

**EXHIBIT NO. ___(MBM-18)
DOCKETS UE-151871/UG-151872
PSE EQUIPMENT LEASING SERVICE
WITNESS: MALCOLM B. MCCULLOCH**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Dockets UE-151871
UG-151872**

**ELEVENTH EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED REBUTTAL TESTIMONY OF
MALCOLM B. MCCULLOCH
ON BEHALF OF PUGET SOUND ENERGY**

JULY 1, 2016

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**Docket Nos. UE-151871 UG-151872
Puget Sound Energy's
Electric and Natural Gas Equipment Lease Service**

SMACNA DATA REQUEST NO. 028

SMACNA DATA REQUEST NO. 028:

RE: Customer Surveys

In response to Public Counsel DR 013, PSE provided materials presented to the CRAG on the proposed leasing program. In the materials submitted for the June 5, 2014, meeting of the CRAG, in the presentation by Liz Norton and Malcolm McCulloch entitled "Products & Services: Leasing Business Planning," on the slide entitled "Lease Likelihood" (as well as on other slides), PSE referenced a "PSE residential HVAC survey" and a PSE residential lease WH survey." Please provide a copies of the questions and data from each respective survey, information about the dates of the surveys, information about the means of the surveys (telephone, internet, mail, etc.), information about the respondents to the surveys, information about the number of persons contacted to get the respondents, and any final report relating to surveys.

Response:

Attached as Attachment A to Puget Sound Energy's ("PSE") Response to SMACNA Data Request No. 028, please find PDF and MS Excel files of the survey questions PSE issued with regard to the offering of the optional equipment lease service, data captured and a summary of the results. This survey was conducted between May 2, 2014, and May 9, 2014, via an online survey, with an established PSE residential customer panel. This panel was established in the first quarter 2013 and originally consisted of approximately 5,000 panelists who chose the option to participate after receiving an invitation from PSE sent via U.S. mail that was sent to 125,000 PSE residential customers.

Attachment A.01	May, 2014 HVAC Survey Questions
Attachment A.02	May, 2014 Water Heat Survey Questions
Attachment A.03	May, 2014 HVAC Survey Data
Attachment A.04	May, 2014 Water Heat Survey Data
Attachment A.05	May, 2014 Survey Results Summary

Due to the large volume, Attachment A to PSE's Response to SMACNA Data Request No. 028 is provided in electronic format only.

**ATTACHMENT A to PSE's Response to
SMACNA Data Request No. 028**

HVAC Survey, 5/2-5/9/14

Question QBCG2intro

Welcome back! Today's survey is about what goes into your buying decisions regarding appliances and equipment in your home.

Question Q1BCG2heatequip

Which of the following space heating equipment is installed in your home? (select all that apply)

- Gas forced air furnace
- Electric forced air furnace
- Air source heat pump
- Heating stove
- Baseboard heater
- Boiler
- Ductless heat pump
- Dual-fuel heat pump
- Plug-in heater
- Ground source heat pump
- Fireplace
- Conversion burner
- Other
- Don't know
- Have no heating equipment

HVAC Survey, 5/2-5/9/14

Matrix table Q4BCG2HVACbrand - Q4BCG2HVACbrann

What brand is the heating equipment in your home?

	Gas forced air furnac e	Electri c forced air furnac e	Air sourc e heat pump	Heatin g stove	Baseboar d heater	Boile r	Ductles s heat pump	Dual -fuel heat pum p	Plug- in heate r	Groun d sourc e heat pump	Conversio n burner
Trane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lennox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
York	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goodma n	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
America n Standard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rheem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mitsubis hi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Daikin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Don't know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question Q2BCG2wheninstall

When did you last have your primary heating equipment installed in your home?

- Within the last year
- 1-5 years ago
- 6-10 years ago
- 11-20 years ago
- More than 20 years ago
- Never
- Don't know

HVAC Survey, 5/2-5/9/14

Question Q3BCG2why

Why did you install a new unit? (select all that apply)

- The existing unit broke
- The existing unit was old
- Maintenance costs were too high
- Product type didn't work for my heating needs
- Wanted lower monthly utility bill
- Wanted more energy-efficient product
- Other

Question Q13BCG2searchterm

From whom did you purchase your last space heating equipment?

- HVAC Contractor
- Plumbing Contractor
- Electrical Contractor
- General Handyman
- Home Depot
- Lowes
- Sears
- Manufacturer directly
- Other
- Don't know

Matrix table Q14BCG2sata - Q14BCG2satj

How satisfied were you with the various aspects of this provider?

	Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Very Satisfied
Overall cost including product and installation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product range and choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initial customer service and convenience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge and expertise of provider	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair and trustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HVAC Survey, 5/2-5/9/14

recommendation

Timeliness of installation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professionalism of technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongoing service and repair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Matrix table Q5BCG2trane - Q5BCG2daikin

What is your general opinion of the following brands?

	Very Unfavorable	Slightly Unfavorable	Neutral/No Opinion	Slightly Favorable	Very Favorable	I don't know this brand
Trane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carrier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lennox	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
York	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goodman	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
American Standard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rheem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mitsubishi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Daikin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question Q6BCG2ac

What cooling equipment, if any, does your home currently use? (select all that apply)

- Central A/C
- Air source heat pump
- Window A/C
- Ductless heat pump
- Packaged terminal A/C
- Evaporative ("swamp") cooler
- Ground source heat pump
- Single room A/C unit
- Fans

HVAC Survey, 5/2-5/9/14

- Other
- I don't have cooling equipment

Question Q7BCG2noac

Why don't you use cooling equipment? Please select the main reason.

- Upfront cost too expensive
- Overall lifetime costs too expensive (maintenance, energy bills, etc.)
- Don't need cooling in this climate
- Don't want cooling equipment
- Other

Matrix table Q8BCG2importance - Q8BCG2importancq

If you were in the market for new heating and/or cooling equipment, how important would the following factors be in your decision of what equipment to install?

	Very Unimportant	Unimportant	Indifferent	Important	Very Important
Upfront cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monthly utility bill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energy efficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How quickly it can be installed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Installer recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product warranty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Durability (product life)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise/Aesthetics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Controls/interface (incl. the ability to control remotely over internet, smartly adjust temperature according to daily habits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty of installation (e.g. need to rewire, run new lines)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HVAC Survey, 5/2-5/9/14

Available rebates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (optional)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="text"/>					

Question Q9BCG2leaseconcept

Instead of purchasing space heating or cooling equipment, imagine you were given the option to lease the equipment instead.

You would pay a monthly fixed and all-inclusive charge, and the sum of those charges would be similar to the combined costs of the upfront equipment purchase, installation and permitting fees, maintenance, repair, and future disposable costs.

The leasing program would include:

- No upfront cost
- Maintenance (repairs and replacement)
- 24 hour customer service
- Same-day repairs
- An energy-efficient product
- The ability to transfer the lease when you sell your home

The contract duration would be 17 years, and the estimated monthly charge is \$60. This is compared to the cost of purchasing the product outright (at around \$1,500, with a \$650 installation cost) and paying for maintenance out of pocket.

Matrix table Q9BCG2leaseHP - Q9BCG2leaseAC

Under these terms, how likely would you be to lease the following HVAC equipment if you were in the market for this equipment?

HVAC Survey, 5/2-5/9/14

	Very unlikely	Unlikely	Maybe	Likely	Very likely
space heating equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
space cooling equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Matrix table Q10BCG2mod1 - Q10BCG2mod5

Now please think only about *heating* equipment.

Compared to the lease offer above, consider each of the following modifications independently. For each modification, indicate how it affects your likelihood to lease space heating equipment:

	Much Less Likely	Slightly Less Likely	No change	Slightly More Likely	Much More Likely
The same lease offering detailed earlier, except maintenance <i>is not</i> included (have to pay per service call). The monthly price is now \$25 (\$35 less per month). Without maintenance coverage, typical maintenance costs are expected to be \$400 per visit, with an estimated average of 1 visit per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The same lease offering detailed earlier, except you now have to pay the installation cost (about \$650). The monthly price is now \$55 (\$5 less per month).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The same lease offering detailed earlier, but you cannot lease an energy-efficient product. Monthly price is now \$55 (\$5 less per month). Note that this does not take into account energy bill savings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The same lease offering detailed earlier, but repairs are not same day (instead within a day or two). Monthly cost is now \$55 (\$5 less per month).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Matrix table Q11BCG2leaseimportance - Q11BCG2leaseimportancj

How important are the following options to you in a lease offering?

	Very Unimportant	Unimportant	Indifferent	Important	Very Important
No upfront cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HVAC Survey, 5/2-5/9/14

- | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Maintenance is included (repairs and replacement) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24-hour customer service | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Same-day repairs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| An energy efficient product | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The ability to transfer the lease to the new owner when you sell your home | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Question Q12BCG2inforank

Minimum number of selections: 1

Maximum number of selections: 3

Those are all our questions about leasing.

If you ever needed to install a new heating system, where would you go for information?

Please drag and drop your 1st, 2nd and 3rd choices into the box on the right.

- HVAC Contractor
- Plumbing Contractor
- Electrical Contractor
- Other contractor
- General Handyman
- Home Depot
- Lowes
- Sears
- Google search engine
- Bing search engine
- Yahoo search engine
- Other search engine
- Call PSE
- Angie's List
- Yellowpages.com
- Yelp
- Call the number on the sticker on your existing unit
- Other

Question Q12BCG2infoother

Please describe your "other" choice.

HVAC Survey, 5/2-5/9/14

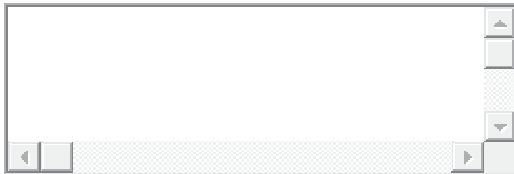
Question Q12BCG2searchterms

What would be your most likely search words/phrases when using a search engine?

An empty text input field with a light gray background and a thin border. It includes standard scrollbars on the right and bottom edges.

Question Q14BCG2satk

Thank you for your input. If you have any other comments, please enter them here:

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Question QBCG2close

Thank you for participating. Please click below to submit your responses.

WH Survey, 5/2-5/9/14

Question Q2BCGwwheninstall

When did you last have water heater equipment installed in your home?

- Within the last year
- 1-5 years ago
- 6-10 years ago
- 11-20 years ago
- More than 20 years ago
- Never
- Don't know

Question Q3BCGwwhy

Why did you install a new unit? (select all that apply)

- The existing unit broke
- The existing unit was old
- Maintenance costs were too high
- Product type didn't work for my water heating needs
- Wanted lower monthly utility bill
- Wanted more energy-efficient product
- Other

Question Q13BCGwsearchterm

From whom did you purchase your last water heater?

- HVAC Contractor
- Plumbing Contractor
- Electrical Contractor
- General Handyman
- Home Depot
- Lowes
- Sears
- Manufacturer directly
- Other
- Don't know

WH Survey, 5/2-5/9/14

Matrix table Q14BCGwsata - Q14BCGwsatj

How satisfied were you with the various aspects of this provider?

	Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Very Satisfied
Overall cost including product and installation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product range and choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initial customer service and convenience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge and expertise of provider	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair and trustworthy recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timeliness of installation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professionalism of technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongoing service and repair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Matrix table Q5BCGwrheem - Q5BCGwsteltron

What is your general opinion of the following brands?

	Very Unfavorable	Slightly Unfavorable	Neutral/No Opinion	Slightly Favorable	Very Favorable	I don't know this brand
Rheem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A.O. Smith	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bradford White	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaughn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lochinvar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ariston	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stiebel Eltron	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Matrix table Q8BCGwimportance - Q8BCGwimportancq

WH Survey, 5/2-5/9/14

If you were in the market for new water heater equipment, how important would the following factors be in your decision of what equipment to install?

	Very Unimportant	Unimportant	Indifferent	Important	Very Important
Upfront cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monthly utility bill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energy efficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How quickly it can be installed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Installer recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product warranty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Durability (product life)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise/Aesthetics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Available rebates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (optional)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question Q9BCGwleaseconcept

Instead of purchasing water heating equipment, imagine you were given the option to lease the equipment instead.

You would pay a monthly fixed and all-inclusive charge, and the sum of those charges would be similar to the combined costs of the upfront equipment purchase, installation and permitting fees, maintenance, repair, and future disposable costs.

The leasing program would include:

- No upfront cost
- Maintenance (repairs and replacement)
- 24 hour customer service
- Same-day repairs
- An energy-efficient product
- The ability to transfer the lease when you sell your home

WH Survey, 5/2-5/9/14

The contract duration would be 13 years, and the estimated monthly charge is \$18. This is compared to the cost of purchasing the product outright (at around \$650, with a \$300 installation cost) and paying for maintenance out of pocket.

Question Q9BCGwleaseHP

Under these terms, how likely would you be to lease water heating equipment if you were in the market for this equipment?

- Very Likely
- Likely
- Maybe
- Unlikely
- Very Unlikely

Matrix table Q10BCGwmod1 - Q10BCGwmod5

Compared to the lease offer above, consider each of the following modifications independently. For each modification, indicate how it affects your likelihood to lease water heating equipment:

	Much Less Likely	Slightly Less Likely	No change	Slightly More Likely	Much More Likely
The same lease offering detailed earlier, except maintenance <i>is not</i> included (have to pay per service call). The monthly price is now \$17 (\$1 less per month). Without maintenance coverage, typical maintenance costs are expected to be \$450 per visit, with a 30% chance of you needing a maintenance call at least once over the lifetime of the equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The same lease offering detailed earlier, except you now have to pay the installation cost (about \$300). The monthly price is now \$14 (\$4 less per month).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The same lease offering detailed earlier, but you cannot lease an energy-efficient product. Monthly price is now \$14 (\$4 less per month). Note that this does not take into account energy bill savings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WH Survey, 5/2-5/9/14

The same lease offering detailed earlier, but repairs are not same day (instead within a day or two). Monthly cost is now \$17 (\$1 less per month).

Matrix table Q11BCGwleaseimportance - Q11BCGwleaseimportancj

How important are the following options to you in a lease offering?

	Very Unimportant	Unimportant	Indifferent	Important	Very Important
No upfront cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintenance is included (repairs and replacement)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24-hour customer service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Same-day repairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An energy efficient product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ability to transfer the lease to the new owner when you sell your home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question Q12BCGwinforank

Minimum number of selections: 1
 Maximum number of selections: 3

Those are all our questions about leasing.

If you ever needed to install a new water heater, where would you go for information?

Please drag and drop your 1st, 2nd and 3rd choices into the box on the right.

- HVAC Contractor
- Plumbing Contractor

WH Survey, 5/2-5/9/14

- Electrical Contractor
- Other contractor
- General Handyman
- Home Depot
- Lowes
- Sears
- Google search engine
- Bing search engine
- Yahoo search engine
- Other search engine
- Call PSE
- Angie's List
- Yellowpages.com
- Yelp
- Call the number on the sticker on your existing unit
- Other

Question Q12BCGwinfooter

Please describe your "other" choice.

Question Q12BCGwsearchterms

What would be your most likely search words/phrases when using a search engine?

Question Q14BCGwsatk

Thank you for your input. If you have any other comments, please enter them here:

Question QBCGwclose

WH Survey, 5/2-5/9/14

Thank you for participating. Please click below to submit your responses.

Customer survey results

Present the results from the survey that are relevant for the key questions we are trying to answer

The key questions are:

- What is the potential leasing market share?
- What should the product portfolio look like (e.g. energy efficiency, A/C. brand)?
- How should the lease offering be structured?
- What is the best customer acquisition method?

Summary of findings

Lease likelihood much higher than Phase 1 estimates

- 2x higher likelihood to lease HVAC (20%); 3x higher lease likelihood for WH (30%)

Customers most value "peace of mind", for both HVAC and WH

- Want product to last (durable with long warranty) and be maintained/serviced with monthly payment

Customers say they value low monthly costs...

