

July 20, 2015

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Via Electronic Mail and USPS
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Re: UM 1565: Energy Trust of Oregon: Survey Report on Factors Underlying
Customer Decisions to Install a Heat Pump

Attached to this letter and certificate of service, please find the above-
referenced report for filing in Docket No. UM 1565 and pursuant to Order No.
13-104.

Thank you for your assistance with respect to this filing. If you have any
questions, please do not hesitate to contact me.



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cc: UM 1565 Service List

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing "Energy Trust of Oregon: Survey Report on Factors Underlying Customer Decisions to Install a Heat Pump" upon all parties in this proceeding by causing a copy to be sent via electronic mail to the following parties at the following addresses.

Dated at Portland, Oregon, this 20th day of July, 2015



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Energy Trust of Oregon: Survey Report on Factors Underlying Customer Decisions to Install a Heat Pump

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1. EXECUTIVE SUMMARY

UM 1565, the Oregon Public Utilities Commission (OPUC) docket “Investigation into fuel-switching and cross fuel efficiency issues,” directed Energy Trust of Oregon (Energy Trust) to work with OPUC staff to identify and collect information about the reasons underlying gas customers’ decisions to install a heat pump. The order also directed Energy Trust to use an independent entity to collect this additional information.

Based on this order, Energy Trust, working on behalf of the OPUC, and in collaboration with Cascade Natural Gas, NW Natural, Portland General Electric, and Pacific Power, authorized the implementation of market research that had the following goals:

1. To verify customers’ primary heating / cooling fuel(s), heating / cooling system(s), and any additional heating and/or cooling sources before installing a heat pump;
2. To verify customers’ primary heating / cooling system(s) after a heat pump was installed;
3. To learn about the options customers considered when adding a heat pump, and in particular, if they considered efficient gas systems, and if they did not, why;
4. To discern the primary factors influencing customers’ decisions to install a heat pump, including, but not limited to: Energy Trust incentives, contractor recommendations, installation and maintenance costs, and tax credits.

Market research designed to achieve these goals was conducted in late 2014 with ninety Oregon householders who installed a new high-efficiency heat pump, were recorded as having replaced a gas furnace, and received an incentive for the heat pump from Energy Trust. The research was designed and managed by David Lineweber, an independent contractor, with online surveys administered by Universal Survey. Before reviewing the results of that research, it is worth noting that the households that responded to the survey are not “average” Oregon householders. Nearly half (49%) of the respondents, for example, are retired, while 70% live in households with no more than one other person, 48% have at least a Bachelor’s degree, and 45% report household incomes of at least \$90,000¹.

Key results of the research are that:

- 81% reported that the heat pump is now their primary heating system, while 82% said the heat pump serves as their primary cooling system
 - 88% of those who said the heat pump is their primary heating system also said that they use a supplementary heating system, which is most commonly a warm air gas furnace
- 50% said that the heat pump replaced a gas furnace that was removed, while 29% said that they retained their existing gas furnace, and another 11% said that they replaced an

¹ See Appendix A: Respondent Demographics.

existing gas furnace with a new gas furnace at the same time that they installed the heat pump²

- Effectively all of the respondents said that they have air conditioning now, while 29% said that they did not have air conditioning before they installed a heat pump
- Only a minority of households (21%) said they replaced their HVAC system as a result of a catastrophic failure of their old system, while slightly larger numbers said they made the replacement in order to improve the efficiency of their system (25%), or because they knew their existing system was old and unreliable (24%)
- Contractors were cited by far most commonly as the most important source of information on HVAC system choice (52%) (with no other source cited as most important by more than 11% of respondents)
- 46% of respondents said that they considered replacing their existing heating system with a new high efficiency gas furnace. Those who did not consider this option were asked why this was the case and they provided a variety of reasons for this. Included among these reasons was that gas is not available in their neighborhood³, that they already had a gas furnace, that other options were more efficient, that they just wanted to add cooling to their home, that they wanted a single system for both heating and cooling, or for other reasons.
- While survey respondents cited a wide range of factors as things they took into account as they made their decision to install a heat pump (including the availability of incentives and tax credits), the bottom line appears to be that system performance characteristics (perceived effectiveness of the system to keep the home comfortable, system efficiency, relative fuel costs, reliability, and the ability to add air conditioning to the home) were most important in influencing their final decisions
- Consistent with the findings described above, survey respondents also said most commonly that perceived relative energy costs (31%), system efficiency (29%), and the ability to have a single, integrated heating / cooling system (22%) were the benefits they sought by installing a heat pump

Conclusions

All of the respondents had installed a new, high-efficiency heat pump, and most also reported that they currently have some form of back-up heating system as well (typically a gas furnace). Most respondents said that the heat pump is both the primary heating source and the primary cooling source for their home. In only half of these households did the newly installed heat pump lead to a warm air gas furnace being removed. In another 40% of cases, a warm air gas furnace was either retained (29%) or replaced with a new warm air gas furnace (11%). In many cases, warm air gas furnaces are used (and used on at least “some” winter days) as supplementary heating systems.

² Note that these may be either primary, or backup, furnaces.

³ These customers included several households that reported using propane as their heating fuel and one that used oil.

Decisions to install a heat pump appear to have been “considered” decisions in the sense that householders tended not to make the decision quickly. Householders also said that they took a number of different factors into account as they made their decision, and they also consulted a variety of information sources throughout the process. Ultimately, however, contractors appear to have had the largest influence on the decision to install a heat pump, with that decision driven most often by householders seeking a set of core HVAC performance characteristics (lower fuel costs, a single integrated heating and cooling system that includes air conditioning, a more efficient, and / or, more reliable system). Customers typically took their time in making their decision (52% say that it was at least five months between the time they started thinking about making a change to their heating system and finalizing the installation), and considered multiple information sources. About half of the respondents considered installing a high efficiency gas furnace, and those who did not do so listed a variety of reasons why they thought that a gas furnace was not a good option for them. Survey respondents say they took many factors into account as they thought about whether or not to install a warm air gas furnace (including Energy Trust incentives, manufacturer rebates, and tax credits), but ultimately say that core system performance characteristics were the factors that had the most impact on their final decision.

2. METHODOLOGY

This report describes the findings from a survey of residential households who received an incentive from Energy Trust for installing a new high efficiency heat pump between late January 2011 and mid-August 2014. Respondents were recruited from a list provided by Energy Trust staff. Potential survey participants were contacted either by email (for those who had email addresses recorded), or by telephone (for those who did not have email addresses recorded). Respondents who qualified for the survey (because they recalled having installed a new heat pump recently, and reported being an energy decision-maker for their home) were asked to participate in an online survey that took an average of sixteen minutes to complete.

More specifically:

- A first small group of email invitations to participate in the survey were sent out on August 29, 2014, offering respondents a \$25 “thank you” payment.
- When this initial invitation did not yield any hits to the survey site, the thank you payment was increased to \$50, and additional email invitations (and up to two email reminders) were sent to all of the available email addresses during September and October 2014.
- The email invitations were followed by up to two telephone reminders (for those people with both email addresses and telephone numbers who had not yet responded to the survey), and these telephone calls were completed during September and October 2014.
- Following this, Energy Trust sent letters to all of the listed households with telephone numbers but not email addresses, and all of these households were called at least three times in an attempt to complete as many interviews as possible. These telephone calls were completed during October and December 2014.

Ultimately, all 424 households on the list provided by Energy Trust were contacted by email, telephone, or both, and a total of 90 surveys were completed (with 60 of those surveys coming from households that had email addresses, and 30 from households that did not have email addresses). This is summarized below in Table 2-1.

Table 2-1: Research results by contact method

Invitation Method	Invitations	Hits to Survey Site	Completed Surveys	Completion Rate (Completed Surveys / Invitations)
Email only	223	48	40	18%
Telephone only	176	38	37	21%
Email, then telephone	25	14	13	52%
Total	424	100	90	21%

As the survey results were being analyzed in January 2015, the team realized that the original questionnaire did not include an item asking about the presence of air conditioning in the home prior to the installation of the new heat pump. In order to close this gap, a short email request was sent to those respondents for whom the team had email addresses (60) with phone calls made to those without email addresses (30). A total of 62 respondents answered this follow-up question.

