NW DUCTLESS HEAT PUMP PROJECT

Ductless Heat Pump Business Opportunities

…in electrically heated homes

Fall 2018

About Jonathan

- National Ductless HVAC Expert
    - Working with HVAC Contractors, Distributors and Manufacturers to help grow ductless H/P sales
- Member of the NW Ductless Heat Pump Project Implementation Team (2018 and 2019)

Questions & Answers

1) Which utility service areas do you work in?
2) In the last 90 days, how many ductless heat pumps have you installed?
3) How often do you work in “all electric” homes?

Have you ever wondered…

Who does what?

About NEEA…

About the Evaluation Work of NW Ductless H/P Project

- It’s called the M-PER or ”Market Progress Evaluation Report”
- There have been 7 M-PERs since 2008
- The M-PER is AMAZING!
  - It tells us so much about the market DHPs in OR, WA, ID, MT and beyond

LET’S CHECK IT OUT!

About the MPER:

Who gets surveyed?

People who:
1. Purchased a DHP
2. Got a bid, but didn't purchase
3. Didn't get a bid even though they were interested in a DHP

Over 283 homeowners were interviewed from across the 4 states.

M-PER Highlights

Since 2008, an estimated 204,742 DHPs have been installed in the region.

83,700 (41%) were installed in NW Ductless Program’s “Target Markets”.

Where did the +/- 120,000 “non-target” DHPs go? [1]

- ≈ 65,000 went into commercial applications
- ≈ 55,000 went into “other” residential applications
  - ≈ 17,500 » new construction homes
  - ≈ 17,500 » additions to existing homes
  - ≈ 10,000 » homes that heat with gas, propane, oil, wood, etc.
  - ≈ 7,000 » manufactured homes that heat with gas, propane, oil, wood, etc.
  - ≈ 3,000 » multi-family

[1] NOTE: Extrapolated from MPER 6

NEEA's Target Markets: Total Size

#1 Single Family Residential Homes w/ Electric Zonal Heat	505,066
#2 Single Family Residential Homes w/ Electric Forced Air Heat	222,981
#3 Manufactured Homes w/ Electric Forced Air Heat	280,585
Total:	**1,008,632**

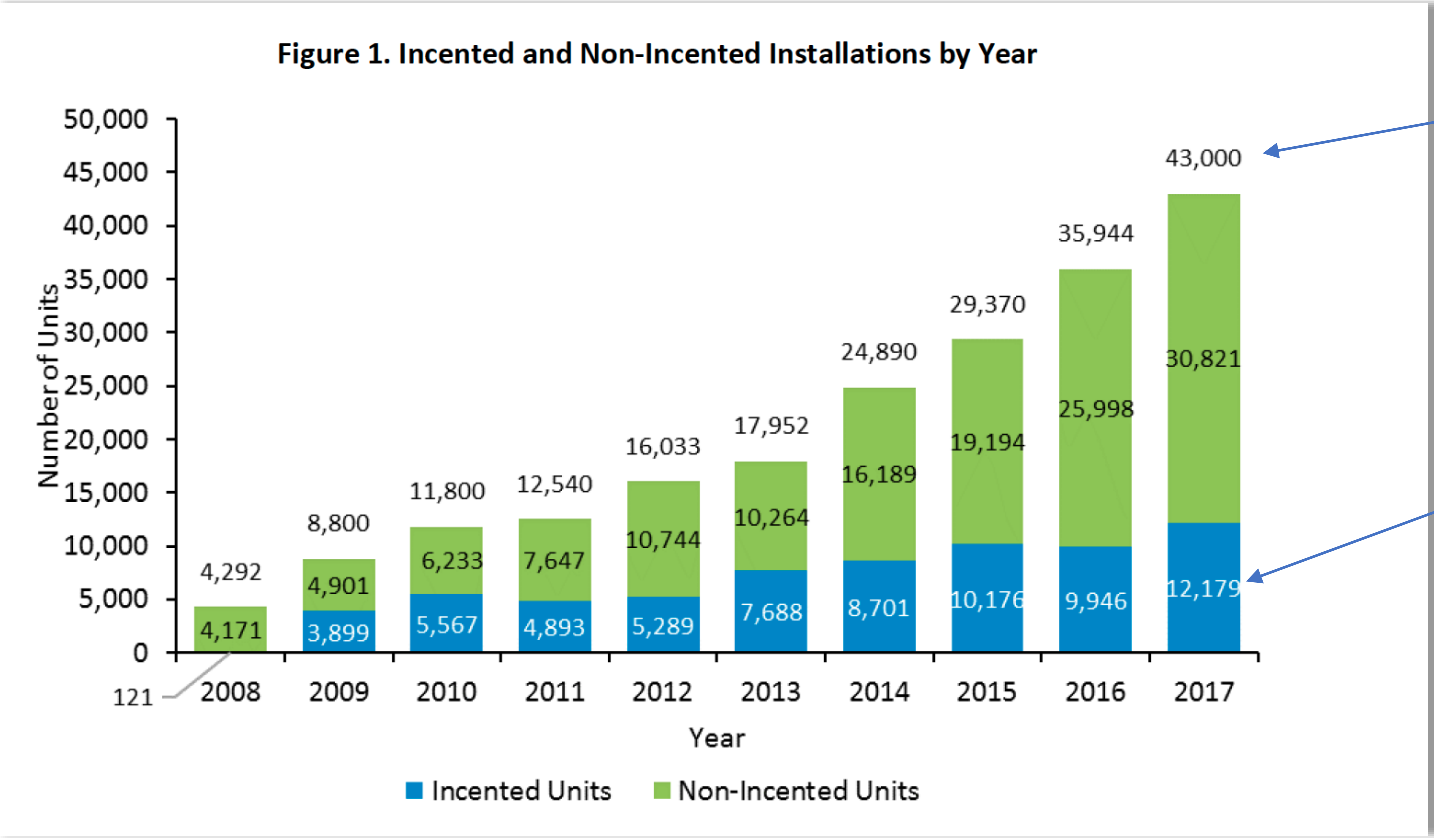
Note: *Multifamily is not included here (and it is another huge market).*

Results so far…

Target Markets	Available Units	Installed to Date (2008-2017)
#1 Single Family Residential Homes w/ Electric Zonal Heat	505,066	71,970
#2 Single Family Residential Homes w/ Electric Forced Air Heat	222,981	8,467
#3 Manufactured Homes w/ Electric Forced Air Heat	280,585	3,262
Total:	**1,008,632**	**83,700**

So much more opportunity!