...but customers do not want large out-of-pocket costs, and would rather pay a bit more overall

- Cheaper monthly lease with more expected out-of-pocket costs resulted in much lower lease likelihood

Energy efficiency (EE) is very important decision factor for both WH and HVAC customers

- EE was one of the top two reasons to get a new WH or HVAC (~25%)
- EE was the most important aspects of both HVAC and WH lease (80% named it important/very imp.)
 - Not offering an EE product caused the biggest drop in lease likelihood (>60% less likely)

Brand not very important to either WH or HVAC customers

- Most either had neutral opinions about or didn't recognize brands; (50-90% depending on brand)
- Many didn't know their product's brand (~20% for HVAC, ~40% for WH)

HVAC customers really value the ability to transfer the lease with a home sale; WH customers place more importance on 24 hr customer service and same-day repairs

Customers mostly use Contractors, Google, or Home Depot for WH/HVAC info

- Overall very satisfied with most performance aspects of contractors and retailers

2

20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Survey participants: Background summary

HVAC Survey, 5/2-5/9/14

806 PSE customers participated in the survey

100% of survey respondents own or are buying their home

Fuel they receive from PSE:

- 41% receive electricity and gas
- 37% receive electric only
- 22% receive gas only

Income level (of those who chose to say):

- 12%: total household income <\$40,000
- 29%: total household income \$40- <\$75,000
- 44%: total household income \$75- <\$150,000
- 15%: total household income \$150,000+

Product type:

- 62% have furnaces
- 11% have air source heat pumps
- 27% have A/C
- 1% has ductless heat pumps

We have representation from all 10 counties that PSE serves

WH Survey , 5/2-5/9/14

797 PSE customers participated in the survey

100% of survey respondents own or are buying their home

Fuel they receive from PSE:

- 41% receive electricity and gas
- 35% receive electric only
- 24% receive gas only

Income level:

- 14%: total household income <\$40,000
- 27%: total household income \$40- <\$75,000
- 44%: total household income \$75- <\$150,000
- 15%: total household income \$150,000+

Product type:

- 59% have gas tank-style
- 33% have electric tank-style
- 6% have gas tankless

We have representation from all 10 counties that PSE serves

Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

Customer product preferences

- HVAC
- WH

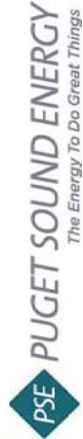
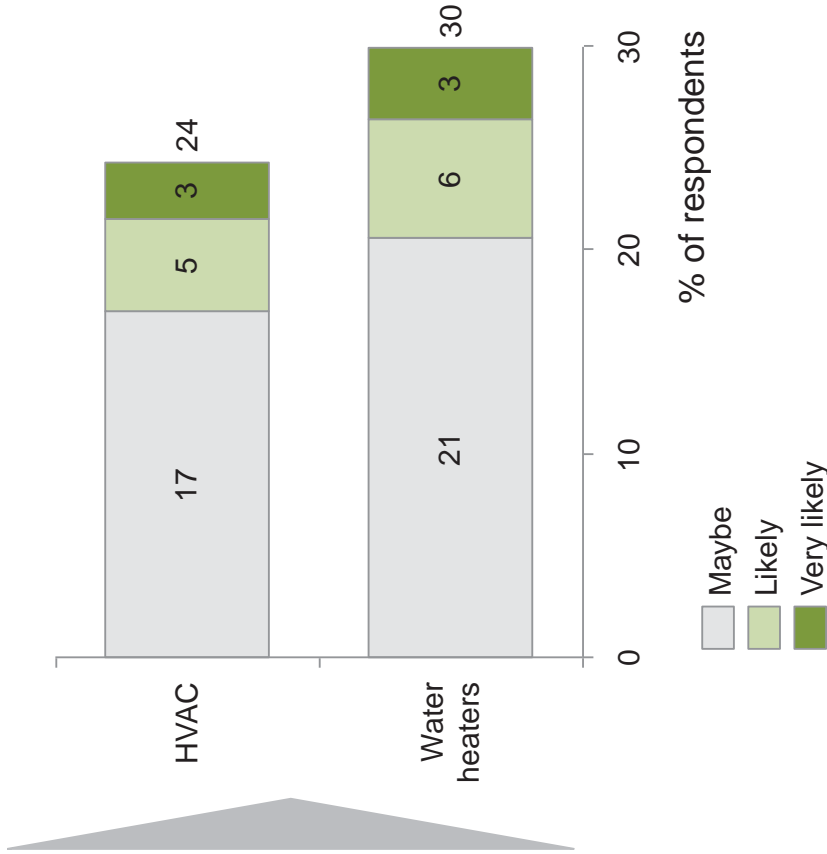
Customer purchasing preference

Remember, an earlier Phase 1 survey also tested lease likelihood....

We asked the following question...

In the next five years, how likely would you be to lease the following under the given contract duration and monthly charge?

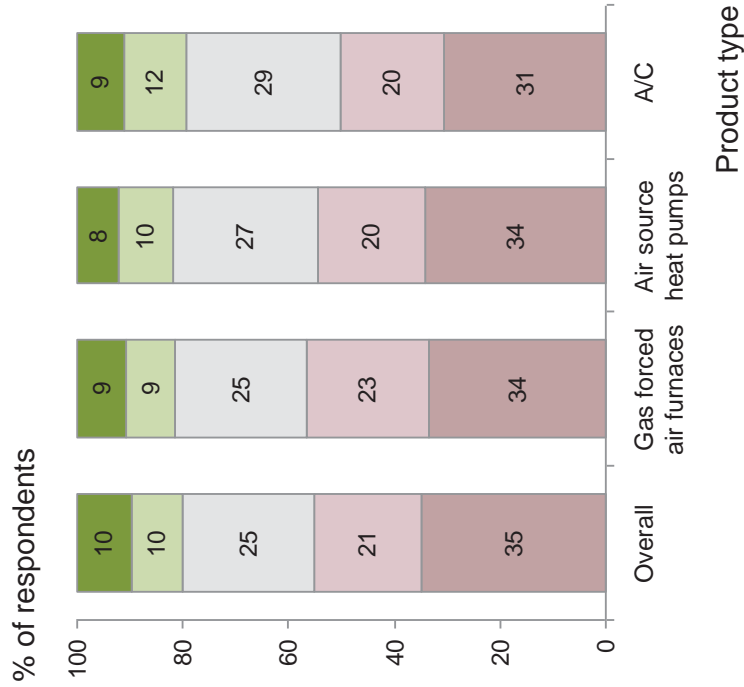
...and survey respondents gave this answer



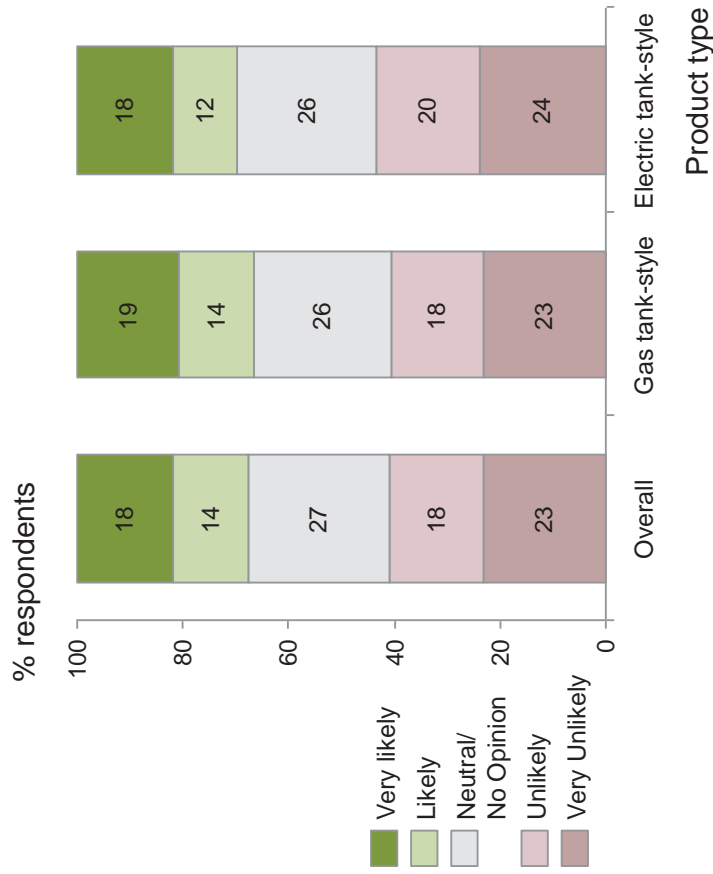
5 Source: PSE residential lease survey (n=1,533), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Lease likelihood ~20% for HVAC, ~30% for WH: higher than Phase 1 estimates, and similar across products

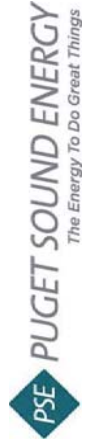
HVAC Lease Likelihood by Customers Currently Owning Target Product



WH Lease Likelihood by Customers Currently Owning Target Product



6 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

Customer product preferences

- HVAC
- WH

Customer purchasing preference

20% of customers likely or very likely to lease space heating equipment; 2x higher than Phase 1 results

When asked about lease likelihood under these terms...

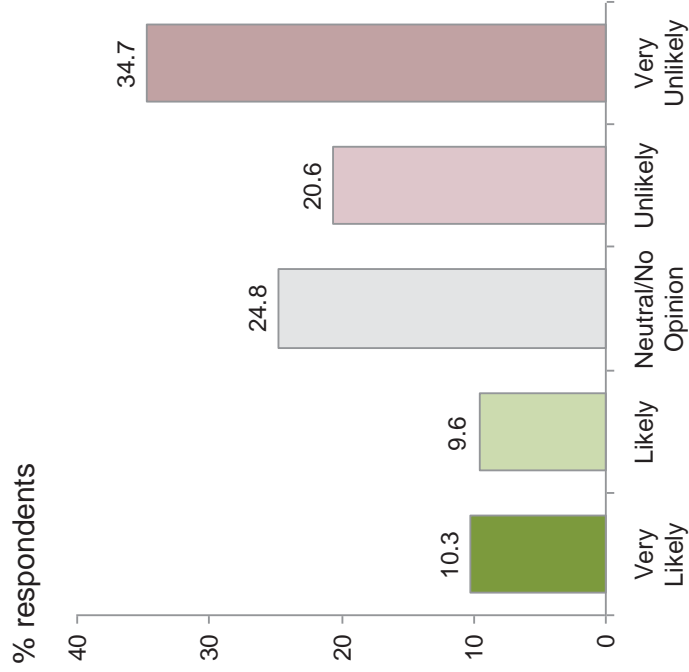
Instead of purchasing space heating equipment, imagine you were given the option to lease the product instead. You would pay a monthly fixed and all-inclusive charge, and the sum of those charges would be similar to the combined costs of the upfront equipment purchase, installation and permitting fees, maintenance, repair, and future disposable costs.

The leasing program would include:

- No upfront cost
- Maintenance is included (repairs and replacement)
- 24 hour customer service
- Same-day repairs
- An energy-efficient product
- The ability to transfer the lease to the new owner when you sell your home

The contract duration would be 17 years, and the estimated monthly charge is \$60. This is compared to the cost of purchasing the product outright (at around \$1500, with a \$650 installation cost) and paying for maintenance out of pocket.

...survey respondents gave the following answers

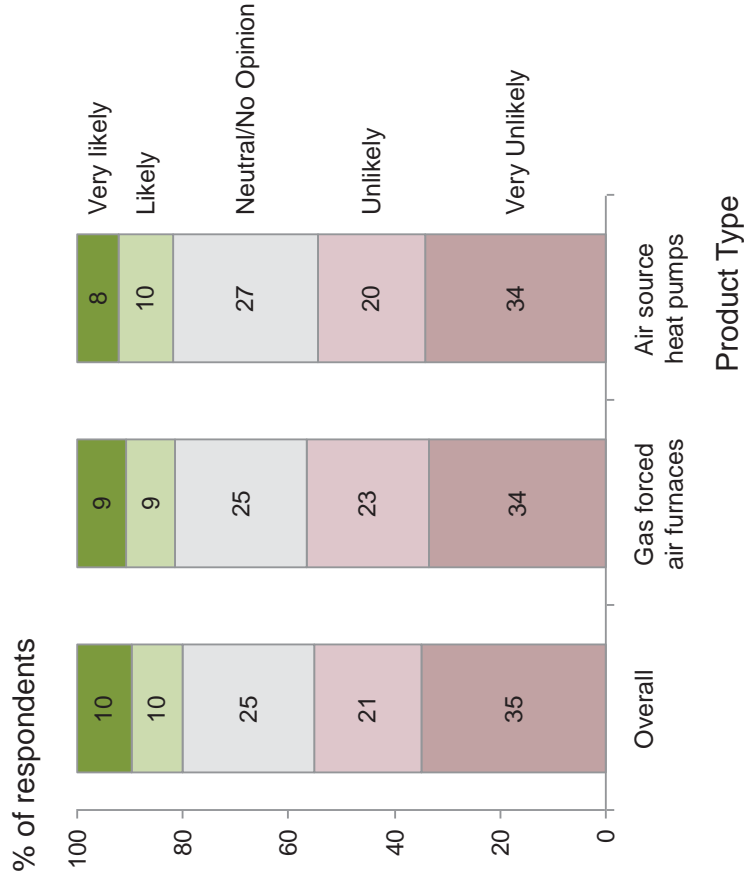


Lease likelihood under given terms

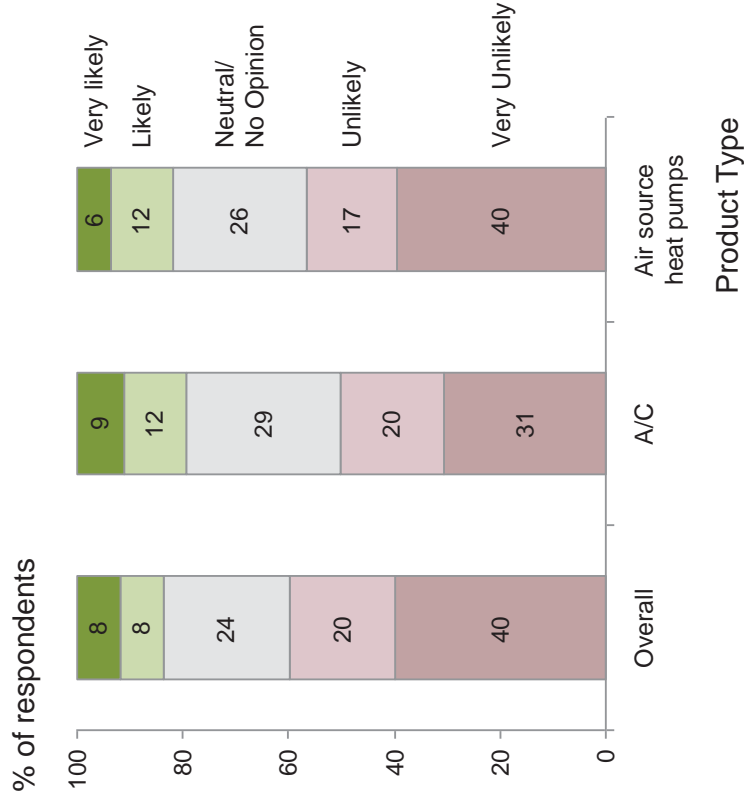
8 Source: PSE residential lease HVAC survey; (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

No significant difference in lease likelihood by product type owned

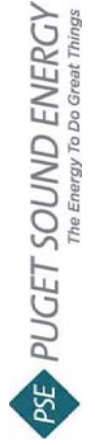
Likelihood to Lease Heating Equipment by Product Type Owned