Assuming that the survey sample represents a simple random sample of the underlying universe, then the survey results have a 90% confidence interval of +/- 9.5% (taking into account the finite population correction factor).

3. CURRENT AND PRIOR HEATING / COOLING SYSTEMS

The first two objectives of this work are to verify:

- Primary heating / cooling system(s) before installing a heat pump
- Primary heating / cooling system(s) after a heat pump was installed

This chapter summarizes survey results that meet these objectives.

3.1 Prior Heating Systems

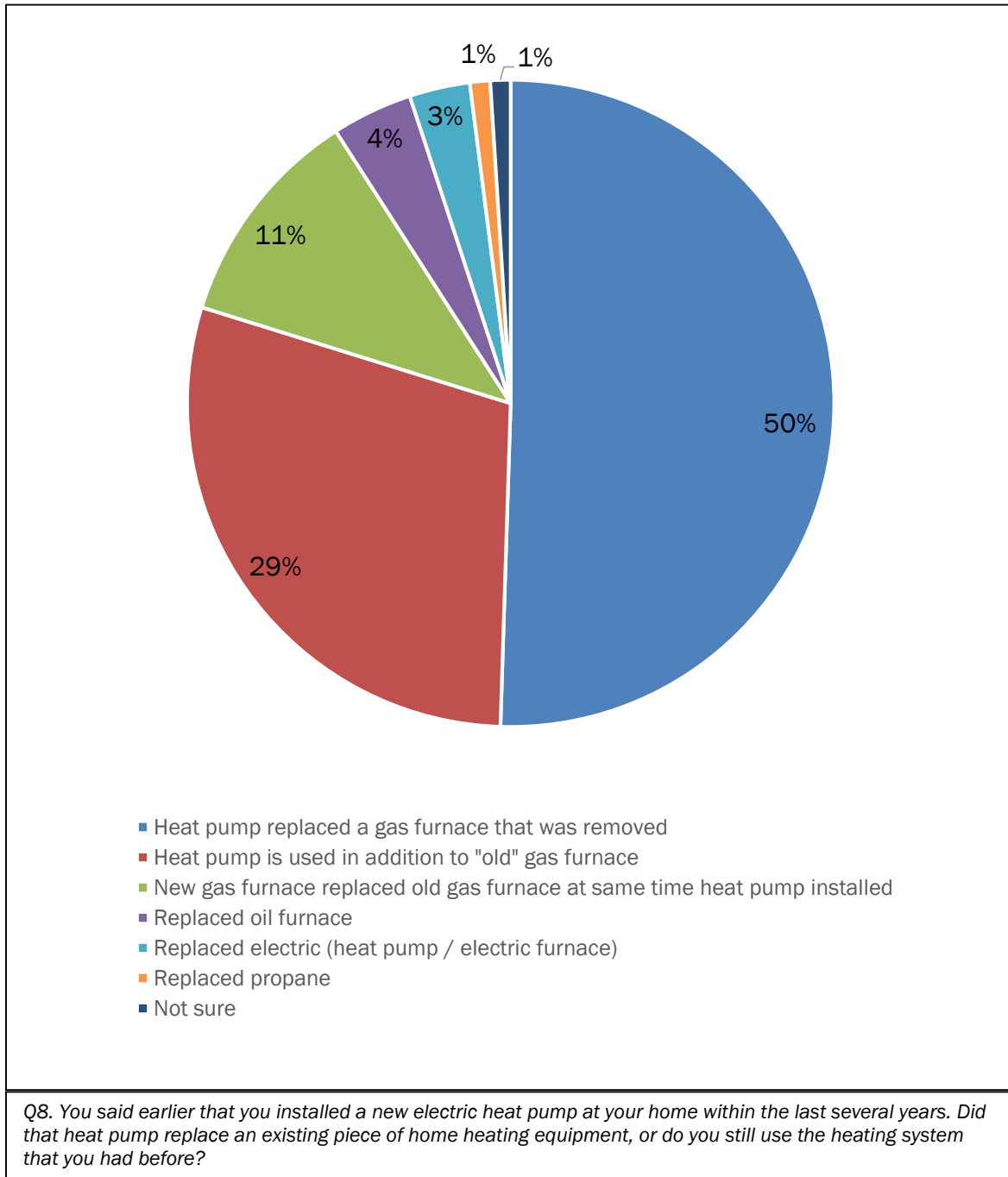
All of the respondents had installed a new electric heat pump within the last several years, so one of the first questions the team was interested in understanding was the nature of the prior heating system. Chart 3-1 below indicates that a total of 90% of respondents previously had gas heat:

- 50% said that an old gas furnace was removed and replaced with the heat pump
- 29% said that their old gas furnace is still used in conjunction with the new heat pump
- 11% said that their old gas furnace was replaced with a new gas furnace at the same time that they replaced added their heat pump.

A small number of other respondents said that they previously had oil heat (4%), electric heat (3%), or propane heat (1%)⁴.

⁴ The team chose to leave these respondents in the analysis because they received an Energy Trust incentive, and because eliminating them did not meaningfully change the survey results.

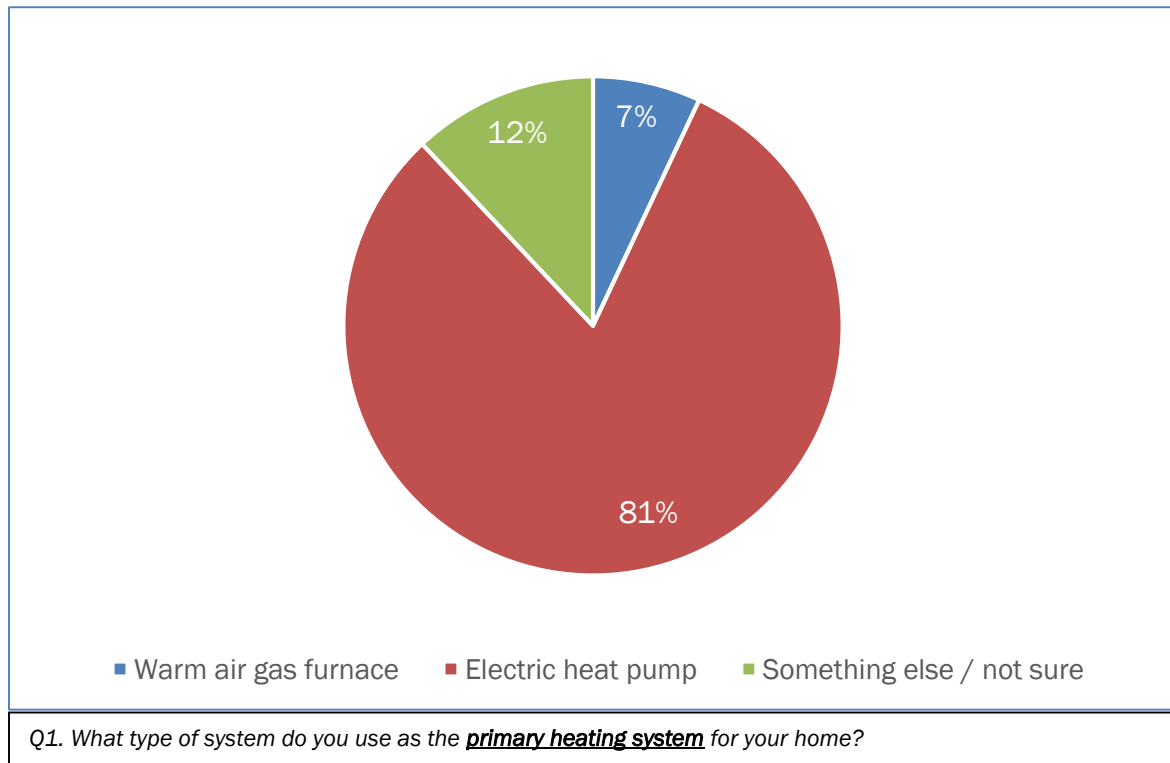
Chart 3-1: Did The Heat Pump Replace An Old Furnace, Or Is It Used in Conjunction With An Existing Furnace?