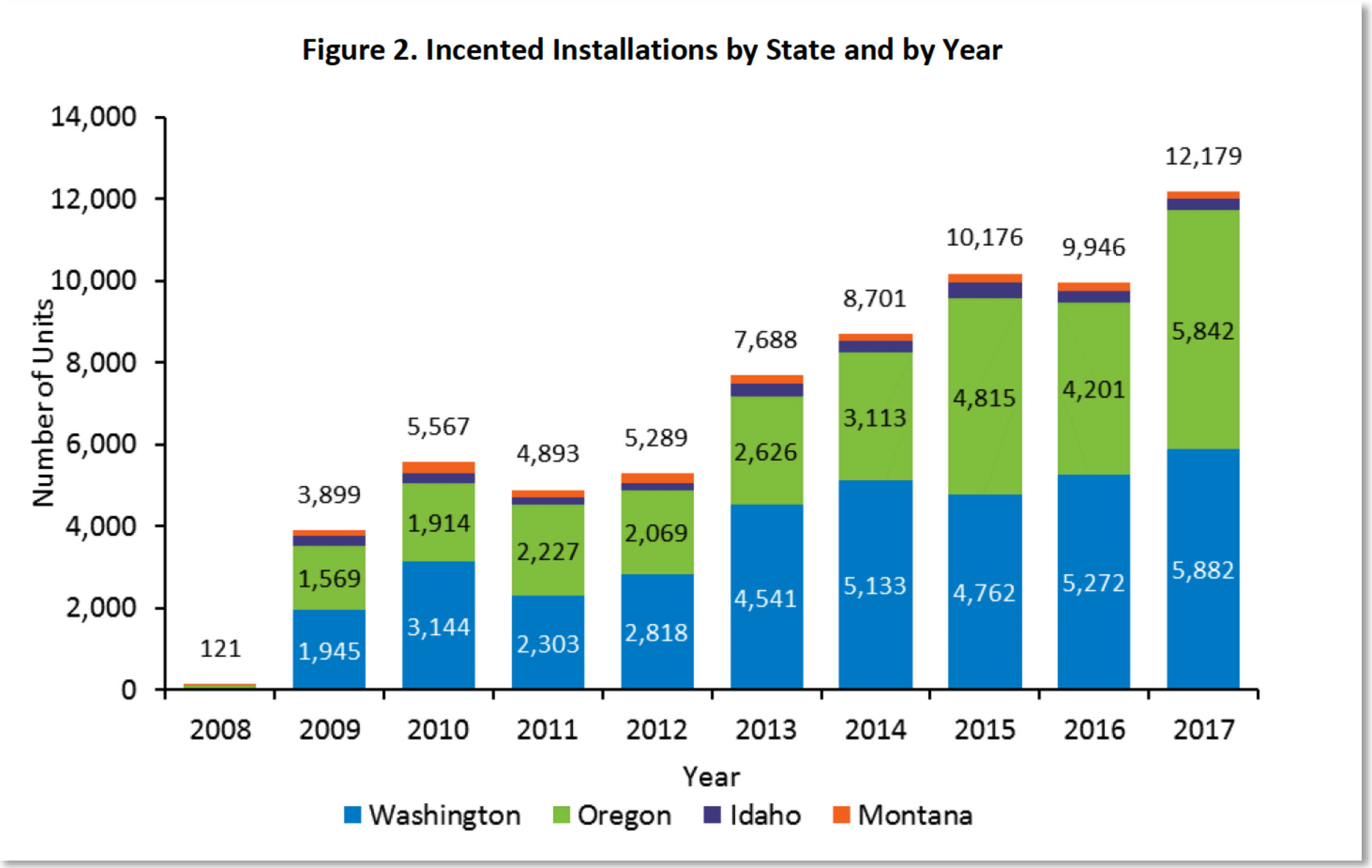
Year Over Year Changes…



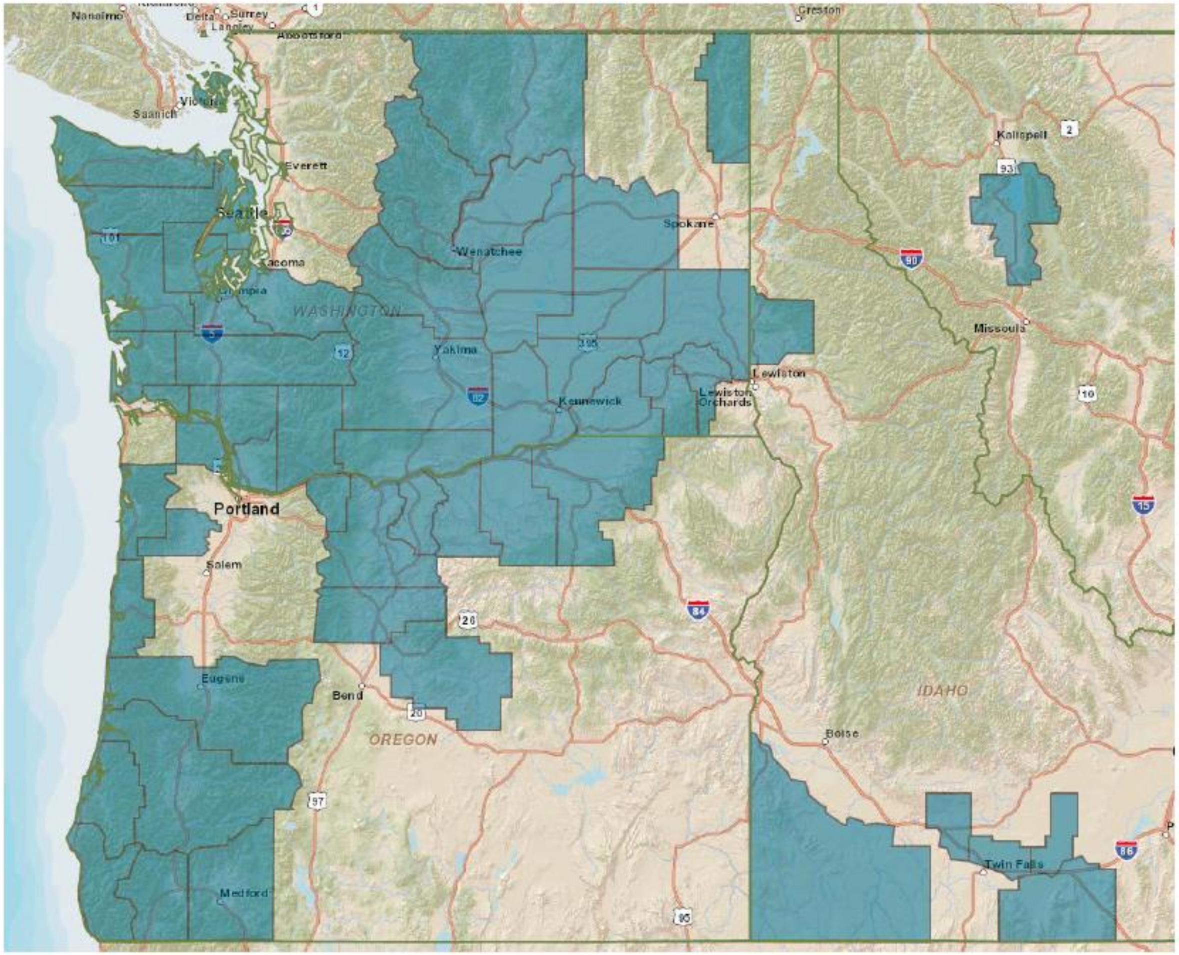
Topline:
19.6% Growth Y-o-Y

Incentives:
17.4% Growth Y-o-Y

State by State Results



Electric Heat is Everywhere!



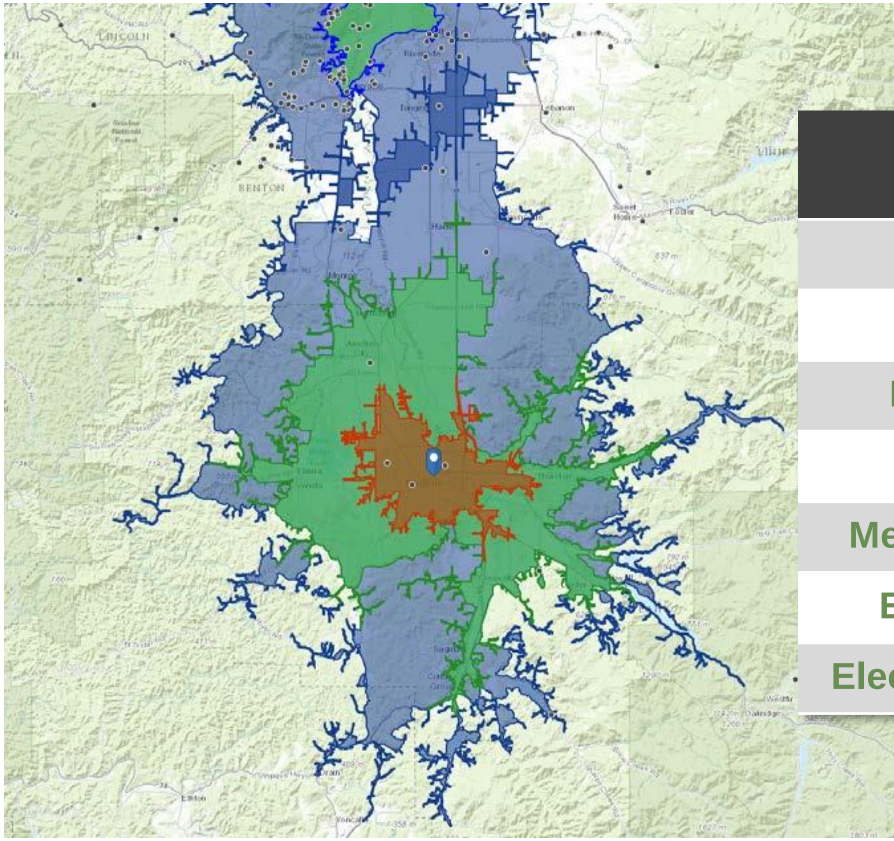
Many counties have at least **50% electrically** heated homes.

Note: *Only 3 in Idaho and 1 in Montana*