Likelihood to Lease Cooling Equipment by Product Type Owned

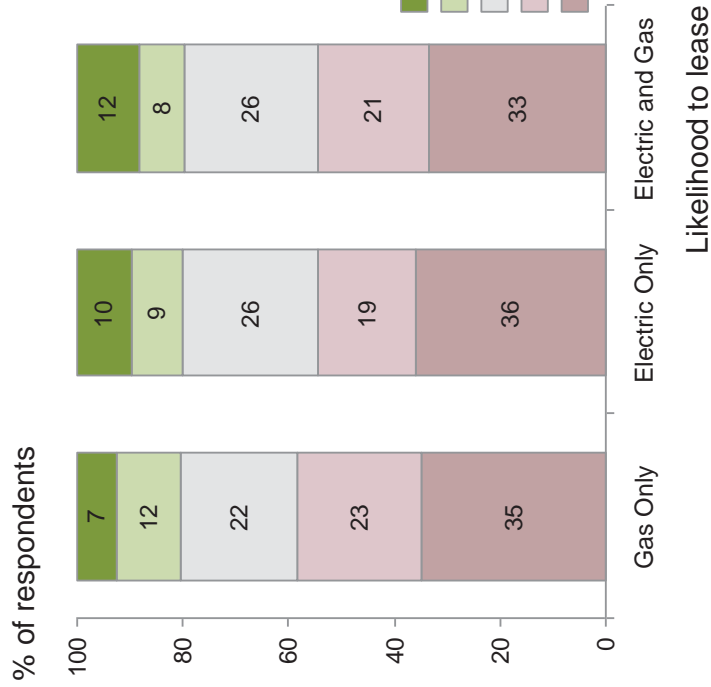


9 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

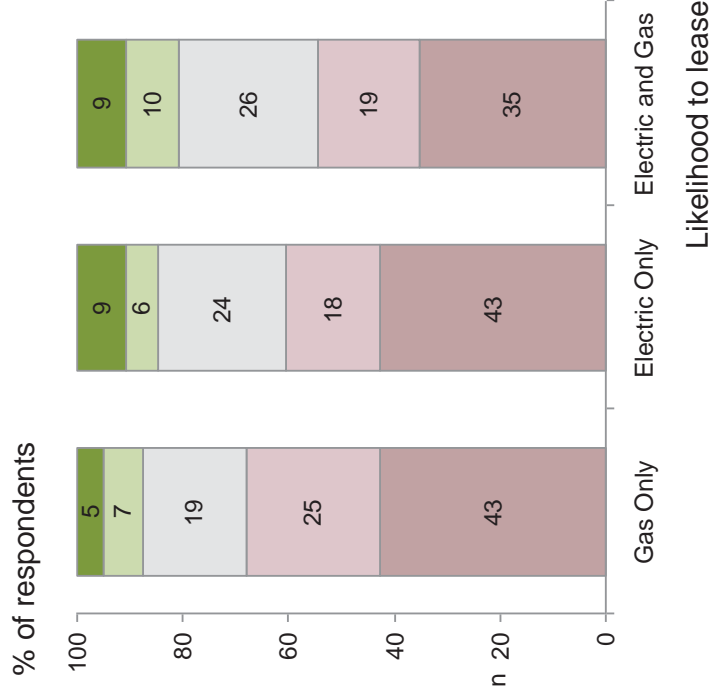


No significant difference in lease likelihood by fuel type

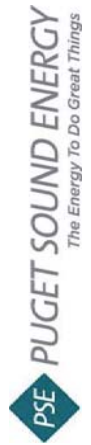
Likelihood to Lease Heating Equipment by Fuel Type



Likelihood to Lease Cooling Equipment by Fuel Type

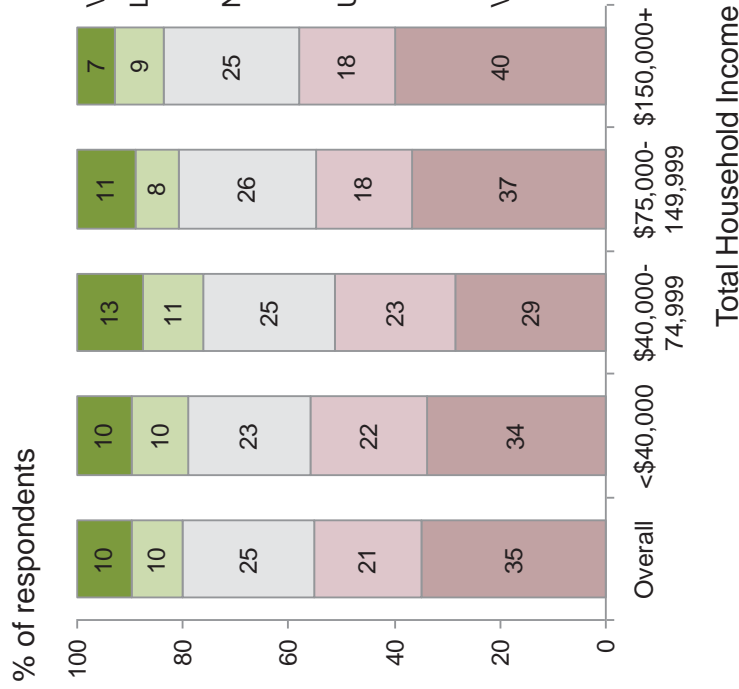


10 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

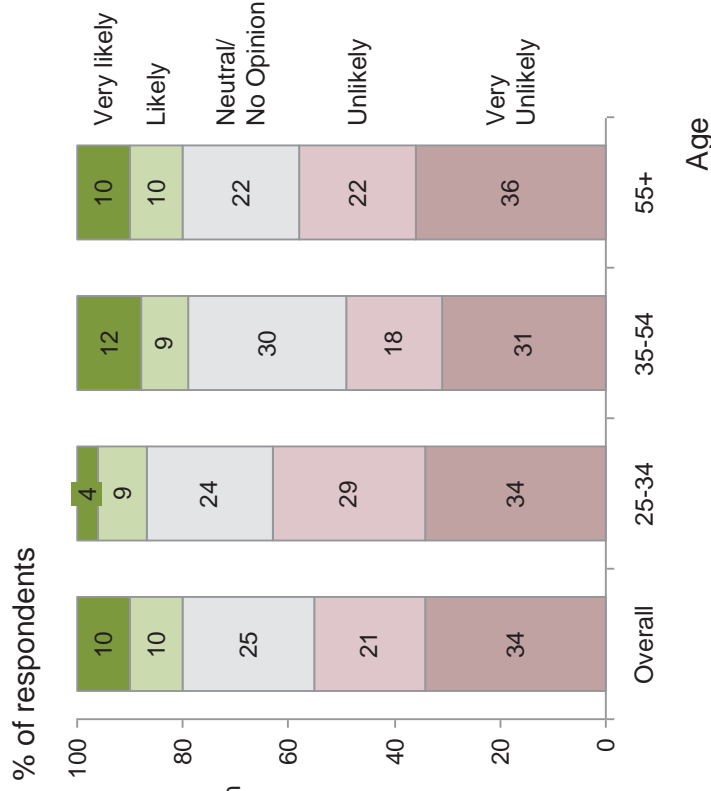


No significant differences in lease likelihood across age and income level groups

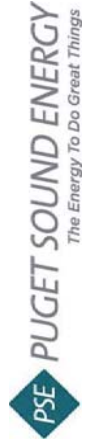
Likelihood to Lease Heating Equipment by Income



Likelihood to Lease Heating Equipment by Age of Respondent

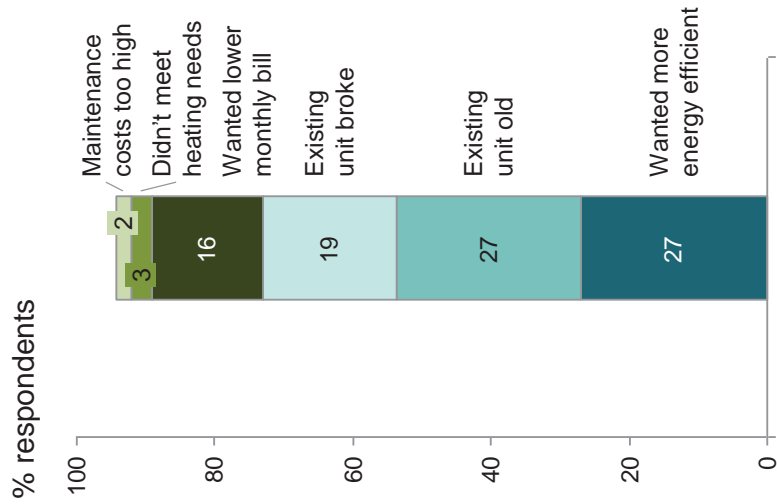


Note: No significant difference in A/C either
 11 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis
 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

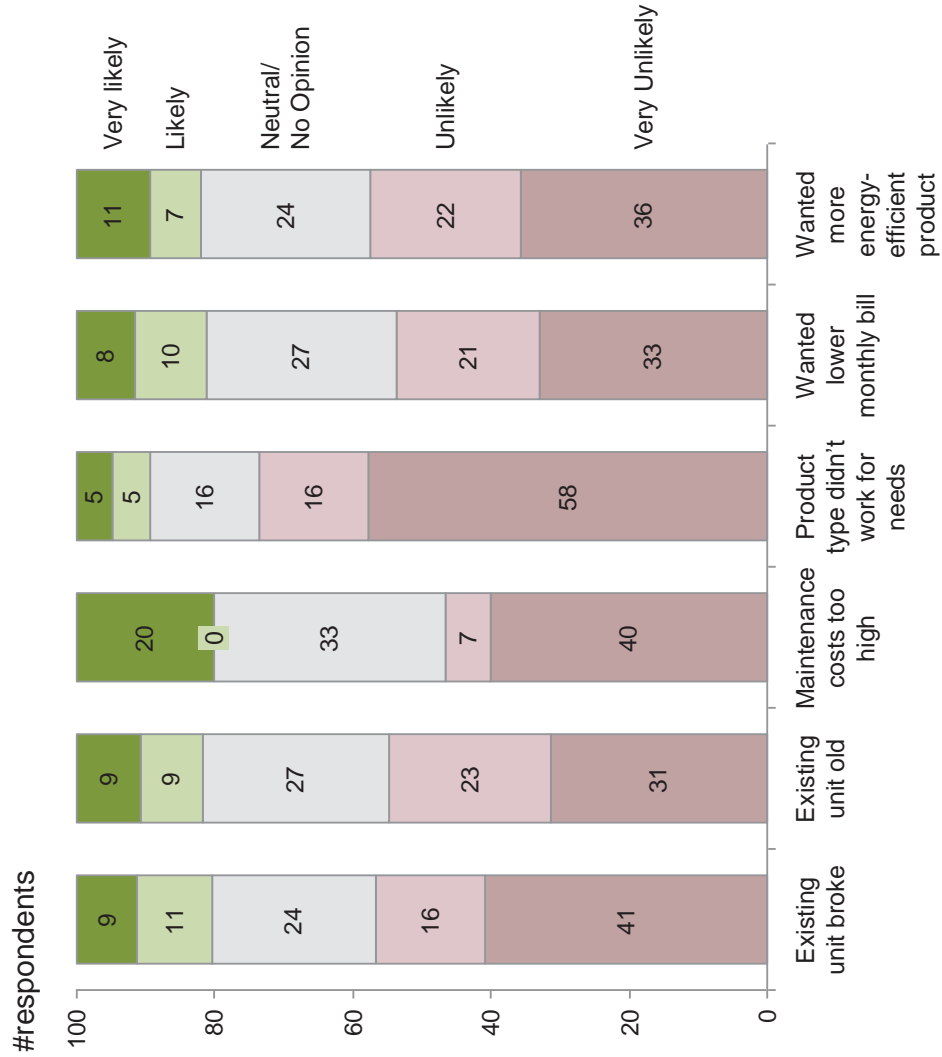


Most replaced HVAC due to age or energy-inefficiency; product/need mismatch created lowest lease likelihood

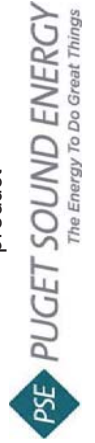
Why Customers Installed a new HVAC unit



Likelihood to Lease by Reason Purchased new Heating Equipment

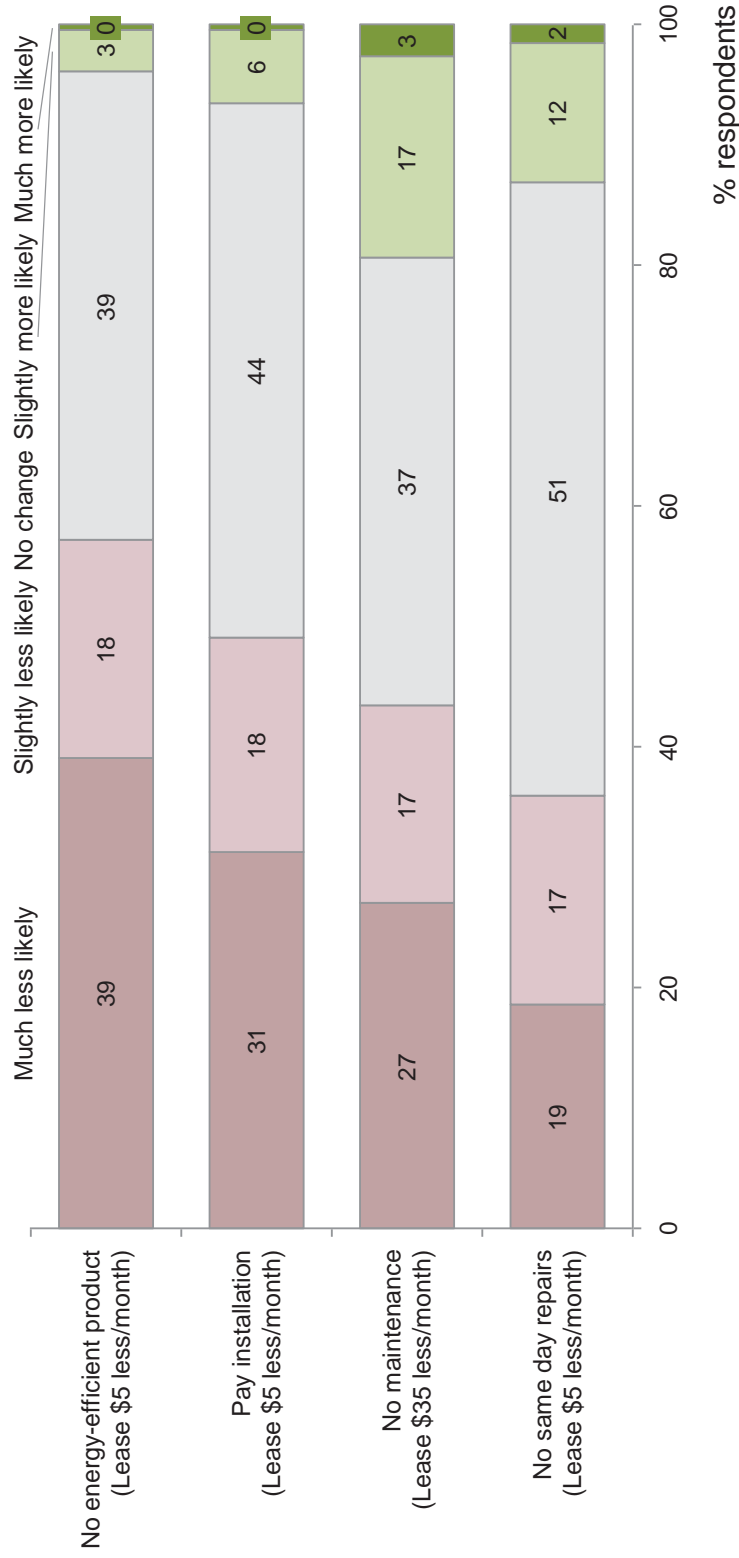


12 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



Customer lease likelihood most negatively affected by having no energy-efficient product or paying installation