3.2 Current Heating Systems

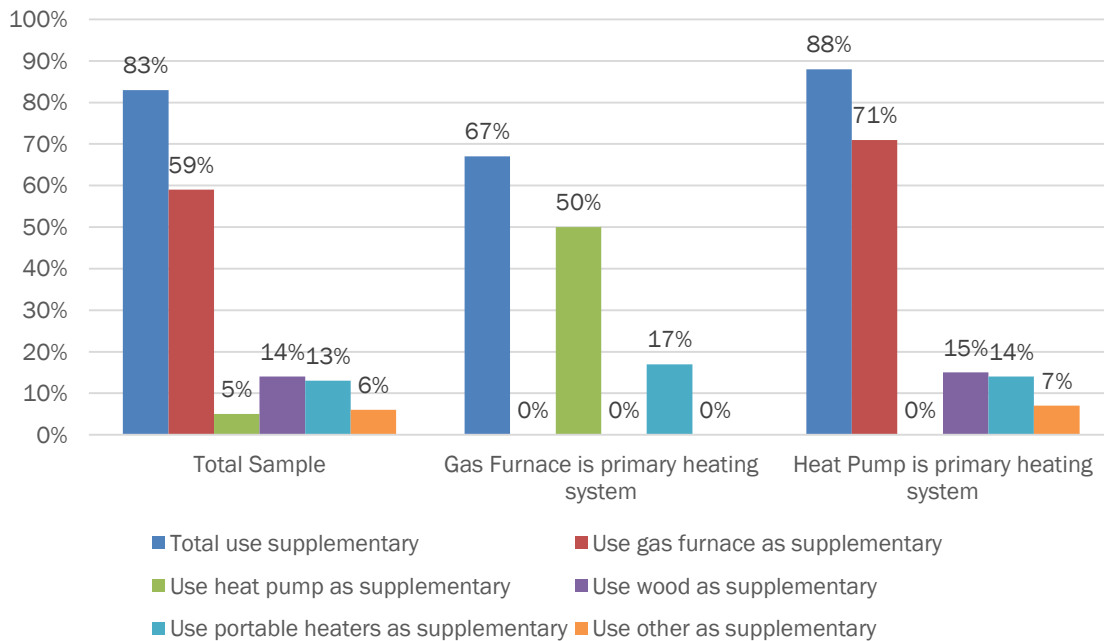
Given the fact that so many existing gas furnaces were removed when the heat pumps were installed, it should not be surprising that heat pumps were regarded as the household's primary heating system by 81% of all these respondents (Chart 3-2). Most of those who said they used "something else" as their primary heating system said that they used a combination of a heat pump and a backup gas furnace, while a few indicated that they had a geothermal heat pump.

Chart 3-2: Current Primary Heating System



Worth noting, however, (in Chart 3-3 below) is the fact that 83% of all respondents, and 88% of those who say that the heat pump is their primary heating system, also say that they also use a supplementary heating system. Most often, those who say that heat pumps are their primary heat source say that their warm air gas furnace is their supplementary heat source (71%). The flip side of this coin is less consistent, as 50% of those who say that their warm air gas furnace is their primary heat source say that the heat pump is their secondary heating source.

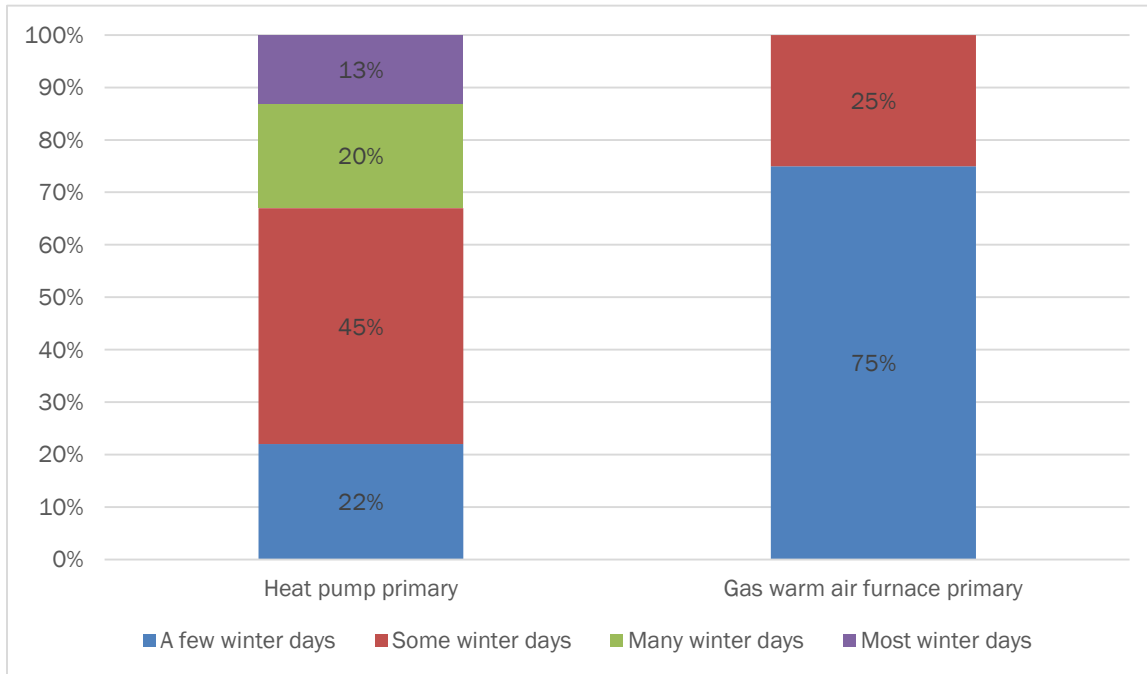
Chart 3-3: Current Supplementary Heating Systems (multiple mentions of supplementary mentions permitted) ⁵.



⁵ Q3. “In addition to [IF Q1=1, RESTORE “the central warm air gas furnace,”; IF Q1=2, RESTORE “the electric heat pump,”; IF Q1=990, RESTORE RESPONSE FROM OTHER/SPECIFY] do you use any other supplemental equipment to heat your home, even if only once in a while, and / or for part of your home?”

Also of note is the frequency with which people with different primary heating systems actually use their supplementary systems. As Chart 3-4 below indicates, people with warm air gas furnaces as their primary heating system are much less likely to use their supplementary systems, compared to those who use their heat pump as their primary heating system (78% of people who use their heat pump as their primary system say they use their supplementary system for more than “a few days” each winter, while only 25% of those who use their warm air gas furnace as their primary heating system use their supplementary system for more than “a few days”).

Chart 3-4: Frequency of Supplementary Heating System Use by Primary Heating System



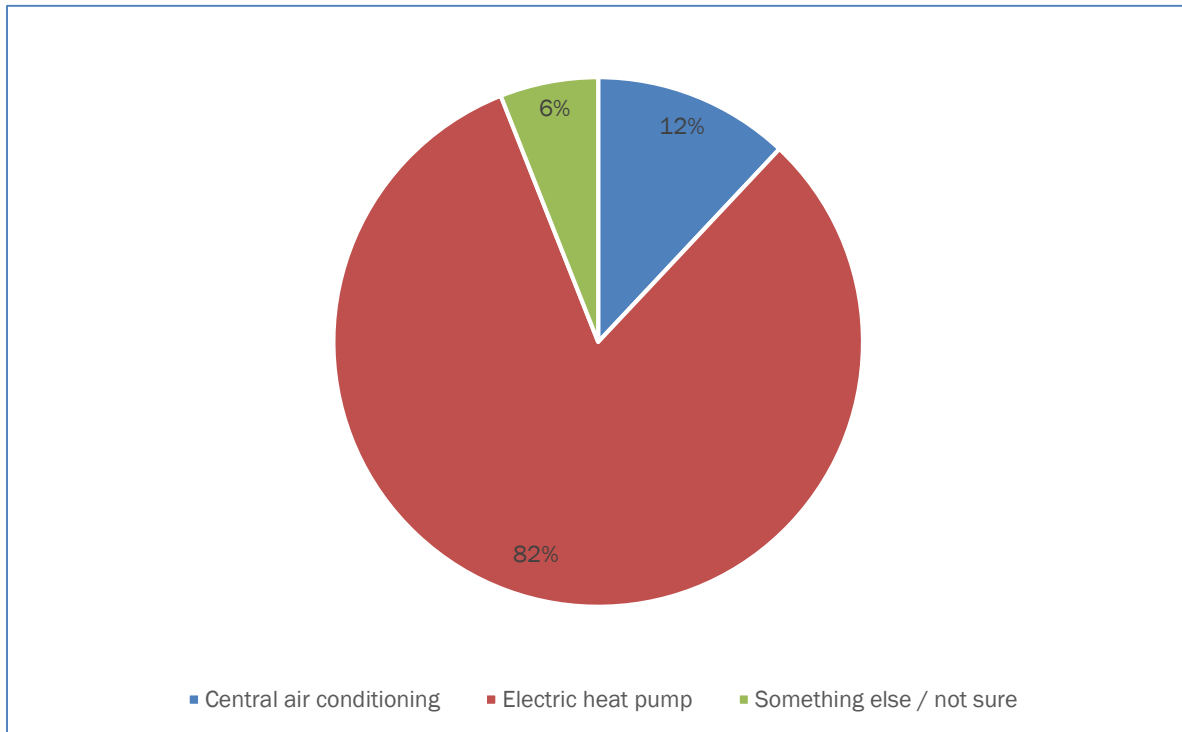
Q4. During the winter (December through February), how often do you use the supplementary heating equipment in your home?