Note: based on 2014 data

Eugene, OR

TBD



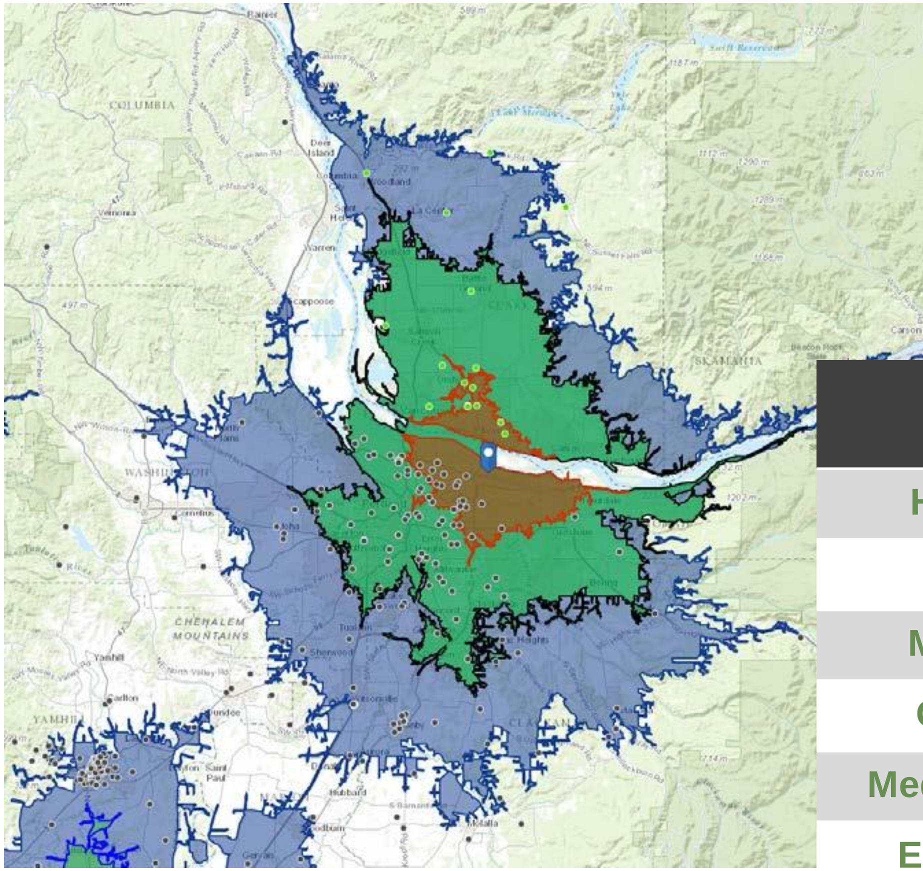
Drive-Time Radius	15 Min	30 Min	45 Min
Households	100,627	130,696	141,805
Med Value	$237,578	$235,625	$236,952
Med Income	$40,895	$42,892	$43,823
Owner Occ.	50.3%	55.0%	56.6%
Med Year Built	1974	1975	1975
Electric Heat	73.3%	71.8%	70.7%
Electricity / Mo.	$122~	$127~	$129~