How Changes to Lease Terms affect all Customers' Likelihood to Lease

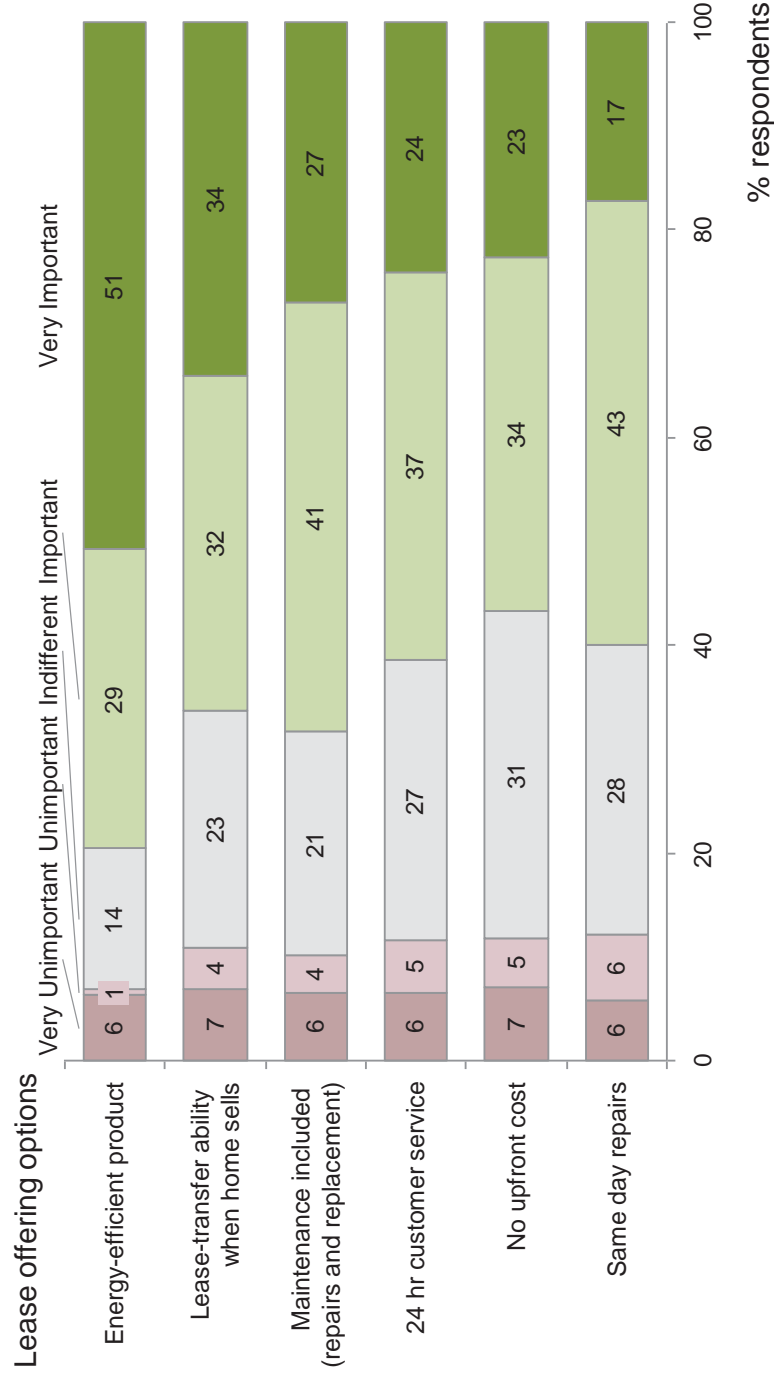


Having no maintenance created the most positive change in lease likelihood

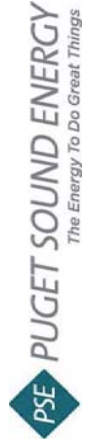
13 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

HVAC customers most value an energy efficient-product, lease-transfer ability, and included maintenance

Importance of Various Aspects of Lease Offer to those Customers Likely or Very Likely to Lease

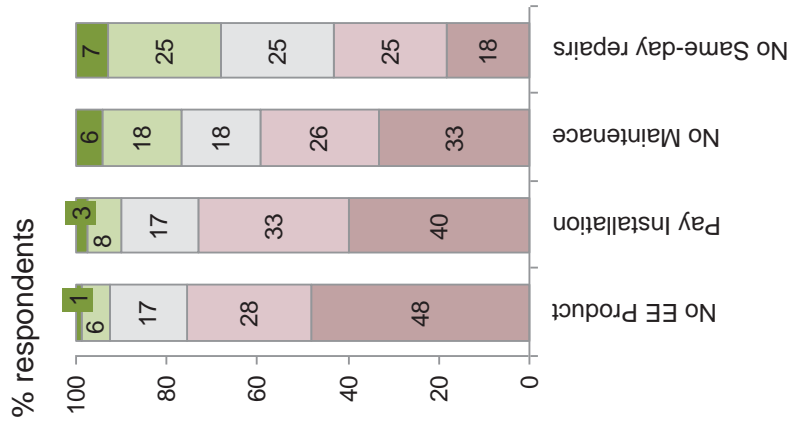


14 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

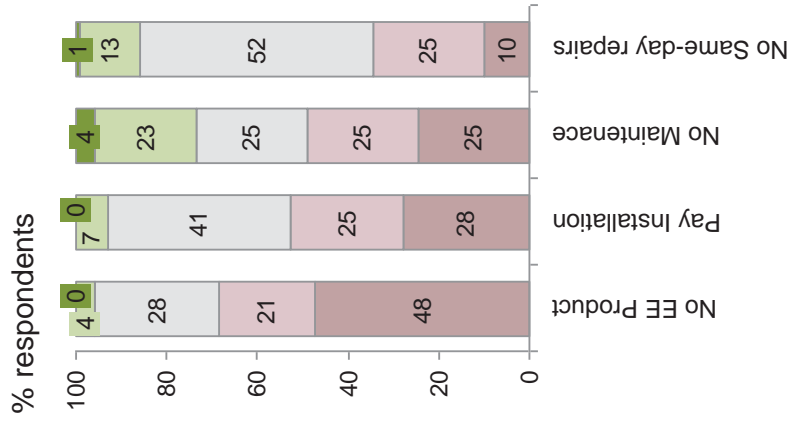


Changes to lease had bigger effect on those more likely^{HVAC} to lease; all changes resulted in net negative interest, with maintenance and EE having biggest effect

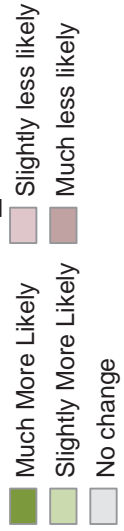
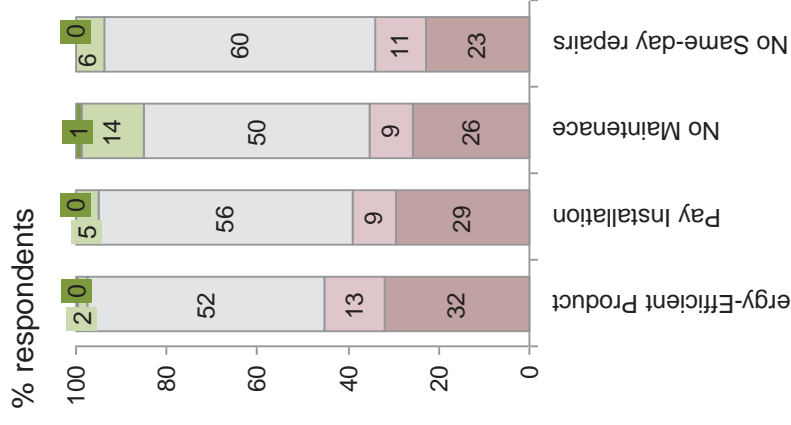
Change in Lease Likelihood for those Initially Inclined to Lease



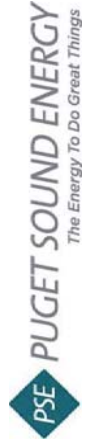
Change in Lease Likelihood for those Initially Neutral on Leasing



Change in Lease Likelihood for those Initially Disinclined to Lease



15 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

Customer product preferences

- HVAC
- WH

Customer purchasing preference

30% of customers are likely or very likely to lease, which is 3x as high as Phase 1 estimates

When asked about lease likelihood under these terms...

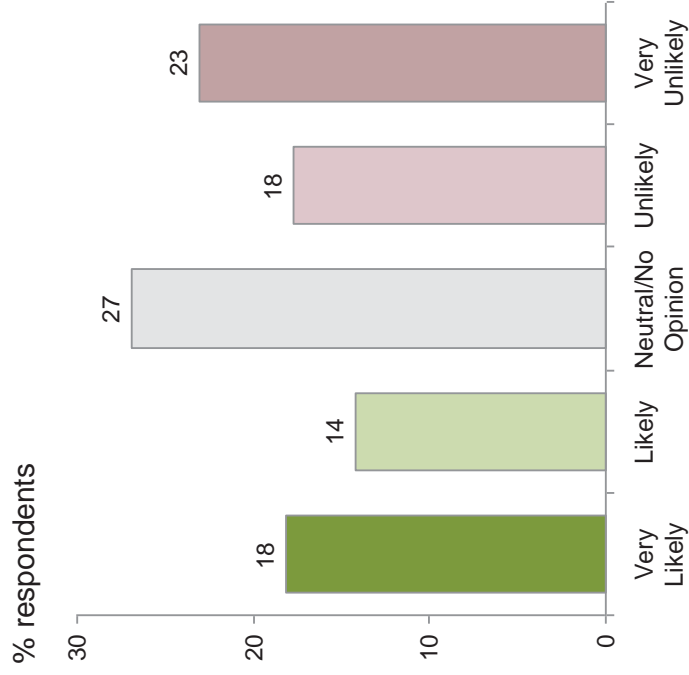
Instead of purchasing water heating equipment, imagine you were given the option to lease the product instead. You would pay a monthly fixed and all-inclusive charge, and the sum of those charges would be similar to the combined costs of the upfront equipment purchase, installation and permitting fees, maintenance, repair, and future disposable costs.

The leasing program would include:

- No upfront cost
- Maintenance is included (repairs and replacement)
- 24 hour customer service
- Same-day repairs
- An energy-efficient product
- The ability to transfer the lease to the new owner when you sell your home

The contract duration would be 13 years, and the estimated monthly charge is \$18. This is compared to the cost of purchasing the product outright (at around \$650, with a \$300 installation cost) and paying for maintenance out of pocket.

...survey respondents gave the following answers

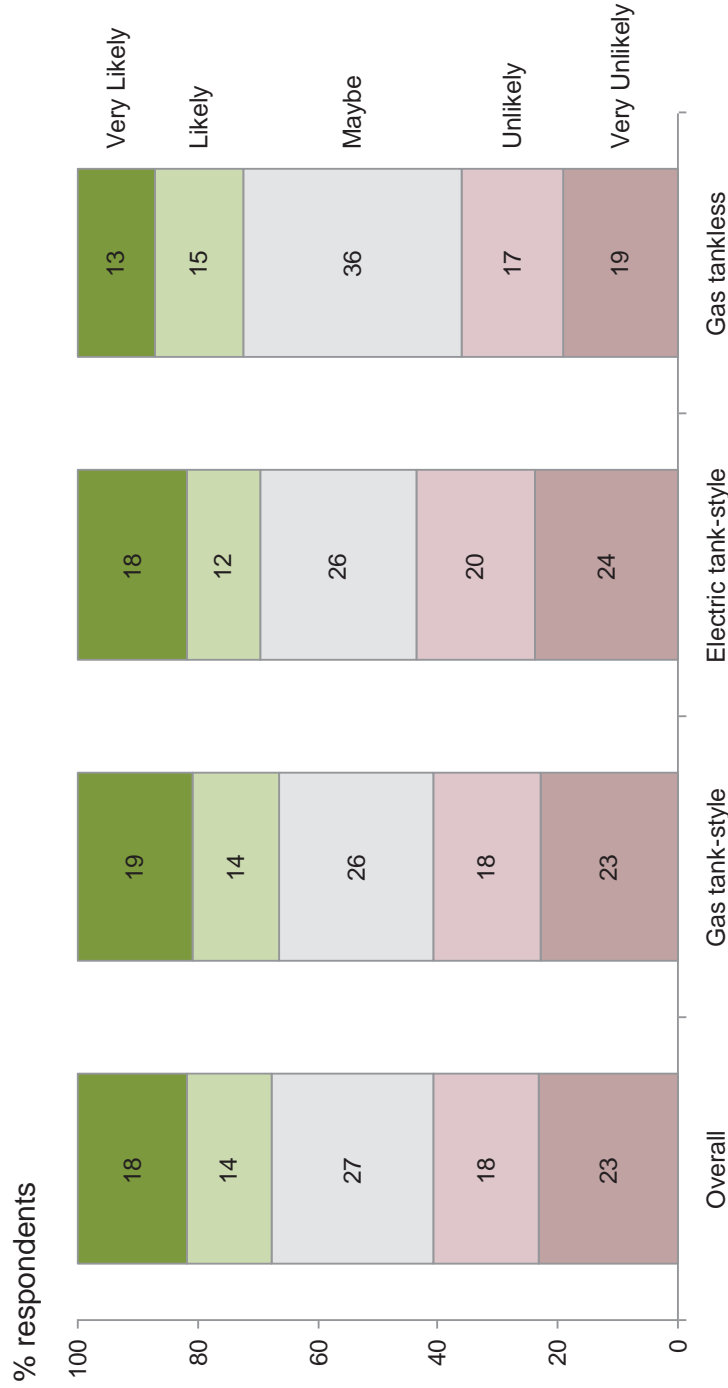


Lease likelihood under given terms

17 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

No significant difference in lease likelihood by product type owned

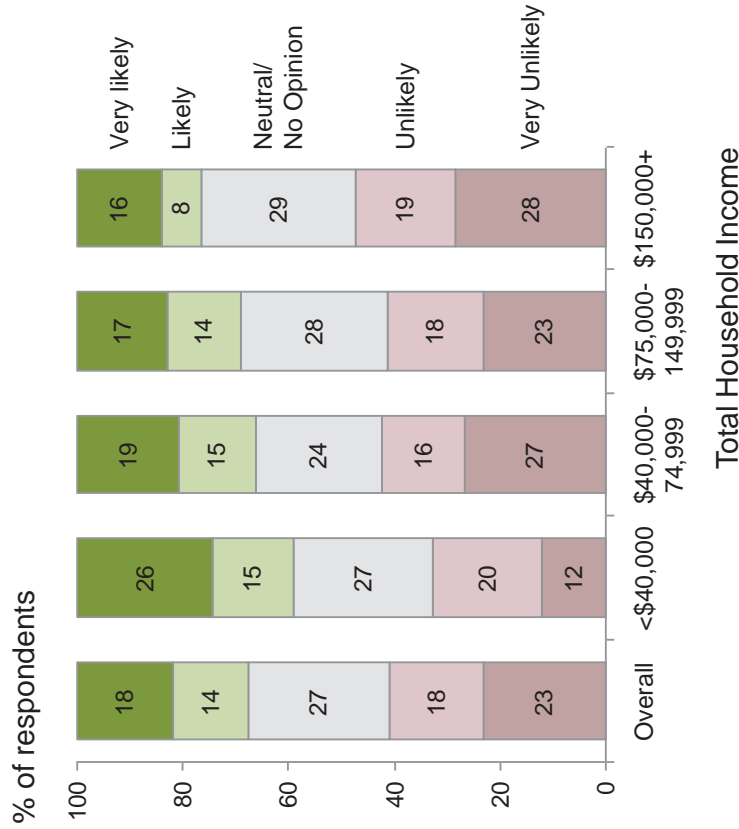
Likelihood to Lease Water Heater by Product Type Owned



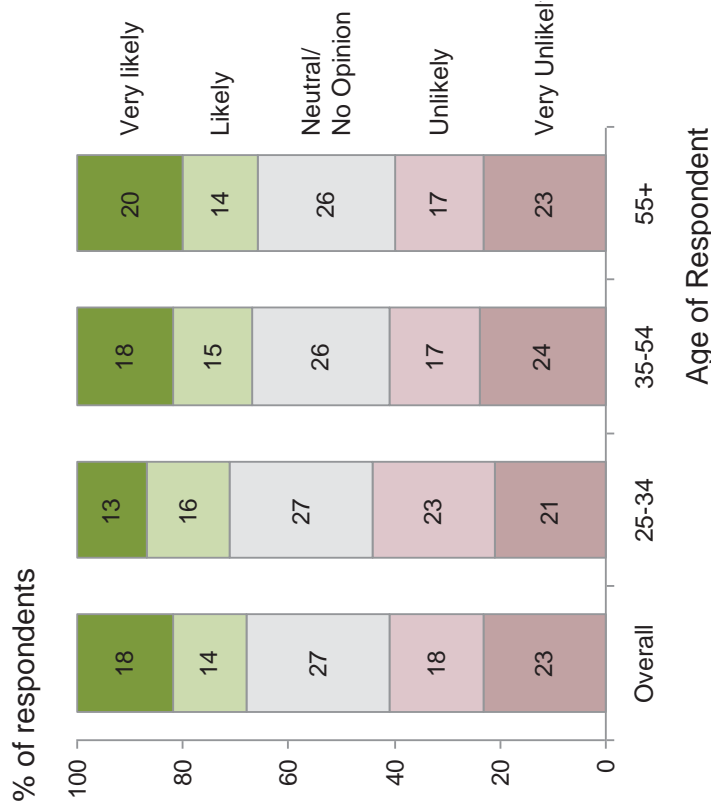
18 Source: PSE residential lease WH survey (n=797), BCG analysis
20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Some but limited correlation between lower income level and higher likelihood to lease water heaters