3.3 Cooling Systems

The picture is similar when respondents think about their primary cooling system. For this end use, 82% name the heat pump as their primary cooling system, while 12% say that a “central air conditioner” (rather than their new heat pump) is their primary cooling system. Of course, it is certainly possible (and, perhaps even likely) that customers with a heat pump who say that a central air conditioner is their primary cooling are actually referring to their heat pump.

Not shown in the chart below, 29% of respondents⁶ said that their home did not have air conditioning prior to the installation of the new, high efficiency heat pump.

Chart 3-4: Current Primary Cooling System



Q5. Thinking about the primary method you use to cool most of your home, is that system...?; 1. A central air conditioner; 2. One or more room air conditioners mounted in or near a window or on a wall; 3 An electric heat pump (including both ductless and ducted systems); 4 One or more portable room air conditioners; 990. Other (PLEASE SPECIFY) [RECORD RESPONSE]; 10. Not sure; 11. My home has no system that is used to cool a significant portion of my home

While not shown in a separate chart, the survey results also show that a substantial proportion of households said they use some supplementary cooling

⁶ As a follow-up question to the core survey, all respondents were either asked to indicate whether or not their home had air conditioning prior to the installation of their new heat pump. See Appendix B for the text of this question.

(63%), though most of these respondents include only room or ceiling fans (54%).⁷

⁷ Q7. [IF Q5=1-4,990 DISPLAY, "In addition to [INSERT Q5 RESPONSE], do"] [IF Q5=10-11 DISPLAY, "Do"] you use any equipment to cool a portion of your home (including any fans), even if only once in a while?

4. THE HEAT PUMP PURCHASE PROCESS

The survey also captured information relevant to the final two objectives of the research:

- Learning about the options that customers considered when adding a heat pump
- To discern the primary factors influencing decisions to install a heat pump

Information relevant to these objectives, as well as relevant supplementary information, is provided in the following sections of this chapter, which focus on the process that respondents went through as they made the decision to install a new electric heat pump:

- The factors that prompted a decision to install a new system
- The options customers considered
- The information sources that influenced customers' decision
- The factors that drove customers' ultimate decision

4.1 The Factors That Prompted a Decision to Install a New System

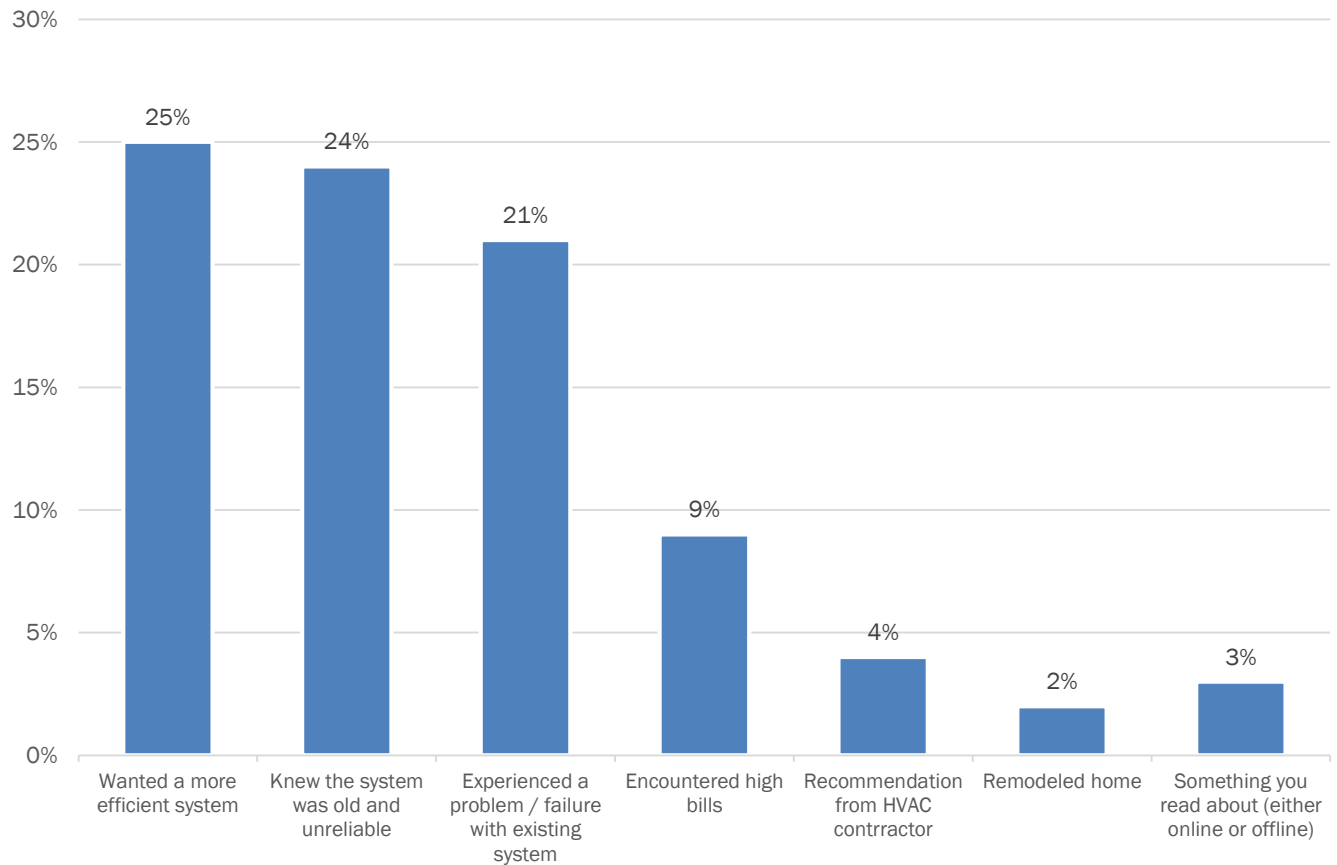
Given the cost and disruption involved, the decision to install or replace a new home heating / cooling system is obviously a significant step for any household. A first step in understanding these decisions is to capture the factors that led households to make this choice. Common wisdom would suggest that most households only make such a costly change when they are forced to do so by the catastrophic failure of their existing system, or by some other major event.

Chart 4-1 below suggests, however, that the most common reason (25%) why respondents say that they replaced their system was because they wanted a more efficient system, though nearly as many (24%) said that they knew their existing system was old and becoming unreliable and /or expensive to operate. An additional 21% said that they replaced their system because it suffered a specific problem, including catastrophic failure.

An open-ended question in the survey⁸ explored this issue in more detail, giving respondents the opportunity to explain in their own words (and allowing for multiple mentions) what led them to replace their home's HVAC system. Responses to this question are generally consistent with those provided to the closed-ended question, but in the open-ended responses, even more (42% vs. 25% in the closed-ended question) say they were prompted to proactively make a change to a more efficient, "greener," or generally better system, and only 10% said they were pressed to make a change because of a catastrophic failure of their existing system (although another 20% said that they knew that their existing system was old and becoming unreliable).

⁸ QF4: Now we would like you to please explain in your own words - as completely as possible - what led you to think about making a change in your home's heating / cooling system, and specifically, why you ultimately chose to install an electric heat pump. Please be as specific as possible. Your detailed answer will help us to understand how to ensure that customers like you get the best information possible in the future.