Note: based on 2014 data

DRAFT

Portland METRO

October 25th

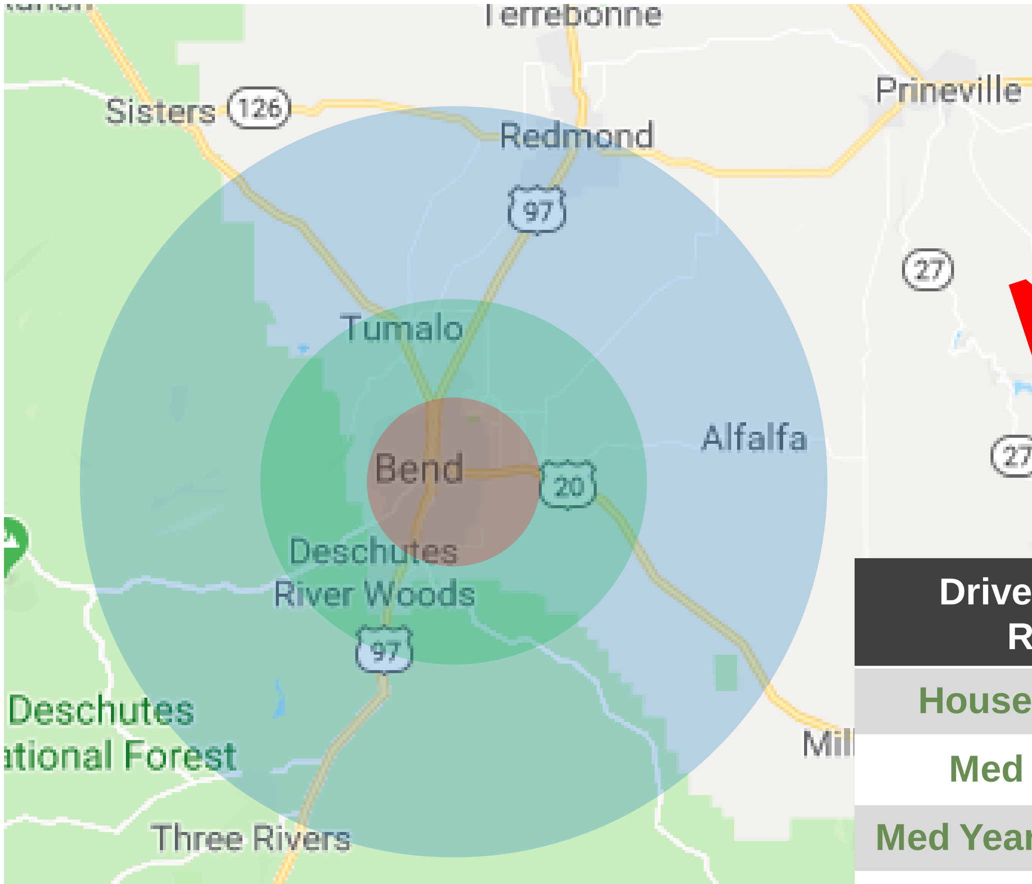


Drive-Time Radius	15 Min	30 Min	45 Min
Households	159,912	402,998	866,327
Med Value	$256,577	$292,054	$299,039
Med Income	$49,595	$55,730	$59,690
Owner Occ.	52.8%	55.8%	58.2%
Med Year Built	1971	1975	1978
Electric Heat	47.0%	45.9%	45.1%
Electricity / Mo.	$132~	$155	$165~