Likelihood to Lease Water Heating Equipment by Income



Likelihood to Lease Water Heating Equipment by Age of Respondent

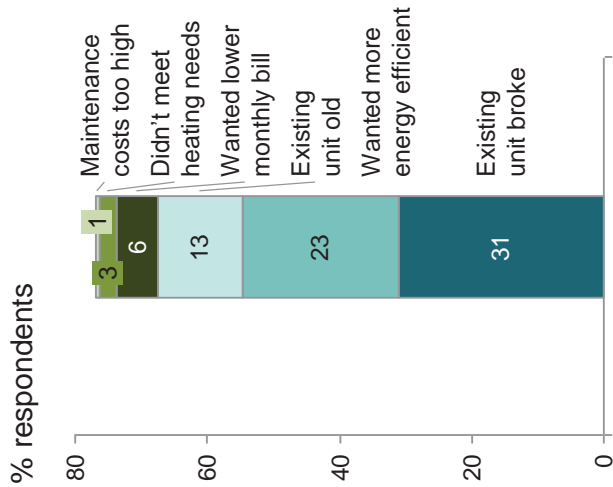


19 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

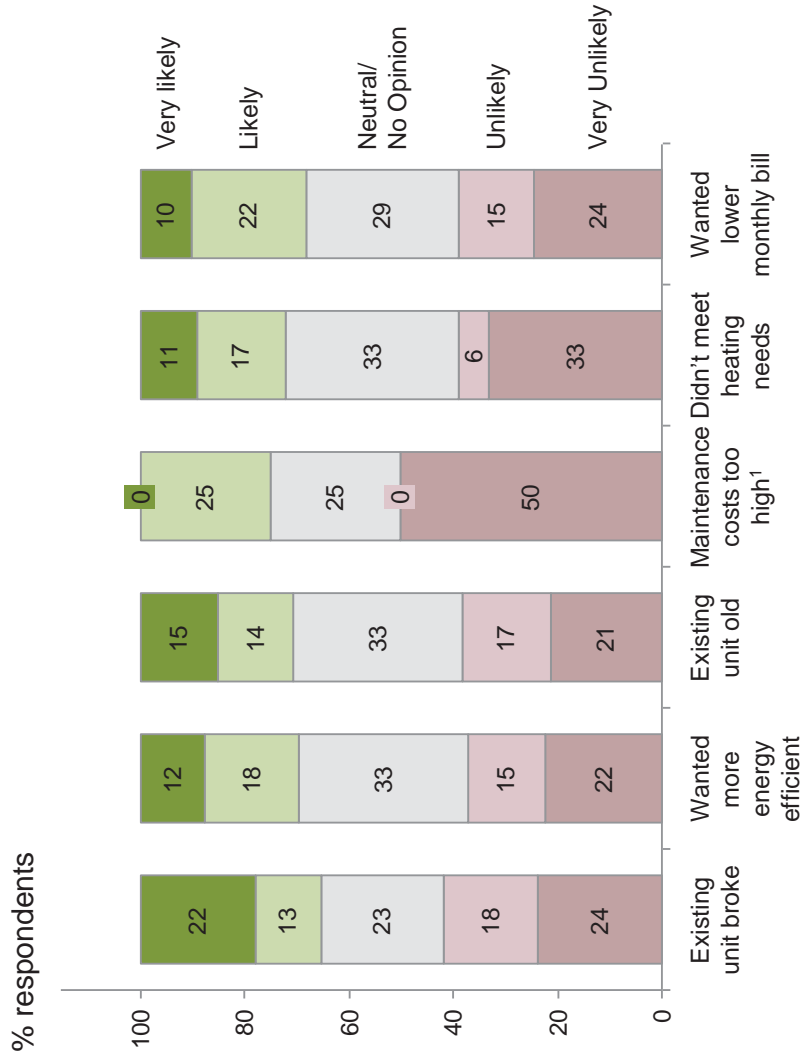


Customers mainly replace WH when unit breaks or to get more efficient; no significant difference in lease likelihood across reasons for replacement

Why Customers Installed a new WH



Likelihood to Lease by Reason Purchased new Water Heater



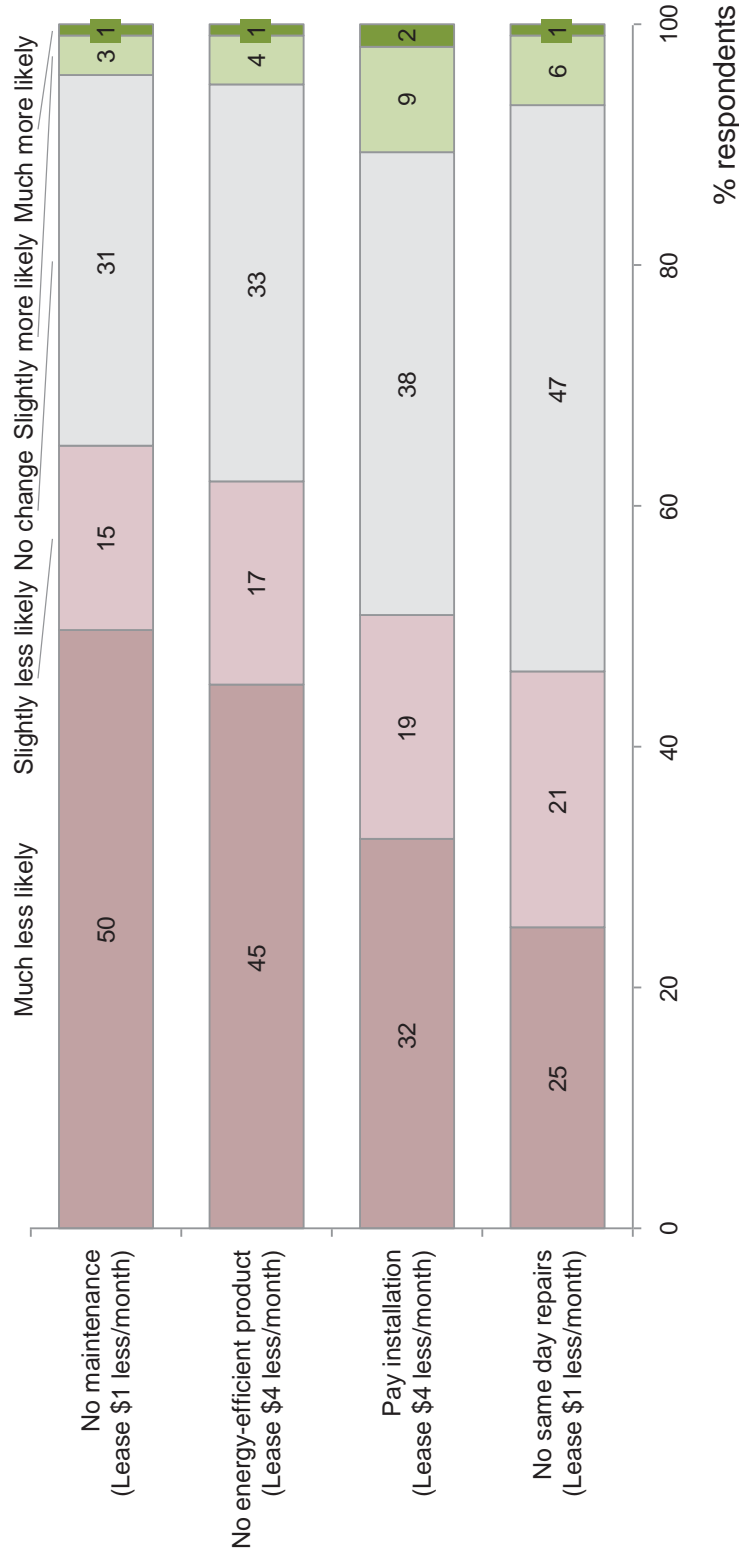
Reason new WH installed

1. Very small sample size (4)
 20 Source: PSE residential lease WH survey (n=797), BCG analysis
 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



All proposed changes lost customers; most sensitivity to losing maintenance and energy-efficiency

How Changes to Lease Terms affect Customers' Likelihood to Lease

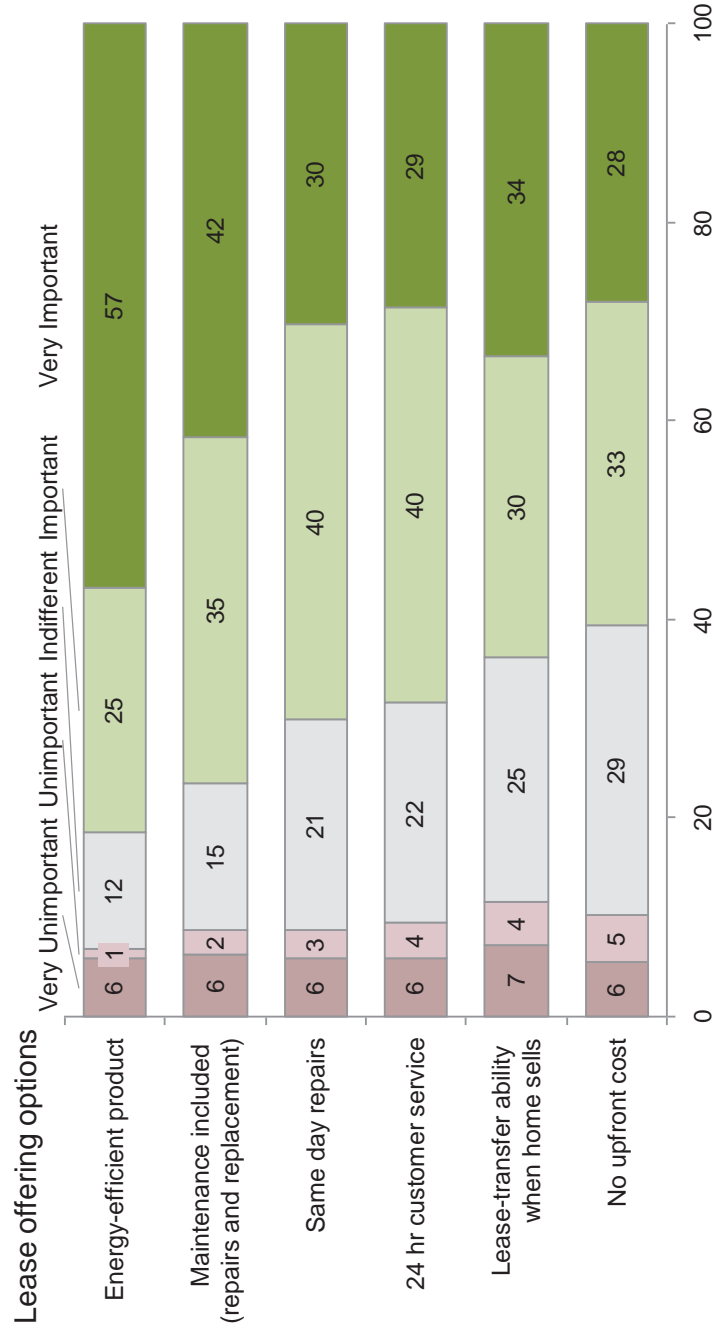


21 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Customers most value an energy-efficient product and "peace of mind": maintenance, same-day repairs, and 24 hr customer service

WH

Importance of Various Aspects of Lease Offer, to those Customers Likely or Very Likely to Lease



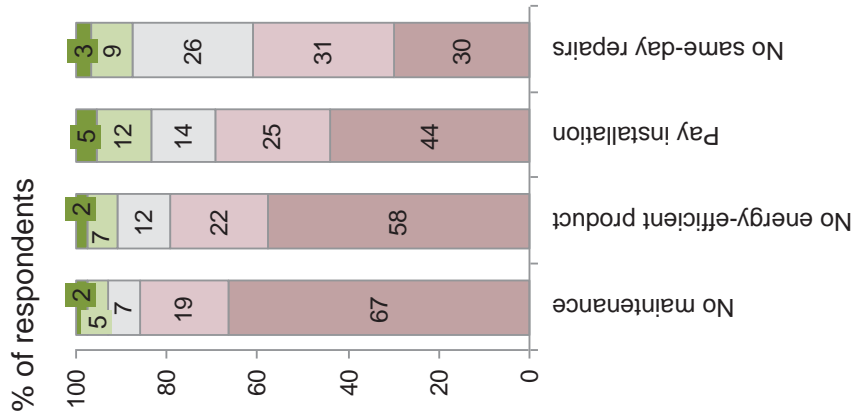
22 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



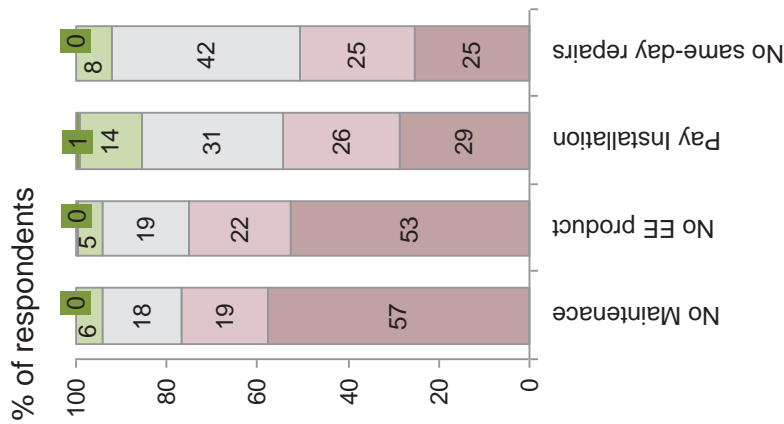
Changes to lease had bigger effect on those more likely to lease; all changes resulted in net negative interest, with maintenance and EE having biggest effect

WH

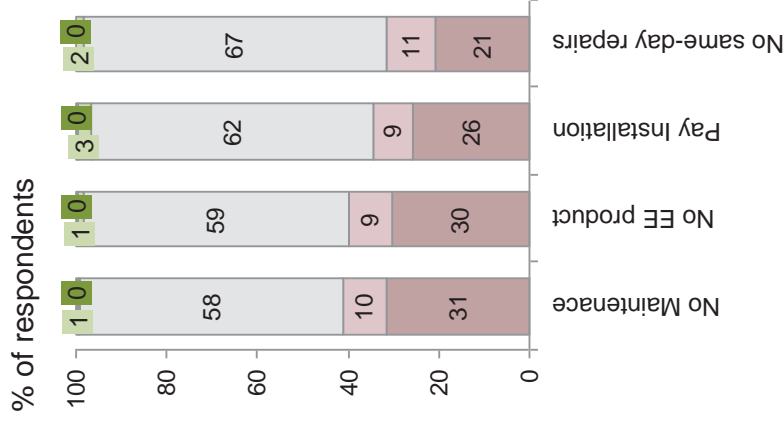
Change in Lease Likelihood for those Initially Inclined to Lease



Change in Lease Likelihood for those Initially Neutral on Leasing



Change in Lease Likelihood for those Initially Disinclined to Lease



■ Much more likely
■ Slightly more likely
■ No change
■ Slightly less likely
■ Much less likely