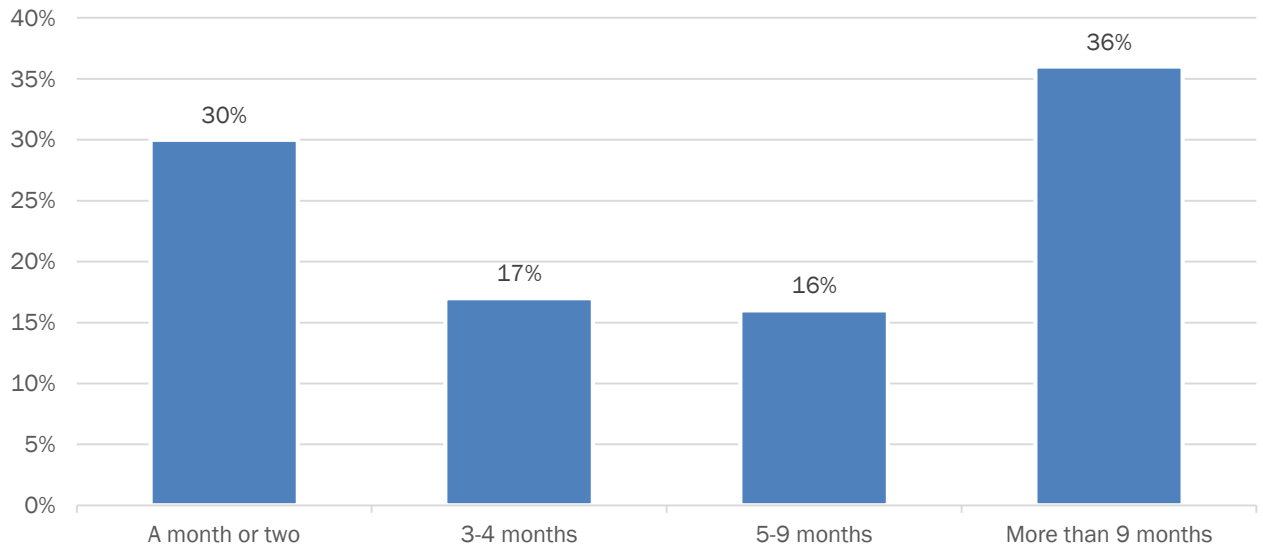
Chart 4-1: Factors That Prompted a Decision to Install a New System



H3. What prompted you to first start thinking about making a change to your home's heating / cooling system? (Please select only one response.)

The notion that relatively few system replacement decisions are made in emergency circumstances is substantiated by the information that survey respondents provide regarding the time that they took to make their decisions. As Chart 4-2 below suggests, 30% of respondents say that it was only a month or two between the time they first started to think about making a change and ultimately getting the final installation completed. Alternatively, 16% of respondents say that the timeline was 5-9 months in duration, and fully 36% say the timeline was more than nine months long.

Chart 4-2: How Long Was It Between First Starting To Think About Making A Change and Final Installation?

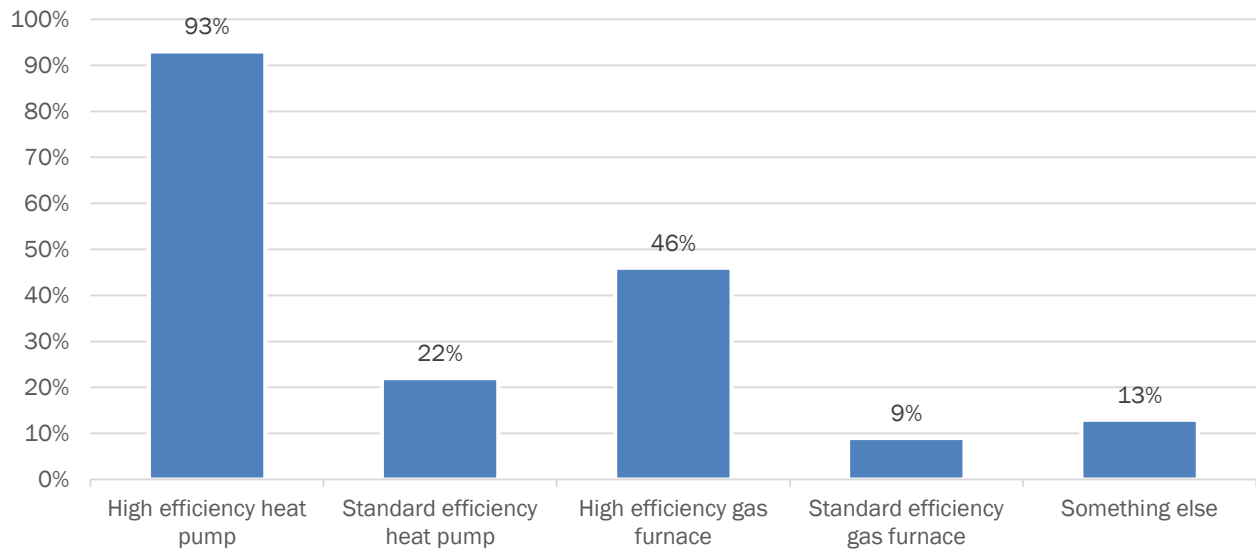


H2. About how long did it take between the time that you first started thinking about making a change in your cooling / heating system until the new heat pump installation was complete?

4.2 The Options That Were Considered

Of course, nearly all respondents (93%) say they considered installing a high efficiency heat pump, though 46% also considered installing a high efficiency gas furnace.

Chart 4-3: Heating / Cooling System Options That Were Considered for Installation (Note that the total exceeds 100% since respondents were allowed to select more than one response)



H6. Which of the following heating / cooling systems did you realistically consider installing? (Please select all that apply); 1. A new high efficiency electric heat pump; 2. A new standard efficiency electric heat pump; 3. A new high efficiency gas furnace; 4. A new standard efficiency gas furnace; 990. Something else (PLEASE SPECIFY) [RECORD RESPONSE]

Those respondents who said that they did not consider a high-efficiency gas furnace (54%) were asked in an open-ended question⁹ why they did not consider this option. The most frequent response to this open-ended question was that the customer did, in fact, add a high efficiency gas furnace as a back-up to their new heat pump. The remaining open-ended responses were grouped into a total of seven different categories, ranging from saying that gas was not available in their neighborhood, that they already had a high efficiency gas furnace, or other reasons for not seriously considering the installation of a new high efficiency gas furnace.

Reasons Given for Not Considering the Installation of a Gas Furnace (multiple responses possible - responses expressed as the percentage of customers asked the question)

- 17% said that they did add a gas furnace¹⁰ when they added the heat pump
- 13% said that natural gas is not available in their neighborhood, and these customers were most often replacing a propane heating system
- 11% said they already had a functional gas furnace so did not consider replacing it

⁹ H7. Why did you not realistically consider installing a new high efficiency gas furnace? [RECORD RESPONSE]

¹⁰ Some of these respondents specifically described the gas furnace as a “backup” system, while others are unspecific.

- 11% said that other options were more efficient
- 11% cited the perceived cost of gas vs. electricity
- 11% said they just wanted to add cooling to their home
- 7% said they just wanted a heat pump or just wanted a single system for both heating and cooling
- 7% said they already had an adequate backup heating system, especially given the fact that they did not expect to use it much with the heat pump
- 6% said that they just did not want gas in their home, or just did not like gas
- 2% noted that incentives were for electric options only

4.3 The Information Sources That Influenced Their Decision

Respondents cite information from a contractor (specifically, “advice from a heating or AC repair person or installer”) most commonly as one of the sources of information they took into account as they made their decision (66%), and most also cite this source as the most important source of information they consulted (52%).

Table 4-1 shows other sources of information that influenced customers’ decisions. Note that while the table shows the proportion of respondents who identify each source of information they used individually, a substantial number of these same respondents (58%) mention multiple sources of information that they took into account as they made their decision (with 14% listing two information sources, 25% listing three information sources, and 19% listing four or more information sources).