Note: based on 2014 data

Bend, OR

October 19th

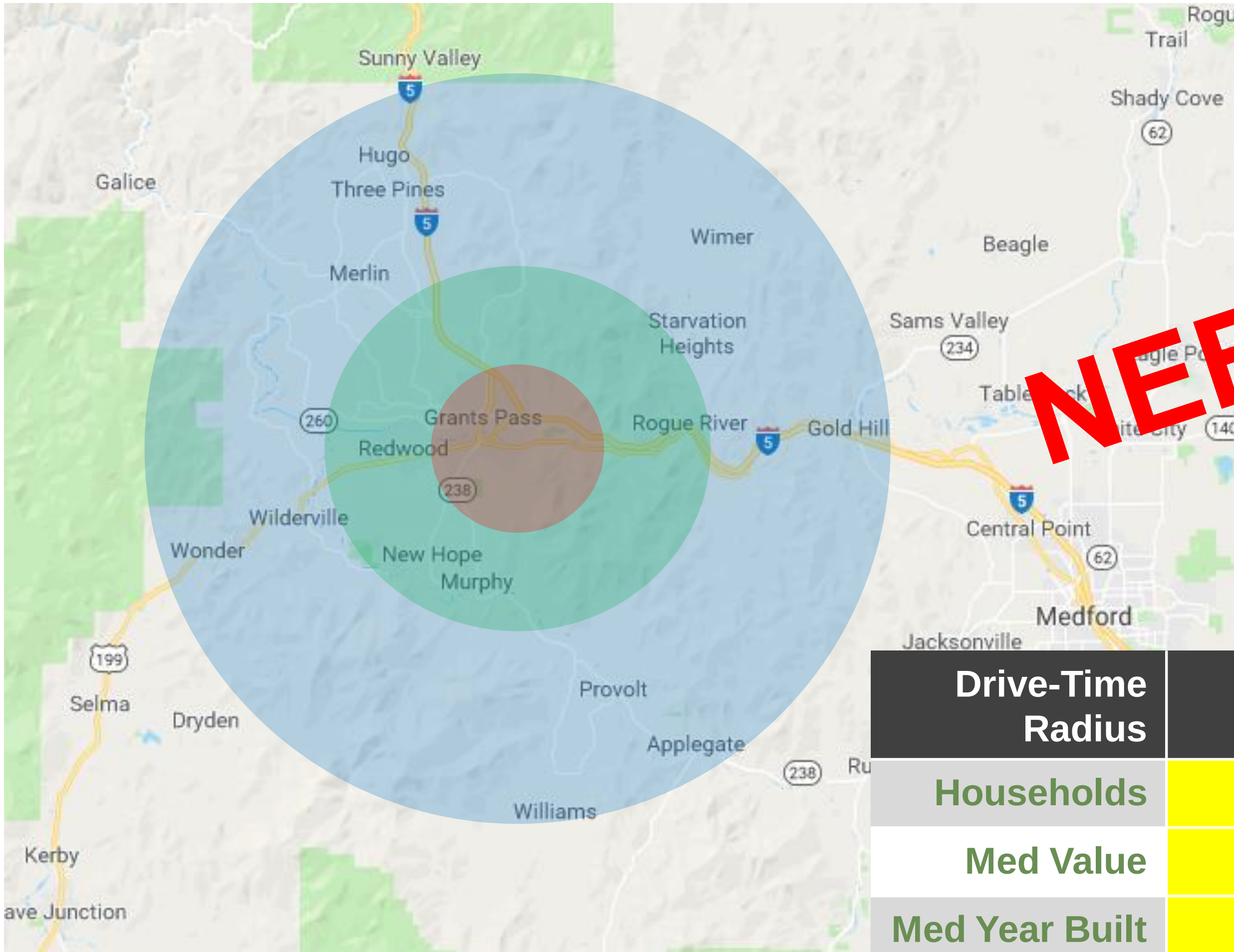


NEED INFO

Drive-Time Radius	15 Min	30 Min	45 Min
Households			
Med Value			
Med Year Built			
Electric Heat			

Grants Pass, OR

October 17th



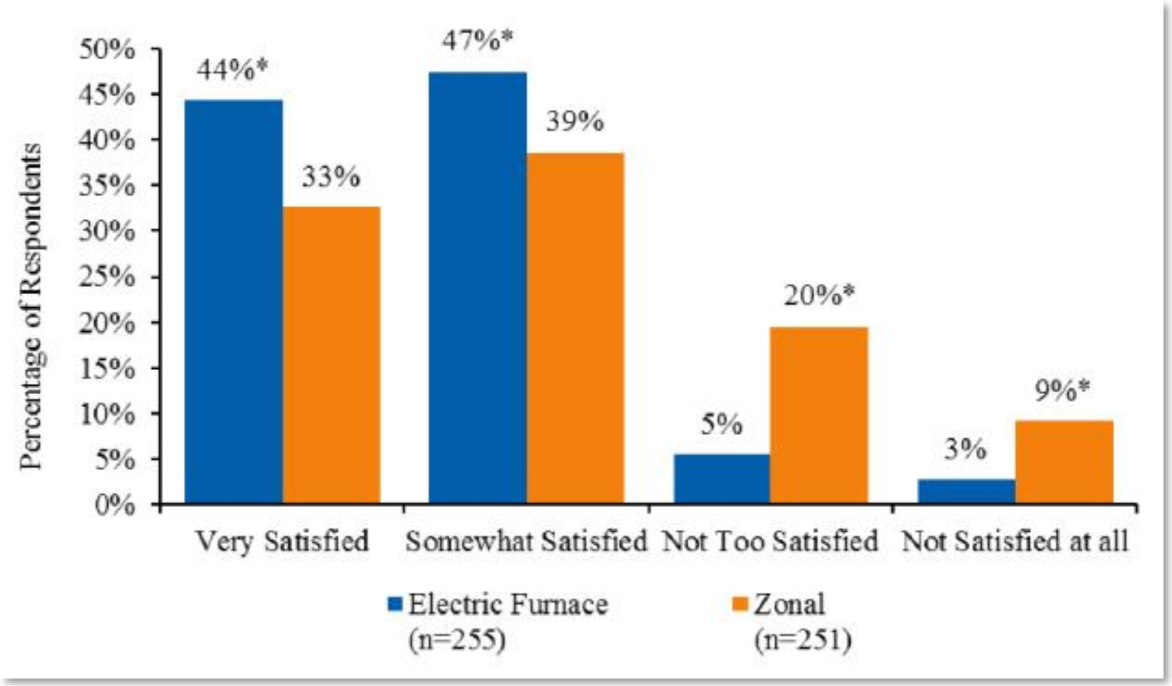
NEED INFO

Drive-Time Radius	15 Min	30 Min	45 Min
Households			
Med Value			
Med Year Built			
Electric Heat			

Ductless Customer Satisfaction…HIGH [1]

- **91% of respondents** with electric furnaces said they were satisfied

- **72% of respondents** with zonal heating equipment said they were satisfied



[1] NOTE: As reported in MPER 6

Opportunity to Make Happier Customers

For Zonal Electric Heat Customers:

1) Be sure to give them a thorough introduction to the DHP.
2) Remind them that they need to turn on ZONAL heat when they feel cold.
   - Email each Fall?
3) Leave behind the support handout produced by the NW Ductless Heat Pump Project.

DUCTLESS
HEATING & COOLING SYSTEMS

"Our electric heating bill is at least half. I tell everyone that listens they need to get a ductless heating and cooling system if they want to save and keep warm."

Doris, Corvallis, Ore.