23 Source: PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

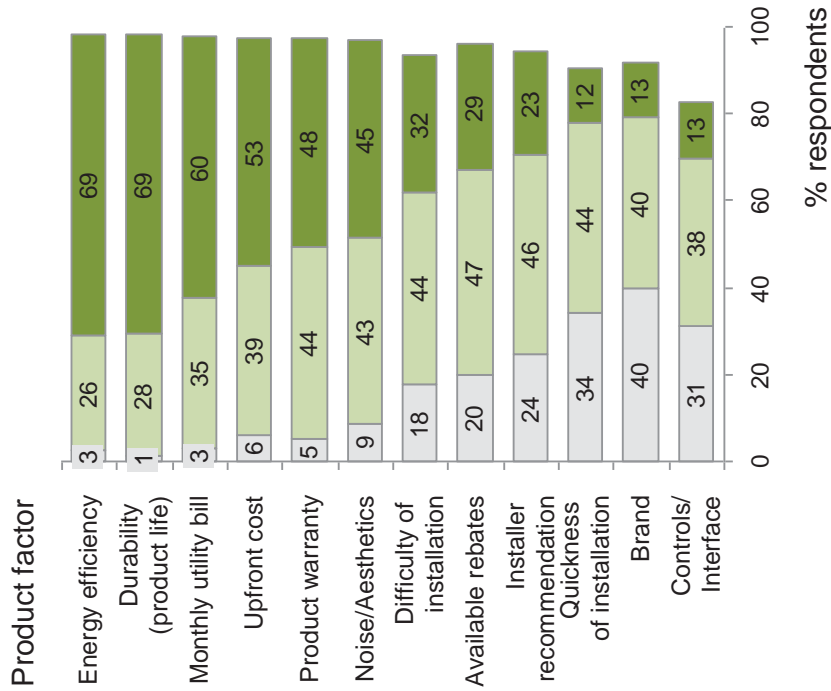
Customer product preferences

- HVAC
- WH

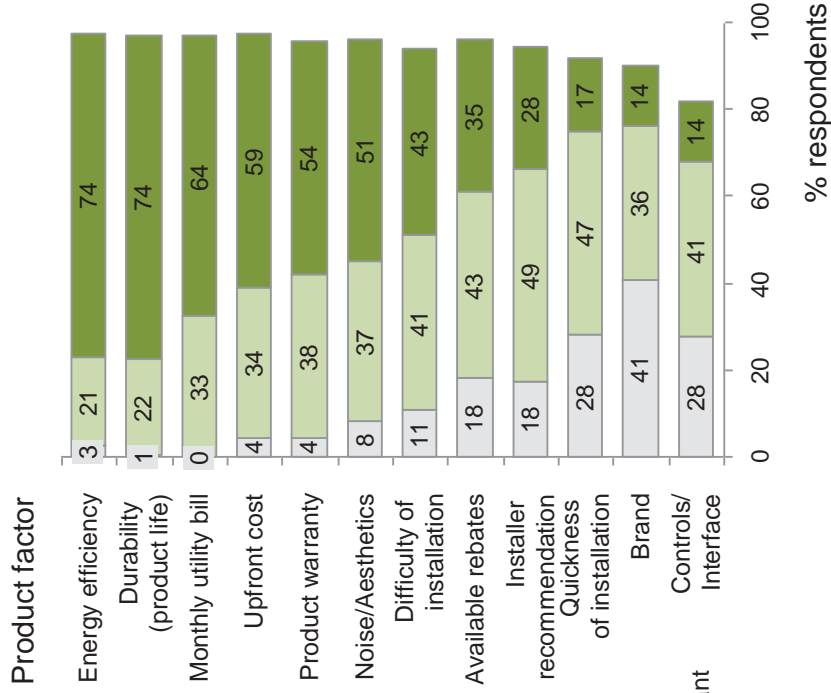
Customer purchasing preference

Energy efficiency and product durability most important product decision factors for all customers

Decision Factor Importance in Heating Unit Selection for all Customers



Decision Factor Importance for Customers who are Likely or Very Likely to Lease



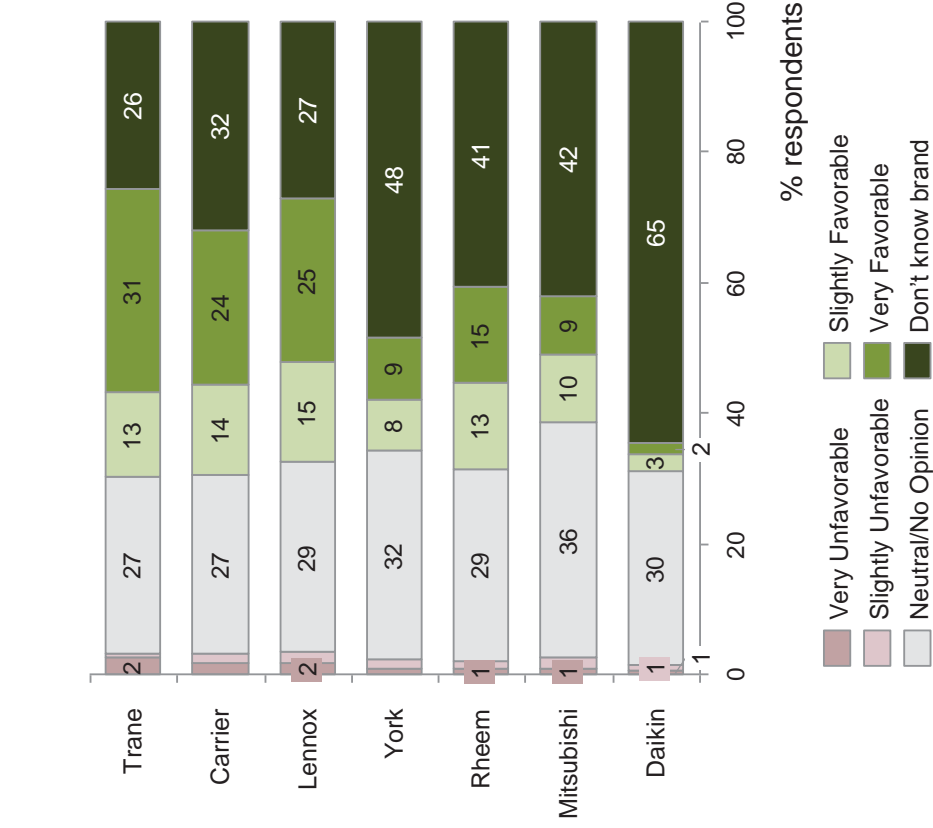
Brand and controls are two least important product decision factors

26 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

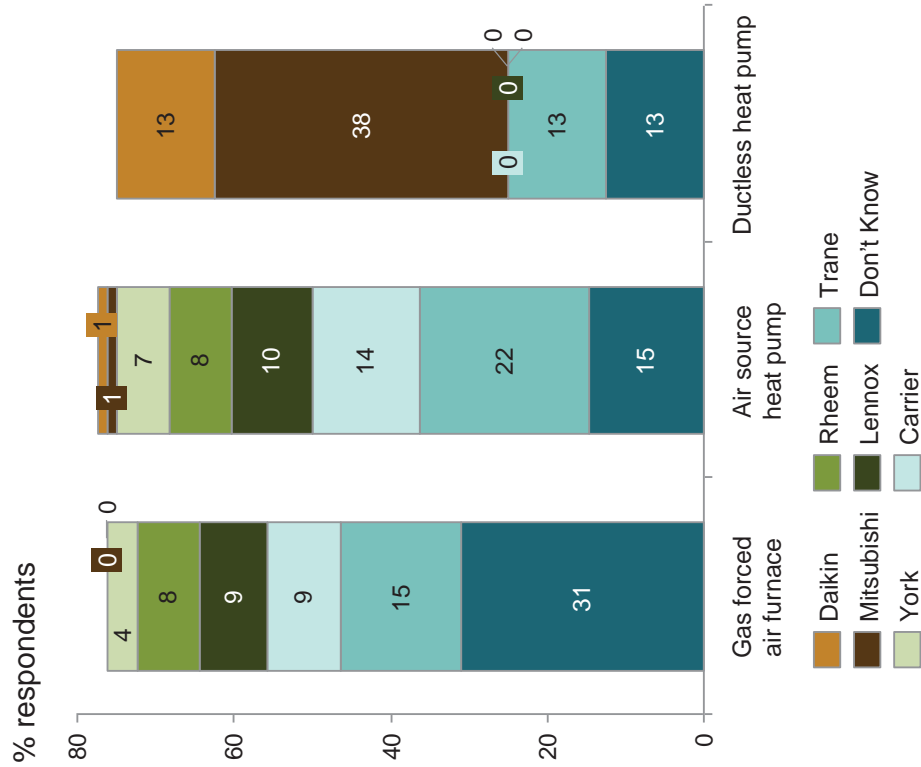


Many customers don't know product brand and most either don't recognize major brands or have no opinion

Most Customers either Don't Know Brands or Have no Opinion on them



Brand by Product Type



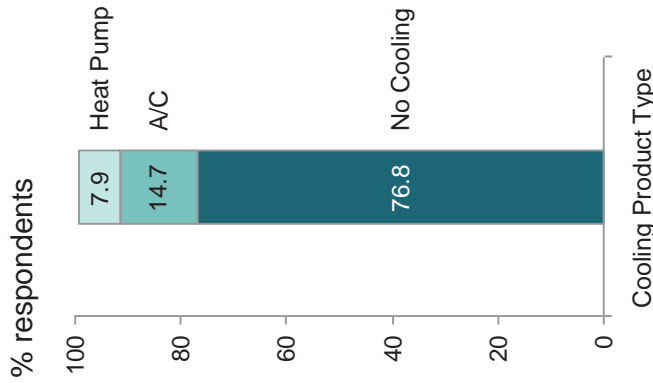
27 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



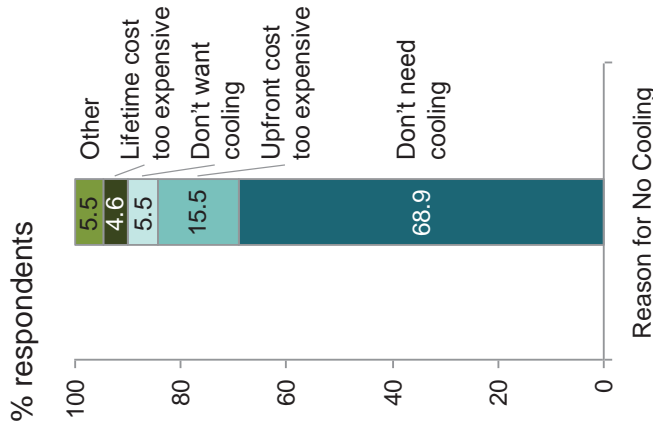
A/C should be early expansion: small but definite interest in leasing (7%), but some complications and risks (e.g. customer satisfaction and liability)

HVAC

~14% of Puget Sound Region Homes Customers use A/C¹



~75% of PSE Customers without Cooling Don't Need or Don't Want It



A/C Should be Early Expansion Product

Only 7% of PSE customers are likely to lease A/C products

- Of those who currently own A/C, only 21% are likely or very likely to lease
- Of those who currently don't have cooling (77%), only 15% don't have it due to high upfront cost
 - Of those, only 26% are likely or very likely to lease

Would want to include it as an add-on to furnaces we lease, which drastically reduces market size

- Too much liability risk at launch to lease A/C and attach it to pre-existing furnace
- Complications in repairing furnace, in responsibility for maintenance, etc.

New A/C customers would have highest prices and biggest risk of dissatisfaction

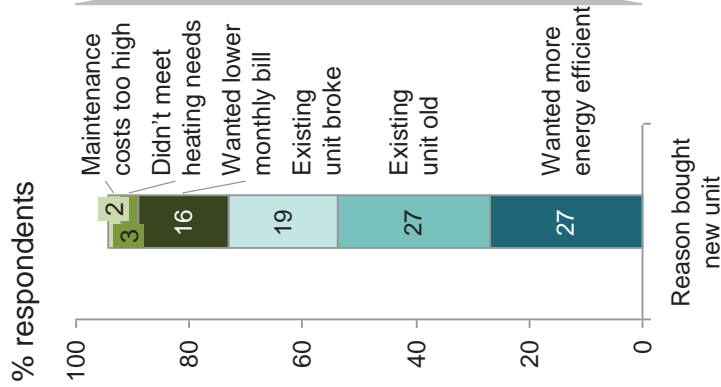
- Installation cost for A/C units much higher than for furnaces and heat pumps, especially for new A/C customers
- Performance issues in homes not originally ducted for A/C



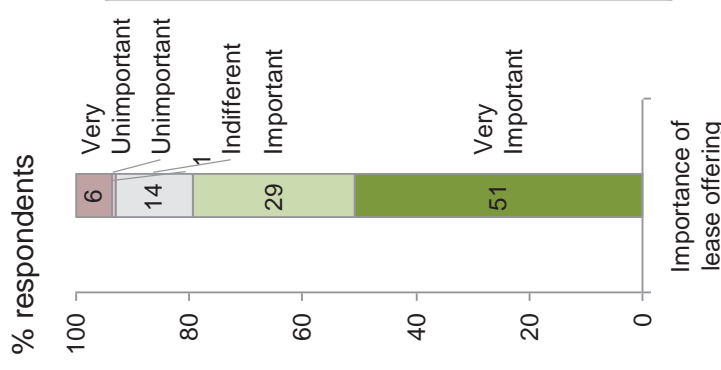
1. NEEA RBSA 2012
 28 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis
 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Energy efficiency is very important to customers in product and lease; should be priority in lease offering

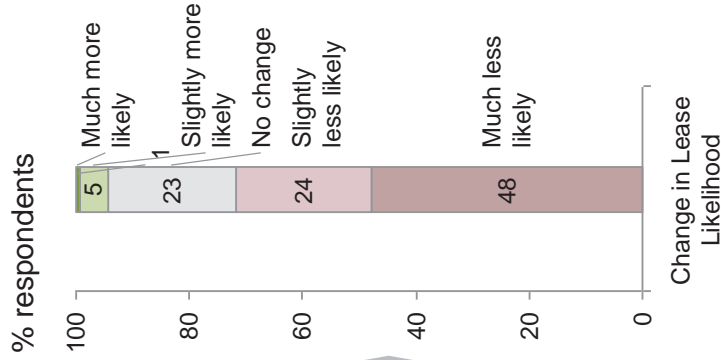
Energy Efficiency was Biggest Reason (22%) for Buying new HVAC Unit



EE was the Most Important Aspect of a Lease Offering for Customers (80%)