Table 4-1: Information Sources Used When Making Purchase Decision

	Information Sources Taken Into Account (Multiple responses allowed)	Most Important Source of Information (Single response)
Advice from a heating or AC repair person or installer	66%	52%
Information from Energy Trust of Oregon	37%	8%
Online recommendations / reviews	31%	11%
Information from friends and family	27%	10%
Information from electric utility	25%	2%
Advice from natural gas utility	20%	1%
Advice from salesperson at a retail store	7%	1%
Something else (personal knowledge / experience)	8%	4%
Something else (HVAC professional)	8%	3%

H4. What sources of information did you take into account as you thought about whether or not to make a change in your heating / cooling system? (Please select all that apply.)

H5. Of the sources of information you just mentioned, which would you say was ultimately the most important in affecting your final decision about replacing your heating / cooling system? [ONLY SHOW ITEMS SELECTED IN H4] (Please select only one response.)

4.4 The Factors That Drove Ultimate System Replacement Decisions

Turning to the question of which factors customers took into account as they thought about their HVAC system replacement decision, the survey explored this issue using three different questions:

- First, respondents were asked which of a specified set of factors were ones that they would say they “took into account” as they thought about a new system.
- Second, respondents were asked to indicate which of the specified factors were ones they would identify as “absolutely critical” in driving their decision (rather than being “important but not essential,” “relevant, but ultimately not very important,” or “not important / relevant at all”).
- Finally, respondents were asked to use a constant sum point allocation task (assigning a total of 100 points across the different factors to indicate their relative importance in their decision).

The results of these different questions tell a consistent story that is outlined in Table 4-2 below.

- When asked simply to identify factors that they took into account in making their decision, customers tended to list multiple factors, which include financial considerations (Energy Trust incentive, tax incentives, and / or manufacturer or utility rebates) nearly as often as they mention performance-related attributes of the systems.
- When customers are asked to rate each individual factor as either “absolutely critical” or less important (on the four-point scale referenced above), however, the story changes. On this question we find that the performance criteria, including comfort level (89%), efficiency (71%), reliability (72%), and ability to add air conditioning to the home (61%) are all rated as “critical” far more often than are the financial factors (which are “critical” no more than 17% of the time).
- These findings are also reinforced by the outcomes for the constant sum point allocation task, as in this task, respondents assign (on average) the highest number of importance points to comfort level, efficiency, and relative fuel costs, and the lowest values to rebates and incentives (along with installation costs).

Table 4-2: The Relative Importance of Different Factors on the Final System Installation Decision

	Was A Factor Taken Into Account	Factor Rated as “Absolutely Critical”	Mean “Importance” Points (of 100)
Comfort level provided	81%	89%	23
Efficiency of the system	76%	71%	17
Presence of Energy Trust rebate	66%	17%	7
Relative fuel costs	63%	52%	16
Available state tax credits	51%	12%	4
Ability to add AC to home	47%	61%	13
System reliability	47%	72%	10
Available utility / manufacturer rebates	40%	12%	4
Installation cost	27%	38%	4

F2. Now please think about all of the factors that you took into account as you considered installing a heat pump. Please select in the list below all of the factors that you took into account as you made this decision.

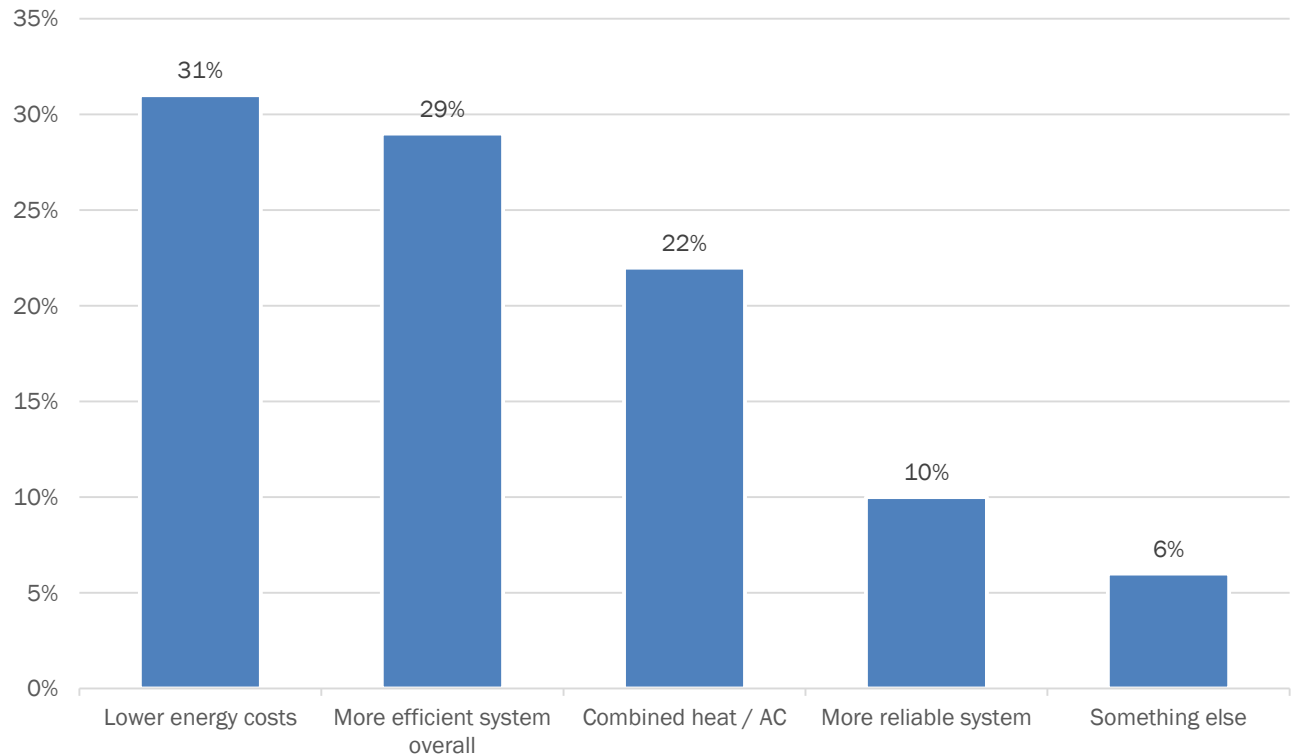
F5. Thinking one last time about all of the factors that may have impacted your overall decision about installing a heat pump, please rate those factors using the following scale, where 1 is “Absolutely critical to the decision” and 4 is “Not relevant / important at all”.

F3. Please assign a total of 100 points across the factors that you just identified in a way that indicates which factors were more or less important to your decision. You can assign any number of points to any of the factors, as long as the total adds to 100.

Note that 47% of respondents in the table above say that the “ability to add AC to the home” was rated as a factor they took into account in their decision, and that 61% rated this as “absolutely critical.” This is interesting, given that (as we noted in an earlier section of this report) only 29% of households reported that they did not have air conditioning prior to the installation of their new heat pump. These results indicate, therefore, that the number of people who said that adding air conditioning was important was actually greater than the number who did not have air conditioning previously. This likely means that some people who had air conditioning of some form previously were not very satisfied with that older solution (perhaps due to the use of room air conditioners, or a central air system that did not perform well).

When respondents were asked about the primary benefit they sought by installing a heat pump, they most commonly cited lower energy costs (31%), higher efficiency overall (29%), and the ability to have a single system with combined heat and AC (22%).

Chart 4-4: Primary Benefit Sought From Heat Pump Installation



F1. Thinking specifically about your electric heat pump, what would you say is the primary benefit that you were seeking by choosing to install a heat pump? (Please select only one response.)

Comparing the responses to this closed-ended question to those from an open-ended question¹¹ that allowed for multiple responses and asked respondents to explain “in their own words” why they ultimately chose to install a heat pump tells a similar story, though with some additional insight. The open-ended responses indicate that:

- 46% believe that they will save money on energy costs over the long term
- 30% preferred the heat pump system’s overall performance, particularly in terms of occupant comfort
- 20% installed a heat pump because of the availability of incentives, rebates and tax credits

¹¹ QF4: Now we would like you to please explain in your own words - as completely as possible - what led you to think about making a change in your home's heating / cooling system, and specifically, why you ultimately chose to install an electric heat pump. Please be as specific as possible. Your detailed answer will help us to understand how to ensure that customers like you get the best information possible in the future.

