County Cooperative Electric Association	Eugene, MT	\$300	\$500
Flathead Electric Cooperative, Inc.	Kalispell, MT	\$500	\$500
Beaumont County Electric Cooperative, Inc.	Connelly, MT	\$300	\$300
Carby Utility	Carby, OR	\$300	\$500
Central Electric Cooperative	Redmond, OR	\$500	\$500
Central Lincoln PUD	Florence, OR	\$500	\$1,000
City of Ashland	Ashland, OR	\$300	\$500
City of Bandon	Bandon, OR	\$240	\$400
City of Cascade Locks	Cascade Locks, OR	\$300	\$500
City of Milton-Freewater	Milton-Freewater, OR	\$400	\$400
Columbia PUD	Clatskanie, OR	\$500	\$500
Columbia Basin Electric Cooperative, Inc.	Hopewell, OR	\$300	\$500
Columbia River PUD	St. Helens, OR	\$500	\$500
Consumers Power, Inc.	Prickwillitt, OR	\$500	\$500
Clatsop County Electric Cooperative, Inc.	Port Orford, OR	\$500	\$500
Douglas Electric Cooperative	Bonanza, OR	\$300	\$500
Emerald PUD	Eugene, OR	\$400	\$400
Eugene Water & Electric Board	Eugene, OR	\$300	\$300
Forest Grove Light & Power	Forest Grove, OR	\$500	\$500
Hamilton Energy Services	Hermiston, OR	\$300	\$300
Lane Electric Cooperative, Inc.	Eugene, OR	\$300	\$300
McMinnville Water & Light	McMinnville, OR	\$375	\$375

Utility	Location	50-75 Gallon Tanks	75+ Gallon Tanks
Northern Wasco County People's Utility District	The Dalles, OR	\$500	\$500
Pacific Power Oregon***	Portland, OR	\$300**	-
Portland General Electric***	Portland, OR	\$300**	-
Salem Electric Cooperative	Salem, OR	\$120	\$120
Tillamook PUD	Tillamook, OR	\$300	\$500
Umatilla Electric Loop	Umatilla, OR	\$300	\$300
West Oregon Electric Cooperative, Inc.	Wenatchee, OR	\$300	\$500
Benton PUD	Kennewick, WA	\$300	\$500
Benton REA	Prosser, WA	\$300	\$500
Chelan County PUD	Wenatchee, WA	\$500	\$500
City of Milton	Milton, WA	\$500	\$500
Clallam County PUD	Port Angeles, WA	\$500	\$500
Clark Public Utilities	Vancouver, WA	\$500	\$500
Columbia REA	Dayton, WA	\$500	\$500
Cowlitz PUD	Longview, WA	\$500	\$500
Franklin PUD	Peoria, WA	\$300	\$500
Grays Harbor PUD	Aberdeen, WA	\$500	\$500
Inland Power & Light	Spokane, WA	\$300	\$500
Jefferson County PUD	Port Townsend, WA	\$500	\$500
Klickitat PUD	Goldendale, WA	\$300	\$300
Lewis County PUD	Chelan, WA	\$500	\$500
Massie County PUD No. 3	Shelton, WA	\$300	\$500
Orcas Power & Light Cooperative	Eastsound, WA	\$300	\$500
Pacific Power Washington	WA	\$600**	-
Pemnasco Light Co.	Gig Harbor, WA	\$500	\$500
Port Angeles Public Works and Utilities	Port Angeles, WA	\$500	\$500
Puget Sound Energy	Bellevue, WA	\$800	\$800
Seattle City Light	Seattle, WA	\$500	\$500
Skaenawa County PUD #1	Carson, WA	\$300	\$500
Snohomish County PUD	Everett, WA	\$500	\$500
Strohman Public Works	Strohman, WA	\$500	\$500
Wenatchee Water & Power	Wenatchee, WA	\$300	\$500

Limited to tanks 55 gallons or less. *Incentives provided by Energy Trust of Oregon



Targeted Marketing



Savings That Make a Splash

CUT ELECTRIC WATER-HEATING COSTS BY UP TO 66%

Grover Electric is offering a fantastic price of **\$XXX** on an efficient Reliance 50-gallon hybrid electric heat pump water heater for a limited time. You may also be eligible for tax credits and rebates from your electric utility. Don't miss this chance to save now and for years to come.

Water Heaters
Reliance
Your neighborhood water heater source.

Targeted Marketing

SEE HOW MUCH YOU COULD SAVE

Reliance 50-Gallon Hybrid Electric Heat Pump Water Heater Model Number: 10 50 DHPHT NE



UTILITY REBATES	50-Gallon	66- and 80-Gallon
Clark Public Utilities	\$500	\$500
Cowlitz PUD	\$500	\$500

Additional promotional discounts are available on Reliance 66- and 80-gallon heat pump water heaters. Visit your local Grover to learn more.

Rebate amounts and eligibility requirements vary by electric utility. Some utilities have installation requirements, such as installation outside of conditioned living space, and may require installation by approved contractors. Rebate amount cannot exceed the purchase price of the product. Promotion valid through March 31, 2017, or until funds run out.



*****ECRWSSDDM****

Postal Customer
City, State, 5-Digit ZIP Code



Sale ends **March 31, 2017**.
Visit groverelectric.com to find a participating store near you.



Barrier: Not Aligned with Market Needs



The Future: Achieving Alignment

- Continued product advancement:
 - Split systems electric water heaters
 - CO2 water heaters
- Leveraging HPWH connectivity for demand response
- Instant/point-of-sale utility rebate programs
- Increased large-tank uptake
- Updated standards for small tank



***Thank You
&
Questions?***