YEAR-ROUND COMFORT AND LONG-TERM SAVINGS

Your ductless system gives you more control over your home's temperature while heating and cooling at a fraction of the cost of baseboard, wall and ceiling heat or electric furnaces. Follow these guidelines to optimize its efficiency and your comfort.

SET THE SYSTEM OPERATION TO HEAT OR COOL MODE

Use the HEAT or COOL operation mode to meet the temperature needs of the season. Do not use AUTO for the operation mode, as it does not provide efficient or comfortable results in the Northwest. Please note that the operation mode is different from the fan speed.

SET THE FAN SPEED OPTION TO AUTO

Use the AUTO fan speed setting instead of other fixed settings, such as QUIET, LOW, MEDIUM or HIGH. This setting automatically adjusts the fan speed for efficiency and comfort.

PROGRAM YOUR SYSTEM TO YOUR PREFERRED TEMPERATURE

Set your ductless heat pump to a comfortable temperature and let the system self-adjust to meet your needs. Your owner's manual will show you how to program your system.

EXPAND YOUR COMFORT ZONE

Close the windows and leave interior doors open to allow the system to provide conditioned air to the rest of the house.

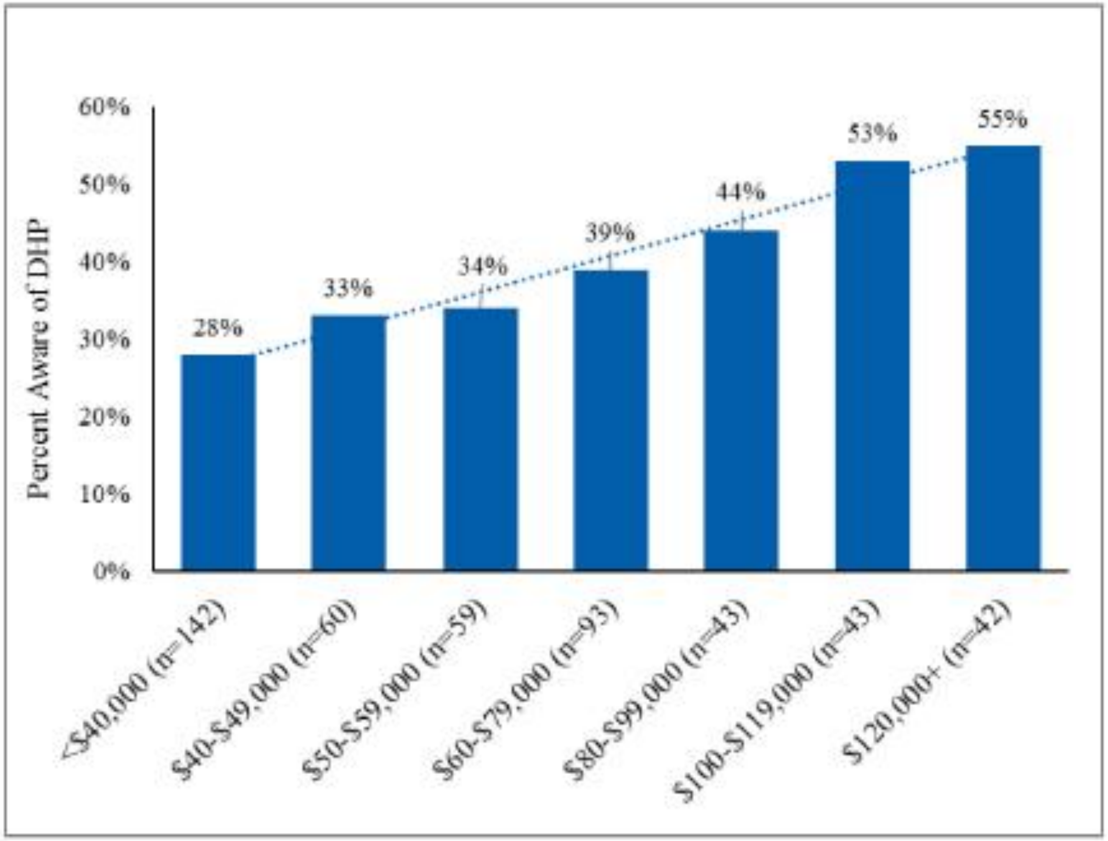
EXTEND YOUR SYSTEM'S LIFE WITH HOMEOWNER MAINTENANCE

Clean your air filters every two months and replace them per the recommendations in your owner's manual. Keep the outdoor unit clear of leaves, plants or other items that may affect airflow or clog drainage under the unit. Inspect your outdoor unit seasonally to ensure that the outdoor coil is clean, there are no breaks in pipe coverings or insulation and there are no oil stains around the refrigerant line-set connections. Contact your installer if your ductless system needs repair or annual maintenance.

Customer Awareness…Strong! [1]