- 15% installed a heat pump based on contractor recommendations
- 10% installed a heat pump based on prior, positive, experience with heat pumps
- 10% wanted to add air conditioning to their home and the heat pump was the best option to do so
- 8% preferred the heat pump because they think of electricity as a “greener” fuel choice
- 7% installed a heat pump because of the ability to install a better air filtration system
- 3% installed a heat pump because of the ability to change heating fuels between gas or electric

APPENDIX A. Respondent, Household, and Sample Characteristics

Table A-1. Respondent Demographics and Household Characteristics

Household Size		Education	
One person	13%	High School or less	10%
Two persons	57%	Trade / Tech school	12%
Three persons	12%	Some college	28%
Four persons	12%	Bachelor's degree	41%
Five or more persons	4%	Graduate degree	7%
When Home Was Built		Employment Status	
Before 1970	34%	Employed full-time	42%
1970-1979	12%	Employed part-time	3%
1980-1986	9%	Not employed / other	2%
1987-1992	15%	Retired	49%
1993 - 2000	24%	Household Income	
2001 - 2009	2%	Less than \$30,000	3%
2010 or later	2%	\$30,000-\$39,999	3%
Number of Bedrooms		\$40,000 - \$49,999	7%
2	3%	\$50,000-\$59,999	9%
3	63%	\$60,000-\$69,999	8%
4	22%	\$70,000-\$89,999	15%
5 or more	11%	\$90,000-\$109,999	10%
		\$110,000-\$149,999 more	15%
		\$150,000-\$199,999	19%
		\$200,000 or more	9%
		Don't Know/Refused	9%

Table A-2. Sample Characteristics (Total Sample = 90 respondents)

Year Heat Pump Incentive Received		County	
2011	40%	Benton	1%
2012	33%	Clackamas	17%
2013	18%	Crook	2%
2014	9%	Douglas	4%
		Jackson	6%
		Josephine	1%
		Klamath	1%
		Linn	5%
		Marion	2%
		Multnomah	23%
		Washington	38%

APPENDIX B. Survey Questionnaire

Welcome.

Thank you for taking the time to see if your household qualifies to participate in a new survey about household heating systems. The survey is being conducted by Universal Survey on behalf of Energy Trust of Oregon.

To show our appreciation for your time in completing the survey, Universal Survey is offering those who complete the entire survey a \$50 payment. You will first be asked a few questions to make sure your household qualifies for participation. If you do qualify, you will then be invited to complete the full survey. At the end of the full survey, you will be eligible to receive the \$50 payment.

The information you provide will be used for research purposes only and will NOT be shared with third parties for marketing purposes. Information you provide will be stored in a secure database. If you have questions about our privacy practices or would like to get any other information about this survey, please contact us:

email: Oregon.Energy.Survey@outlook.com

phone: 866-484-8720

If you need to pause the survey at any time, you can come back later and begin again where you left off. Simply save the URL and the Survey ID# from your survey invitation to access your survey again. The survey will automatically take you to the point where you left off.

Please click "CONTINUE" to begin.

S1. What is your role in making energy-related decisions about major appliances or equipment in your home – things like selecting new appliances or large electronic devices, or making decisions about replacing heating or cooling systems?

1. You are primarily responsible for some or all of these decisions [CONTINUE TO S2]
2. Someone else in your household is primarily responsible for these types of decisions [SHOW NOTE BELOW]
3. You share responsibility for these decisions with others in your household, or with a landlord or property manager [CONTINUE TO S2]
4. No one in your home is responsible for these types of decisions. [TERMINATE]

[IF S1=2, DISPLAY: "If there is someone else in your household that is more involved in these types of decisions, please ask that person to complete the survey from here. Thank you." THEN GO TO [INTRO_a]

[INTRO_a - FOR REFERRED RESPONDENTS:]

Welcome.

Thank you for taking the time to see if your household qualifies to participate in a new survey about household heating systems. The survey is being conducted by Universal Survey on behalf of Energy Trust of Oregon.

To show our appreciation for your time in completing the survey, Universal Survey is offering those who complete the entire survey a \$50 payment. You will first be asked a few questions to make sure your household qualifies for participation. If you do qualify, you will then be invited to complete the full survey. At the end of the full survey, you will be eligible to receive the \$50 payment.

The information you provide will be used for research purposes only and will NOT be shared with third parties for marketing purposes. Information you provide will be stored in a secure database. If you have questions about our privacy practices or would like to get any other information about this survey, please contact us:

e-mail: Oregon.Energy.Survey@outlook.com

phone: 866-484-8720

If you need to pause the survey at any time, you can come back later and begin again where you left off. Simply save the URL and the Survey ID# from your survey invitation to access your survey again. The survey will automatically take you to the point where you left off.

Please click "CONTINUE" to begin.

As you answer the survey questions, you will **not** be able to use your browser's "back" button. If you mistakenly press your browser's "back" button, you will need to press the "refresh" button to continue the survey.

S1_a. What is your role in making energy-related decisions about major appliances or equipment in your home – things like selecting new appliances or large electronic devices, or making decisions about replacing heating or cooling systems?

1. You are primarily responsible for some or all of these decisions [**CONTINUE TO S2**]
2. Someone else in your household is primarily responsible for these types of decisions [**TERMINATE**]
3. You share responsibility for these decisions with others in your household, or with a landlord or property manager [**CONTINUE TO S2**]
4. No one in your home is responsible for these types of decisions. [**TERMINATE**]

S2. Energy Trust's records show that your household may have installed a new electric heat pump within the last few years.

Is that the case – did your household install a new electric heat pump at your current, or a former home, within the last few years?

1. Yes
2. No
3. Not sure

[IF S2=2 OR 3, TERMINATE AND SHOW TERMINATE TEXT; OTHERWISE CONTINUE]

S3. Did your household also receive a rebate payment from Energy Trust of Oregon for making that change?

1. Yes
2. No
3. Not sure

S3a. Do you still live at the home where that new electric heat pump was installed?

1. Yes
2. No

[IF S3A=2, DISPLAY: "Please answer the questions in this survey for the home where the new electric heat pump was installed." AND GO TO S4; OTHERWISE, GO DIRECTLY TO S4 AND DO NOT SHOW THIS TEXT]

S4. Which of the following categories represents your current age?

1. Less than 18 years old
2. 18-24
3. 25-34
4. 35-44
5. 45-54
6. 55-64
7. 65 or more years old

[IF S4=1, TERMINATE AND GO TO TERMINATE TEXT; OTHERWISE CONTINUE]

S5. What is the name of the electric utility that serves your home?

1. Pacific Power
2. Portland General Electric
3. Another provider (PLEASE SPECIFY) **[RECORD RESPONSE]**

4. Not sure

S6. What is the name of the utility that provides natural gas service to your home?

1. Cascade Natural Gas
2. Northwest Natural
3. Another provider (PLEASE SPECIFY) [RECORD RESPONSE]
4. Not sure
5. Our home does not have natural gas service.

[TERMINATE HERE IF DISQUALIFIED AND GO TO TERMINATE LANGUAGE; OTHERWISE GO TO INVITATION LANGUAGE]

Terminate Language for Non-Qualifying Respondents

We truly appreciate your time and effort in responding to our survey invitation and answering these initial questions, which were designed to see if you are eligible to participate.

In order to achieve a representative sample, quotas with specific criteria have been designated. At this point, we have reached the number of respondents we can accept from individuals with your type of experience or background. Again, we would like to thank you for your time and effort.

If you would like information on how your home can save money on your energy bills, please visit Energy Trust's website at www.energytrust.org12.

Thank you. Have a nice day!

[PROGRAMMER: ENERGYTRUST.ORG IS A HYPERLINK]

Invitation Language for Qualifying Respondents

Thank you for your responses so far! You qualify for the survey, which should only take 10-15 minutes to complete. Once you complete the survey you will be eligible to receive our \$50 thank you payment, which will be sent in the form of a check.

Your responses are important to us, so please press “CONTINUE” to begin answering the survey questions.

If you need to pause the survey at any time, you can come back later and begin again where you left off. Simply save the personalized URL to access your survey again. The survey will automatically take you to the point where you left off.

As you complete the survey, you will **not** be able to use your browser’s “back” button. If you mistakenly press your browser’s “back” button, you will need to press the “refresh” button to continue the survey.