>70% of Those Initially Likely to Lease Lost Interest with no EE Product



EE Product should be Priority in Product Portfolio

Should include energy-efficient option for all product types

Stronger rationale threshold required to include non-energy efficient products

- e.g. installation difficulties

29 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx



Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

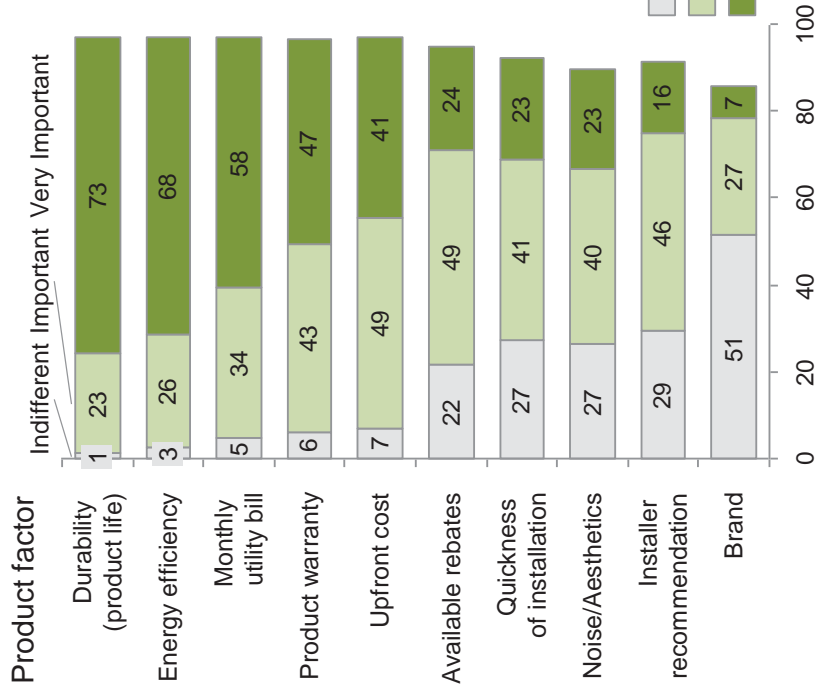
Customer product preferences

- HVAC
- WH

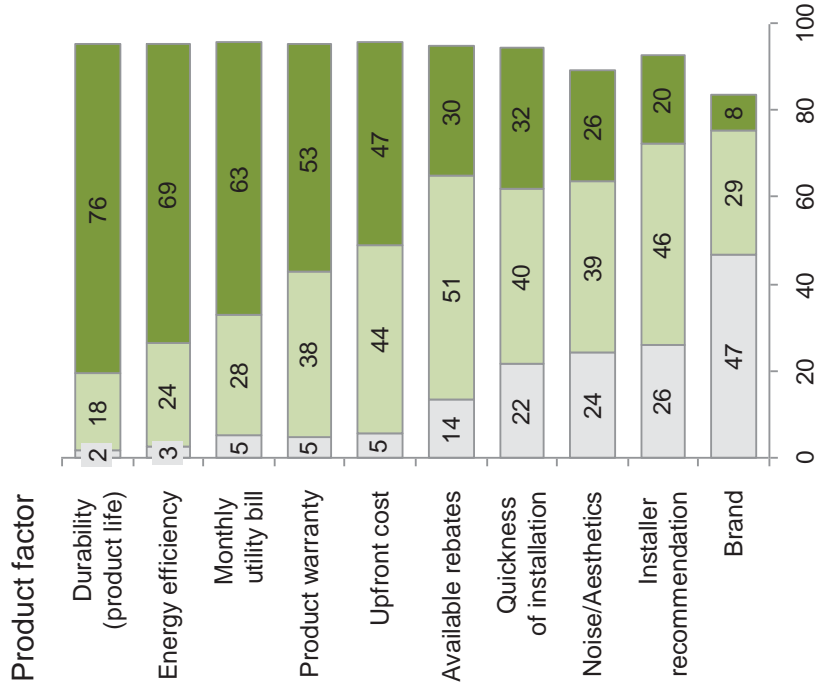
Customer purchasing preference

Customers most value durability and energy efficiency in their WH products

Decision Factor Importance in WH Selection for all Customers



Decision Factor Importance for Customers who are Likely or Very Likely to Lease

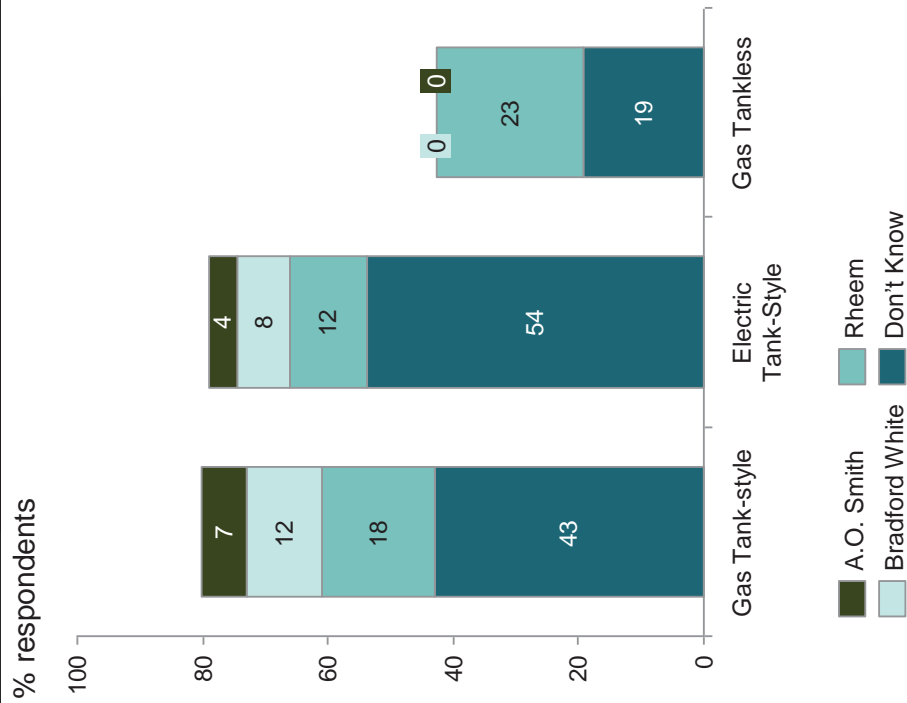


Customers want a product that lasts at the lowest possible price

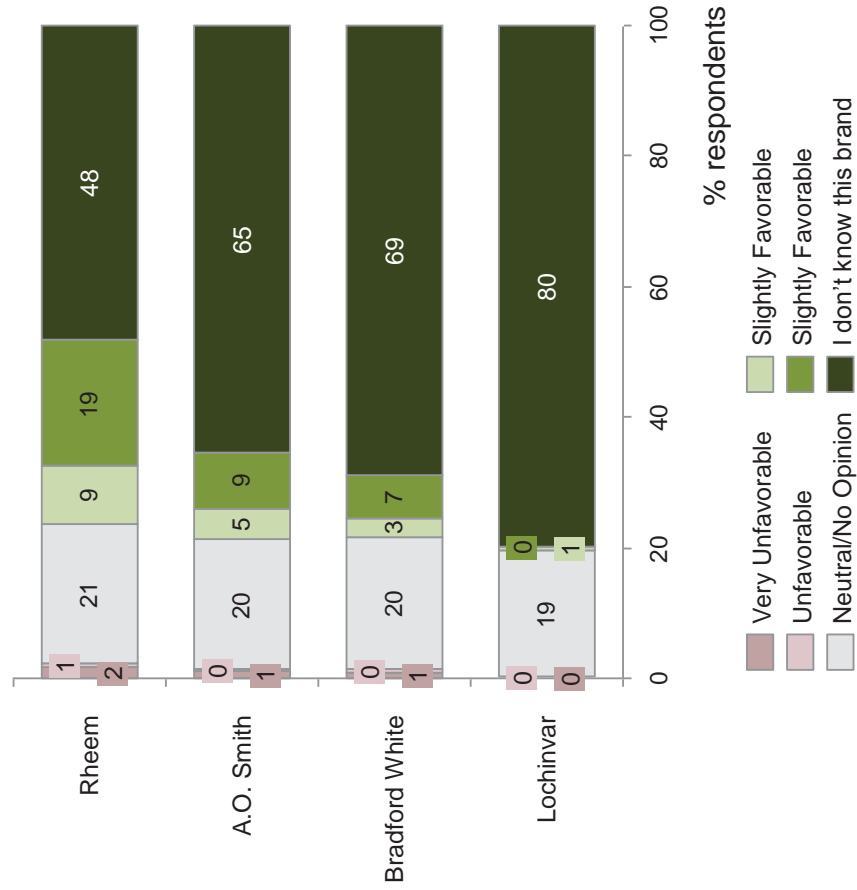
31 Source: PSE residential lease WH survey, (n = 797), BCG analysis 2014.06.25 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Many customers don't know WH brand, and most either don't know brands or have no opinion on them

Brand by Product Type

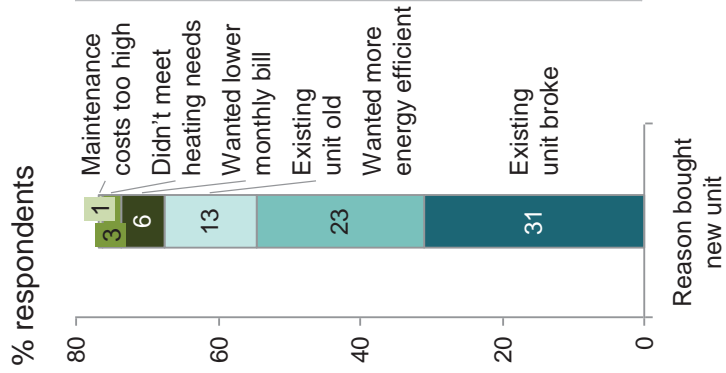


Brand Opinion for the Top Brands

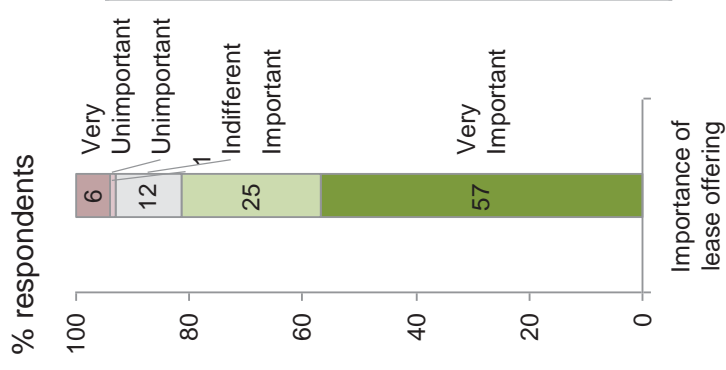


Energy efficiency is very important to customers in product and lease; should be priority in lease offering

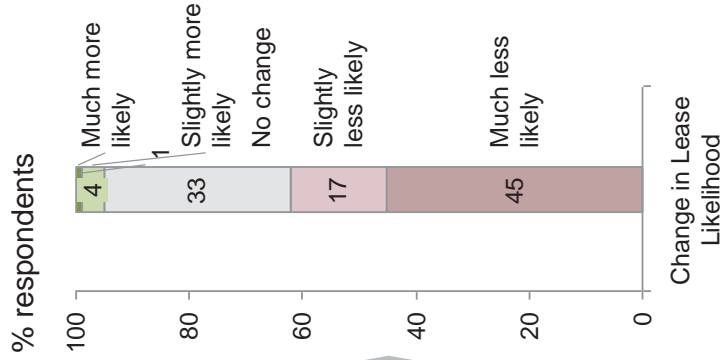
Energy Efficiency 2nd Biggest Reason (>20%) for Buying new WH Unit



EE was the Most Important Aspect of a Lease Offering for Customers (80%)



>60% of Those Initially Likely to Lease Lost Interest with no EE Product



EE Product should be Priority in Product Portfolio

Should include energy-efficient option for all product types

Stronger rationale threshold required to include non-energy efficient products

- e.g. installation difficulties

33 Source: PSE residential lease HVAC survey, (n = 805), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

Agenda

Leasing market share and lease offer preferences

- HVAC
- WH

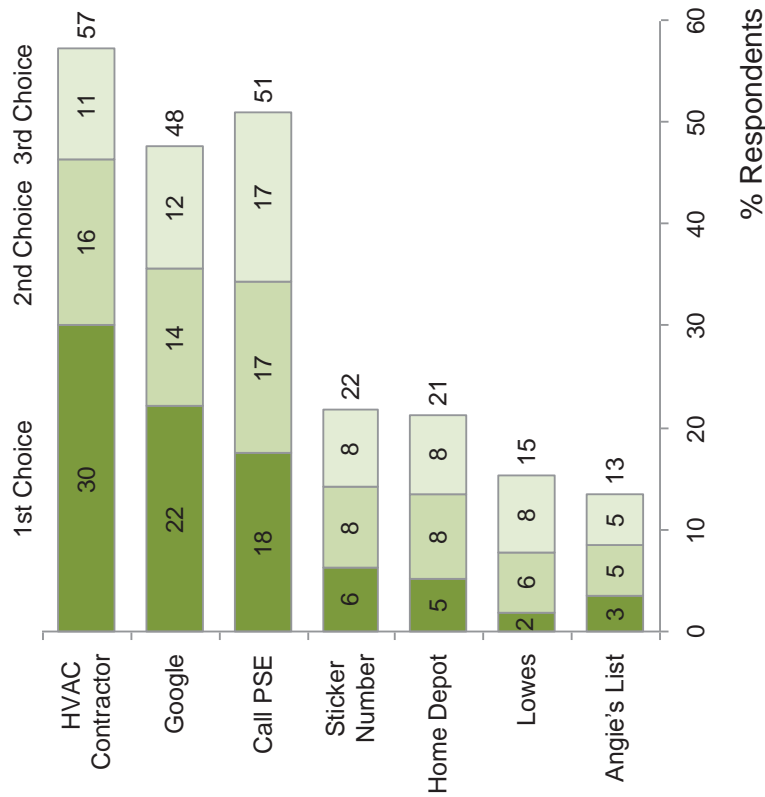
Customer product preferences

- HVAC
- WH

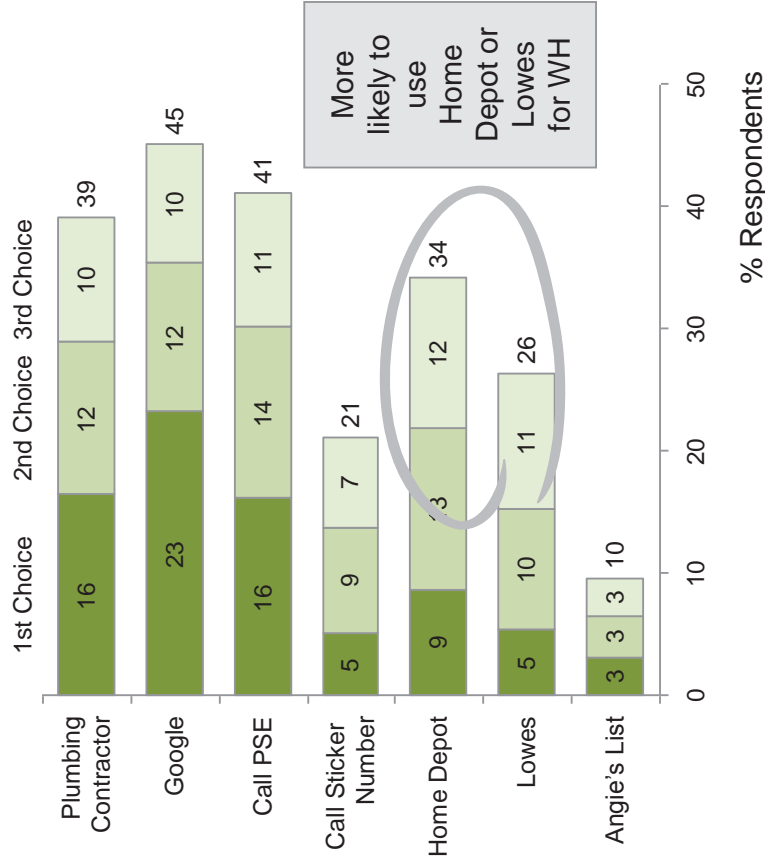
Customer purchasing preference

Customers most likely to use contractors or Google as sources of information for new HVAC or WH

Likelihood of Using these Potential Sources of Information on New HVAC



Likelihood of Using these Potential Sources of Information on New WH

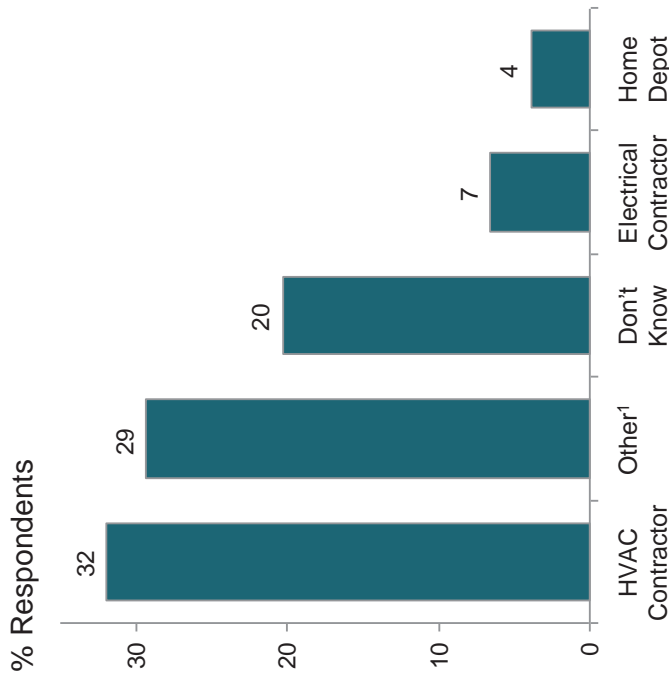


35 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

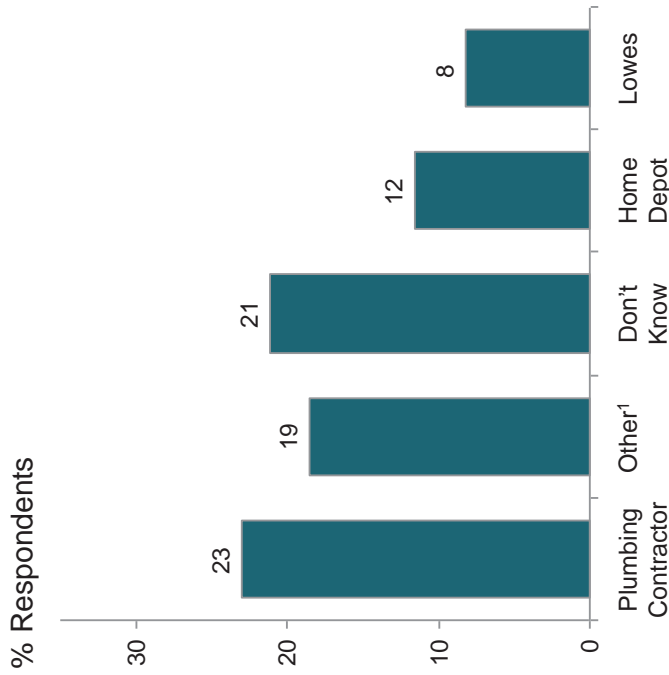


Most HVAC and WH purchases fragmented among local contractors; retailers used more for WH than HVAC