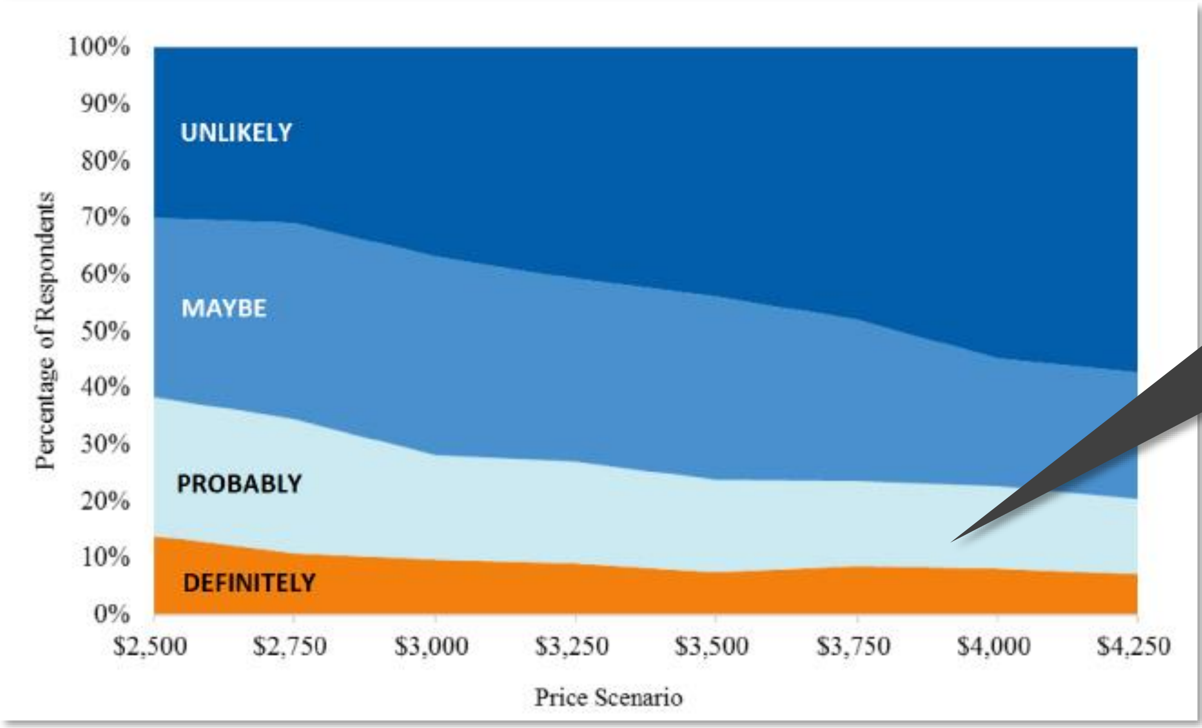
- **Overall Awareness is 38%** – When shown a picture they could name the product: “mini-split” or “ductless”
- With increasing household income, awareness increases!

Figure 5. Awareness of DHPs by Household Income



[1] NOTE: As reported in MPER 6

Sale Price Analysis…Encouraging! [1]



For those likely to buy…price is less of an issue.

Also Encouraging: Education, Income and Current Heating Type <u>DO NOT</u> greatly influence this trend!

[1] NOTE: As reported in MPER 6

Purchase Influencers [1]

- 68% said that the availability of **financing options** would increase their likelihood of purchasing a DHP.
- 84% said that the availability of a $600 to $1,200 **cash rebate** would increase their likelihood of purchasing a DHP.
    - Interesting…Respondents with an annual household income greater than $100,000 were almost twice as likely purchase with a rebate than were respondents with an annual household income below $50,000.

[1] NOTE: As reported in MPER 6

What can you do?

Be Proactive!

1) Get in front of people who live in electrically heated homes.
2) Introduce them to DHPs for the first time.

Our Goal

We want to help you market and sell to electrically heated homes!

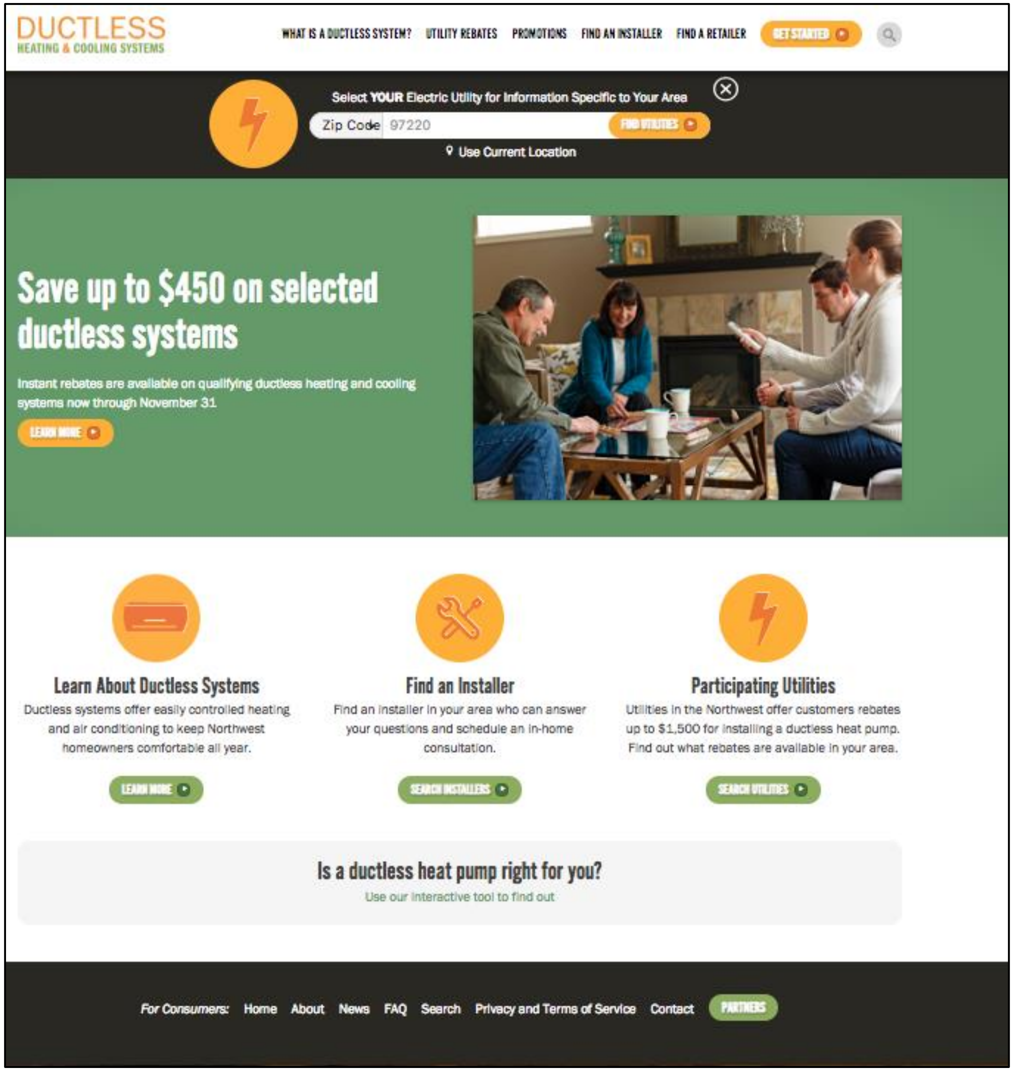
Would you be interested in learning more?