I – Heating and Cooling

Now we'd like to ask you some questions about your home's current heating and cooling systems.

- Q1. What type of system do you use as the **primary heating system** for your home?
1. Central warm air gas furnace
 2. An electric heat pump (including both ductless and ducted systems)
 990. Something else (PLEASE SPECIFY) [RECORD RESPONSE]
 3. Not sure
- Q2. When was your current primary heating system purchased or installed?
1. 2013-Present
 2. 2010-2012
 3. 2006-2009
 4. 2000-2005
 5. 1995-1999
 6. 1990-1994
 7. Before 1990
 9. Not sure

[PROGRAMMER; PUT Q1 & Q2 ON SAME PAGE IF POSSIBLE]

[IF Q1=1-2, 990, ASK Q3; OTHERWISE, SKIP TO Q5]

- Q3. In addition to [IF Q1=1, RESTORE “the central warm air gas furnace,”; IF Q1=2, RESTORE “the electric heat pump,”; IF Q1=990, RESTORE RESPONSE FROM OTHER/SPECIFY] do you use any other supplemental equipment to heat your home, even if only once in a while, and / or for part of your home?
1. Yes, one or more of the following. (Please select all that apply.)
[PROGRAMMER: IF Q1=1-2, DO NOT DISPLAY ITEM SELECTED AT Q1]
 - a. Central warm air gas furnace [DO NOT DISPLAY IF Q1=1]
 - b. Electric baseboard or electric coils radiant heating
 - c. An electric heat pump [DO NOT DISPLAY IF Q1=2]
 - d. One or more wall mounted heaters
 - e. A wood fireplace or stove
 - f. Portable heaters990. Other (PLEASE SPECIFY) [RECORD RESPONSE]
 2. No
 3. Not sure

[ASK Q4 IF Q3 =ANY 1a-1e, OR 990; OTHERWISE SKIP TO Q5]

- Q4. During the winter (December through February), how often do you use the supplementary heating equipment in your home?
1. On only a few winter days (No more than 3 days each month)
 2. On some winter days (No more than 10 days each month)

3. On many winter days (No more than 20 days each month)
4. On most winter days (More than 20 days each month)
- 5.

Q5. Thinking about the primary method you use to cool most of your home, is that system...?

1. A central air conditioner
2. One or more room air conditioners mounted in or near a window or on a wall
3. An electric heat pump (including both ductless and ducted systems)
4. One or more portable room air conditioners
990. Other (PLEASE SPECIFY) **[RECORD RESPONSE]**
10. Not sure
11. My home has no system that is used to cool a significant portion of my home

[IF Q5=1-4,990 ASK Q6; OTHERWISE SKIP TO Q7]

Q6. When was this primary cooling system purchased or installed?

[IF Q5=2,4, DISPLAY, “If you have more than one cooling unit as part of this cooling system but all the units were not purchased at the same time, answer for the unit you use most often.”]

1. 2013 – Present
2. 2010-2012
3. 2006-2009
4. 2000-2005
5. 1995-1999
6. 1990-1994
7. Before 1990
9. Not sure

Q7. **[IF Q5=1-4,990 DISPLAY, “In addition to [INSERT Q5 RESPONSE], do”] [IF Q5=10-11 DISPLAY, “Do”]** you use any equipment to cool a portion of your home (including any fans), even if only once in a while?

1. Yes, one or more of the following. (Please select all that apply.)
[PROGRAMMER: IF Q5=1-4, DO NOT DISPLAY ITEM SELECTED AT Q5]
 - a_1. One or more room air conditioners mounted in or near a window or on a wall
 - a_2. One or more portable room air conditioners
 - a_3. One or more portable dehumidifiers
 - a_4. One or more ceiling, window, or room fans
 - a_5. Whole-house fan
 - a_6. Attic fan
 - a_7: A ductless indoor unit
 990. Other (PLEASE SPECIFY) **[RECORD RESPONSE]**
2. No
3. Not sure

Q8. You said earlier that you installed a new electric heat pump at your home within the last

several years. Did that heat pump replace an existing piece of home heating equipment, or do you still use the heating system that you had before?

1. The heat pump replaced a gas furnace which we no longer use or was removed
2. We use the heat pump in addition to a gas furnace that also still works.
3. Something else (PLEASE SPECIFY) [RECORD RESPONSE]

(IF Q8=1, ASK Q9; OTHERWISE SKIP TO HEADER BEFORE H1)

Q9. How old was the gas furnace that you removed or no longer use as a primary heat source?

1. Less than 10 years old
2. 10-15 years old
3. 16-20 years old
4. More than 20 years old
5. Not sure

The next few questions ask about the process you went through as you thought about making a change in your heating / cooling system by installing a new electric heat pump.

H1. To the best of your recollection, when did you first start thinking about making a significant change in your home's heating / cooling system?

1. Before 2011
2. Spring / Summer 2011
3. Fall / Winter 2011-2012
4. Spring / Summer 2012
5. Fall / Winter 2012-2013
6. Spring / Summer 2013
7. Fall / Winter 2013-2014
8. Spring / Summer 2014

H2. About how long did it take between the time that you first started thinking about making a change in your cooling / heating system until the new heat pump installation was complete?

1. A month or two
2. 3-4 months
3. 5-6 months
4. 7-9 months
5. More than 9 months

H3. What prompted you to first start thinking about making a change to your home's heating / cooling system? (Please select only one response.)

[PROGRAMMER, ROTATE OPTIONS 1-10]

1. Something you read in a newspaper or magazine

2. Something you heard on TV or the radio
3. Something you read about or saw online
4. A recommendation from a friend or family member
5. A recommendation from a heating or air conditioning contractor or service person
6. You experienced a problem or failure in your existing heating / cooling system
7. You knew the system was old and you wanted to replace it before it became unreliable
8. You wanted a more efficient system
9. You began to encounter high heating bills
10. You remodeled or added on to your home
11. Something else (PLEASE SPECIFY) **[RECORD RESPONSE]**

H4. What sources of information did you take into account as you thought about whether or not to make a change in your heating / cooling system? (Please select all that apply.)

[PROGRAMMER, ROTATE OPTIONS 1-7]

1. Online recommendations / reviews
2. Advice from a salesperson at a retail store
3. Advice from friends or family members
4. Advice from a heating or air conditioning repair person or installer
5. Information from your natural gas utility company
6. Information from your electric utility company
7. Information from Energy Trust of Oregon
8. Another source (PLEASE SPECIFY) **[RECORD RESPONSE]**

[IF MORE THAN ONE ITEM SELECTED AT H4 ASK H5; OTHERWISE, SKIP TO H6]

H5. Of the sources of information you just mentioned, which would you say was ultimately the most important in affecting your final decision about replacing your heating / cooling system? **[ONLY SHOW ITEMS SELECTED IN H4]** (Please select only one response.)

1. Online recommendations / reviews
2. Advice from a salesperson at a retail store
3. Advice from friends or family members
4. Advice from a heating or air conditioning repair person or installer
5. Information from your natural gas utility company
6. Information from your electric utility company
7. Information from Energy Trust of Oregon
8. **[RESTORE QH4_8 RESPONSE]**

H6. Which of the following heating / cooling systems did you realistically consider installing? (Please select all that apply)

1. A new high efficiency electric heat pump
2. A new standard efficiency electric heat pump
3. A new high efficiency gas furnace
4. A new standard efficiency gas furnace

990. Something else (PLEASE SPECIFY) [RECORD RESPONSE]

(IF H6 NE3, ASK H7; OTHERWISE SKIP TO F1)

H7. Why did you not realistically consider installing a new high efficiency gas furnace?
[RECORD RESPONSE]

F1. Thinking specifically about your electric heat pump, what would you say is the primary benefit that you were seeking by choosing to install a heat pump? (Please select only one response.)

[PROGRAMMER, ROTATE OPTIONS 1-9]

1. Having a system that would have lower energy costs over time
2. Having a more efficient system overall
3. Adding air conditioning in a single heating / cooling system
4. Eliminating natural gas as a fuel source in your home
5. Having lower installation costs
6. Having easier maintenance / lower maintenance costs
7. Getting tax credits
8. Getting a rebate / incentive from Energy Trust
9. Getting a more reliable / more effective system
10. Something else (PLEASE SPECIFY) [RECORD RESPONSE]

F2. