Heat Pump Water Heater

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NORTHWEST ENERGY EFFICIENCY ALLIANCE
Vision:
Energy efficiency is a cornerstone of a vibrant sustainable Northwest.

Mission:
Mobilize the Northwest to become increasingly energy efficient for a sustainable future.
Heat Pump Water Heater Roadmap

We are here

2012
Provisional UES, Lab & Field studies, initiative market test

2013
Full initiative launch

2014
Federal standards process starts for 2020 (???)

2015
Federal standard takes effect for large tanks (> 55 gallons)

Want to be here

2020 or 2025
Fed standard – 40 gallon+ tanks

Large scale, voluntary programs

Codes & Standards

Not to scale
Northern Climate Specification

WHY? Provide guidance to manufacturers; product framework for utility programs

WHAT? Climate-sensitive ratings; features for reliable savings, customer comfort

HOW? Tiered product qualification, test procedures.
Lab Testing

Air Generate in a Thermal Chamber
Extensive lab & field testing to date

Lab testing of
- AirGenerate 66 gallon
- AirGenerate 50 gallon
- AO Smith 80 gallon
- AO Smith 60 gallon
- Bosch 3000
- Daikin (European inverter-driven)
- GE GeoSpring (BPA)
- Rheem (BPA)
- Steibel-Eltron
- SkySea

Field testing
- BPA/EPRI study (40 sites in NW, 160 nation-wide)
- NEEA 30-unit tier 2 study (2013 completion)
- Savings validation study

Unique testing
- Low temperature
- Ducting
- # of Showers
- Freeze
- Compressor cut-off
- Reliability/Failure
### N. Climate Qualified Product List

<table>
<thead>
<tr>
<th>Northern Climate Product Tier</th>
<th>Product Brand</th>
<th>Model</th>
<th>Volume (gallons)</th>
<th>Northern Climate Energy Factor</th>
<th>Northern Climate Delivery Rating</th>
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*The current version of the Air Generate ATI66 is shipping without condensate management features found in section 5.5.2 of the Northern Climate Specification. This product is provisionally approved for Tier II based on manufacturer plans to incorporate this functionality by June 1, 2012.*
Summary of Key Findings:

- Recession has deflated the water heater market
- Consumers are interested but skeptical about efficient models
- Education gaps hinder adoption
- Consumers focus on price
- How consumers research and purchase is changing
Focus on cost first
Education consumers and installers – Buyers trust installers
Marketing and advertising in down economy can increase future planned purchases
Heat pump water heaters need better design to meet Northwest needs
In purchase process, opportunities lie in early education and ENERGY STAR brands
Objective:
Test market intervention strategies to remove market barriers

Activities include:
- Utility partner support and collaboration
- Trade ally support and engagement
- Supply chain engagement
- Quality assurance
- Northern climate product incentives
- Consumer education and marketing resources
Supply Chain Engagement

Market actor collaboration

Support technical and installation trainings

Deliver orientations

Maintain oriented contractors listing

Educational retail POP
Retail Engagement

- POP Placement
- Education resources
- Sales team engagement & training
Save up to 50% on water heating costs

Heat pump water heaters are revolutionizing the way we heat water. Compared to traditional electric water heaters, heat pump water heaters can save up to 50% on energy costs from heating water.

Learn More >>
Resources

Northern Climate Specification

Northern Climate Product List

Smart Water Heat website
www.smartwaterheat.org

2011 Water Heater Market Update

Regional Water Heater Study
http://neea.org/docs/studies/energystudy
Questions & Contact Information

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