- Marketing practices
- Sales skills
- Ideas on new ways to grow your DHP sales

Resources at GoingDuctless.com

Lots of info for
Consumers & Contractors

- Learn about DHPs
- Utility rebates
- Training resources
- Manufacturer promotions



Questions?

Give me a call!

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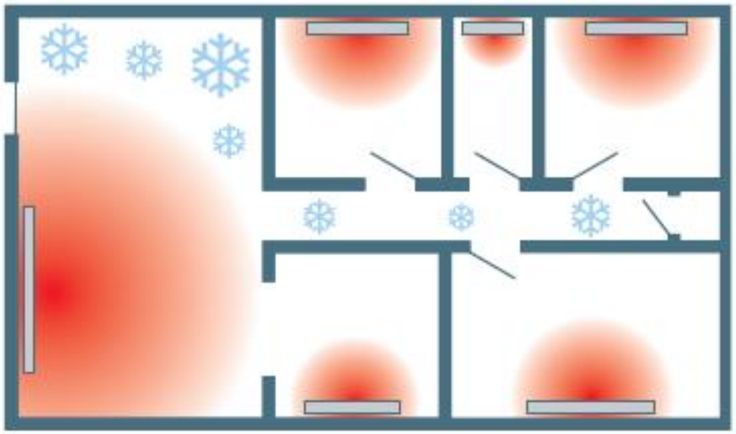
Appendix Slides

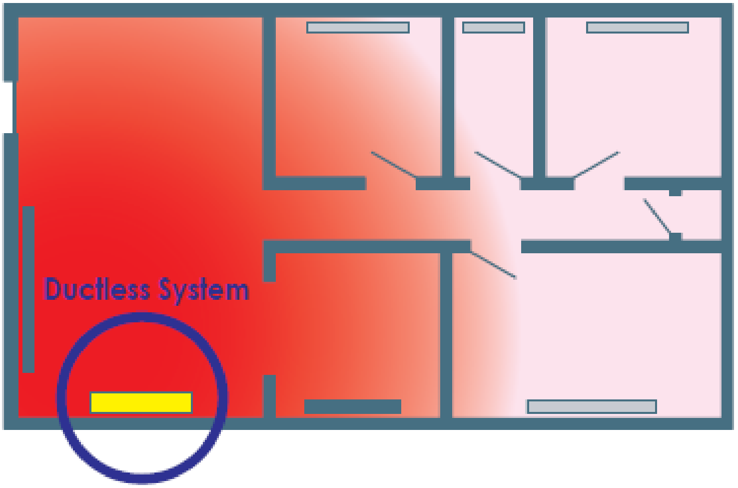
1) Displacement Technique
2) Information Gaps (experienced by consumers)
3) Price Barriers

Displacement Approach

Results: Maximize energy savings, return on investments and sales opportunities



Existing condition:
Baseboard heating system

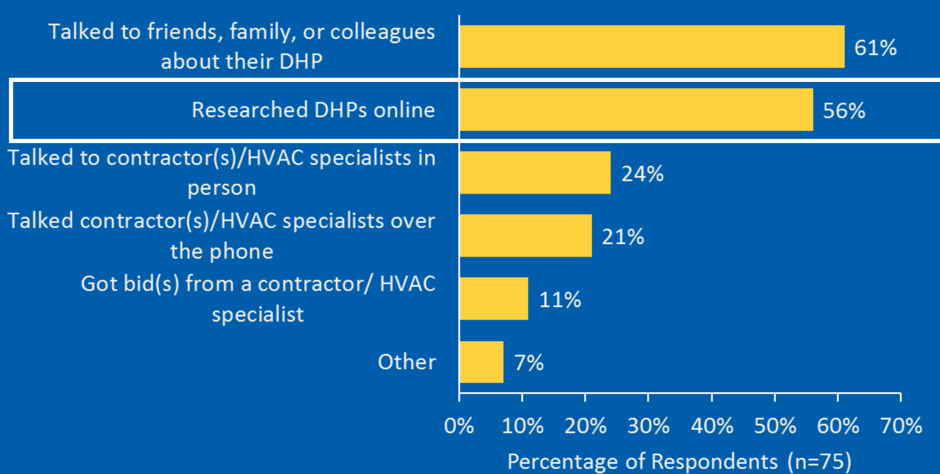


Displacement solution:
Single-head ductless system in primary living area; baseboards remain in place as backup

Conclusion: DHP purchase considerers often conduct online research, but may not find sufficient information on some topics

More than half of surveyed respondents who considered purchasing a DHP had conducted online research

Actions Taken When Considering DHP Purchase



Most interviewed "non-purchasers" had conducted online research; Wanted additional information:

Product Reviews

What to ask installers

DHP information specific to their climate or home characteristics

"I wish I could find the annual operational cost of running a DHP in Seattle for a home of a given size."

CADMUS

Conclusion: Price continues to be a major barrier; However, consumers may encounter a variety of other purchase barriers

Half of surveyed consumers who considered purchasing a DHP (but did not) identified cost as the reason

Reason	Percentage of Respondents (n=75)
Price/cost	53%
Still deciding what to do	5%
Lack of knowledge of DHPs	4%
DHPs take up too much space	3%
Aesthetics	3%
DHPs only heat/cool one area of the home	3%
Did not feel like it was a necessary purchase	1%
Did not want to try a new type of equipment	1%
Contractor did not provide a bid	1%
Did not provide a response	26%

"Non-purchaser" interviewees identified several barriers:

Upfront Investment

Doubts about heating capability

Conventional HP better for whole-house system

Did not meet aesthetic expectations

Installer did not recommend

"The DHP was a lot more expensive than I thought for not being able to take care of all zones."

"DHPs would exhale mildly warm air as opposed to a gas fireplace system that can heat up the bones of the house."

CADMUS

CONCLUSION

DHP purchase considerers often conduct online research on DHPs; may not find sufficient information on some topics

RECOMMENDATIONS

Consider providing additional information on goingductless.com, e.g.:

- Product reviews
- DHP cost savings and payback period calculator specific to different Pacific Northwest climate zones and home sizes or number of units
- List of affordable single-head equipment brands and options
- Checklist of questions for respondents to ask installers
- Customer testimonials

Drive customers to goingductless.com (e.g. through search engine optimization), and/or make resources available through other channels (e.g. utility websites)