From Whom PSE Residential Customers Procured Most Recent HVAC



From Whom PSE Residential Customers Procured Most Recent WH

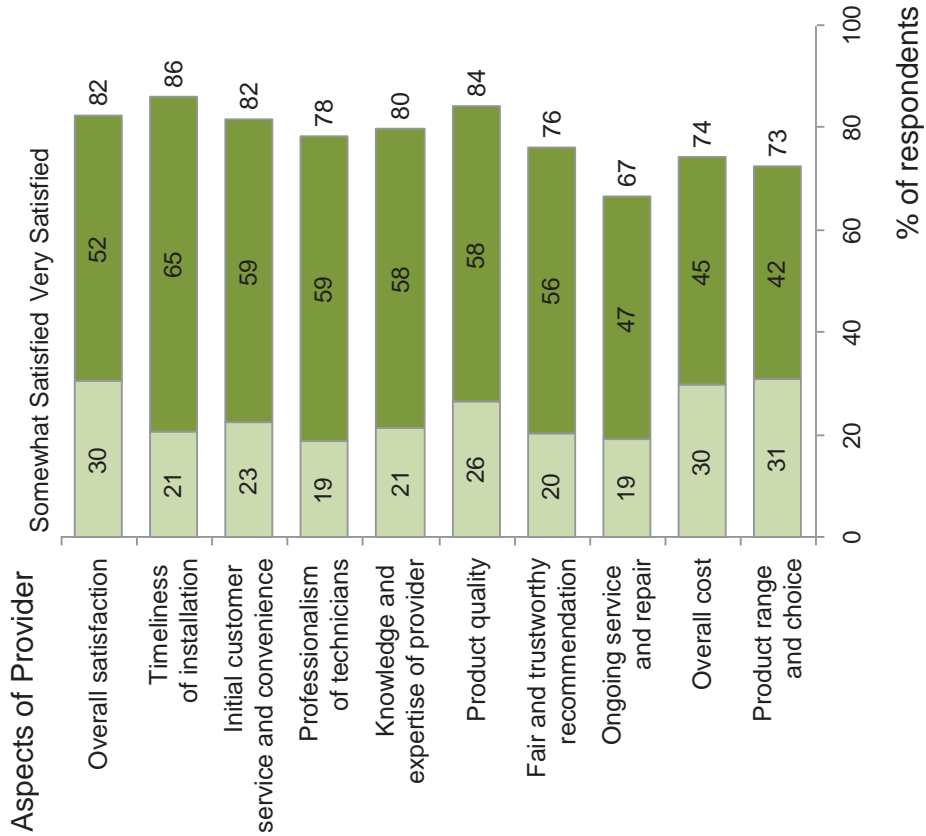


1. "Other" included new construction, Costco, and many small local vendors
 36 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis
 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

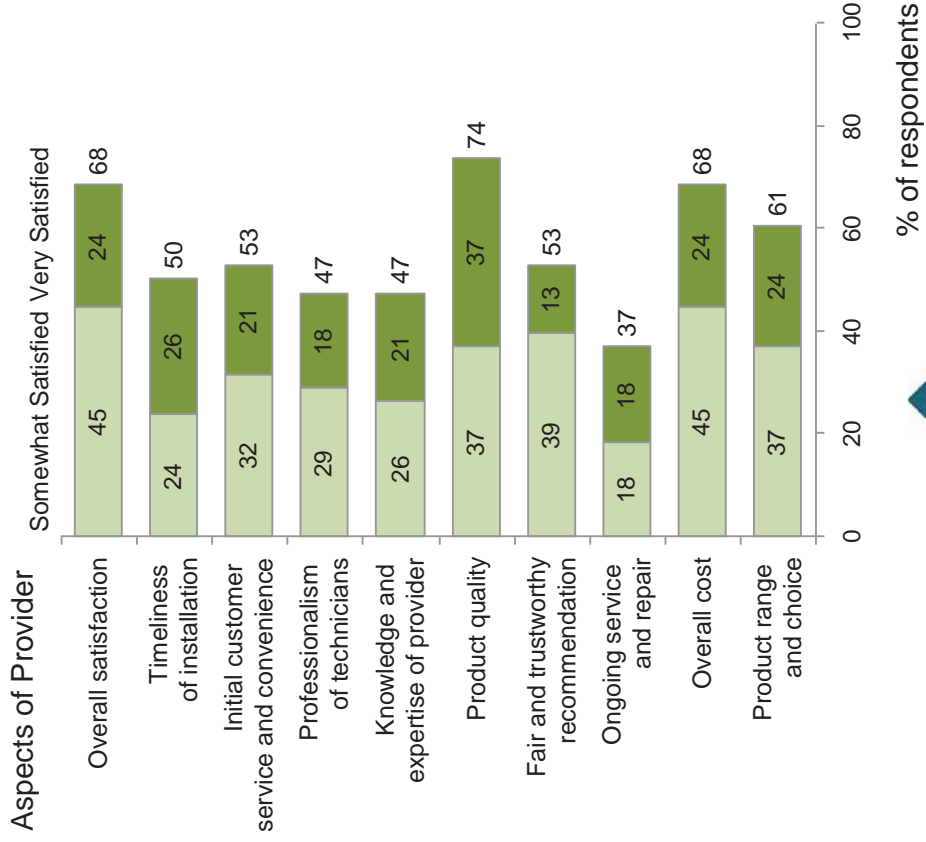


HVAC customers overall very satisfied with contractors and pretty satisfied with home improvement retailers

HVAC Customer Satisfaction with Aspects of Contractors



HVAC Customer Satisfaction with Aspects of Retailers

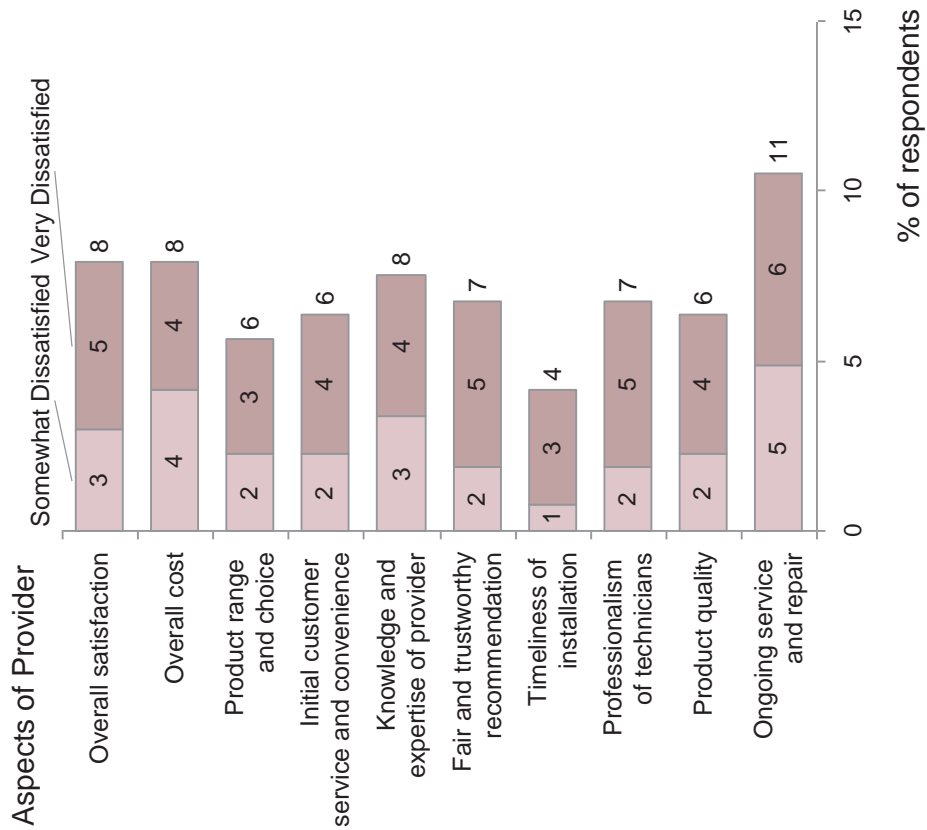


37 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

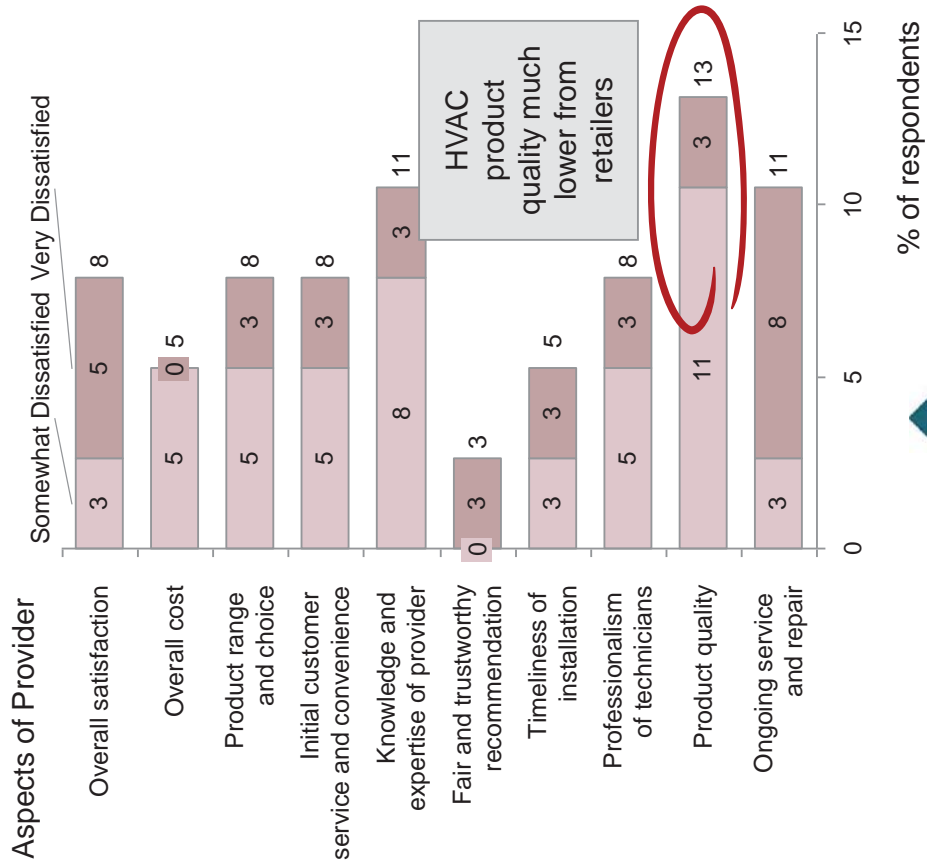


HVAC customers overall most dissatisfied by overall cost and product range of providers

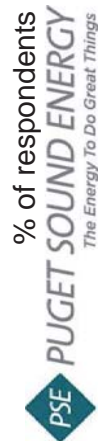
HVAC Customer Dissatisfaction with Aspects of Contractors



HVAC Customer Dissatisfaction with Aspects of Retailers

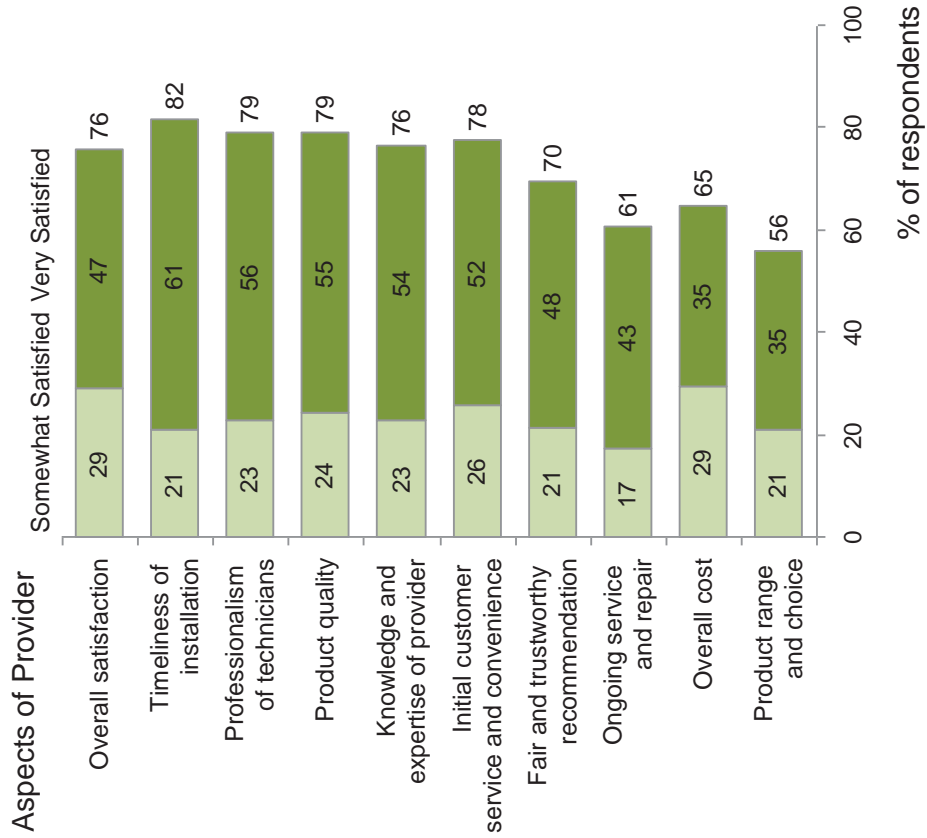


38 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

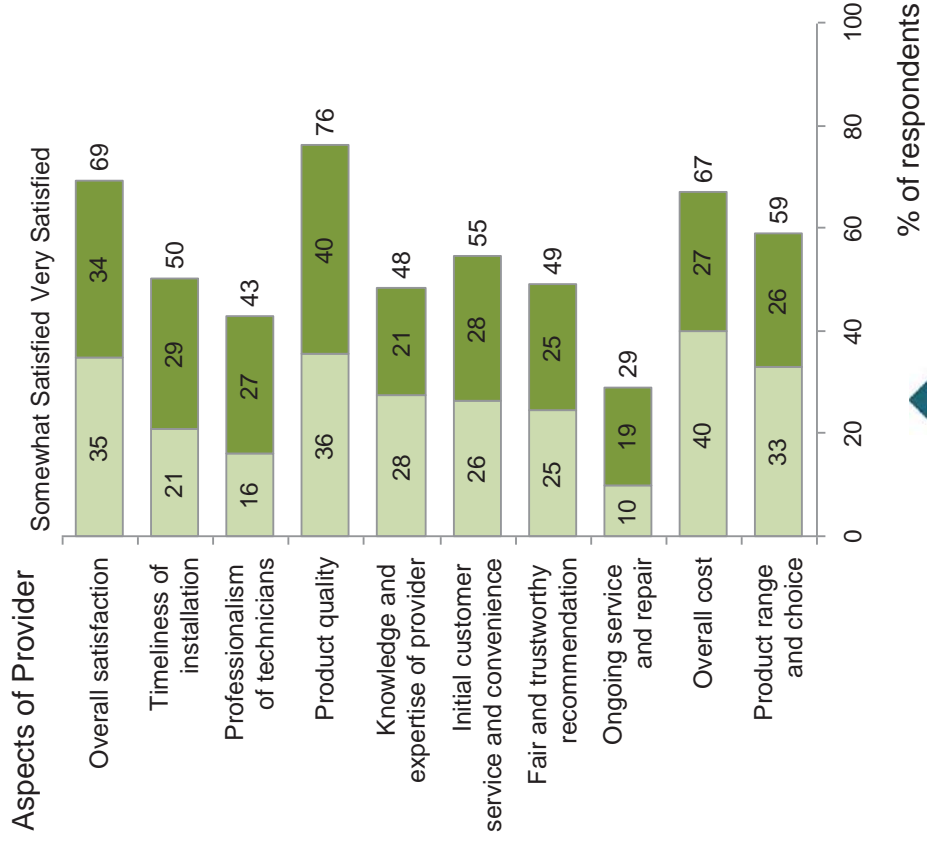


WH customers overall very satisfied with contractors and pretty satisfied with home improvement retailers

WH Customer Satisfaction with Aspects of Contractors



WH Customer Satisfaction with Aspects of Retailers



39 Source: PSE residential lease HVAC survey, (n = 805), PSE residential lease WH survey (n=797), BCG analysis 20140625 - Leasing Design Phase - Final Summary Recommendations - Slide Appendix - v06.pptx

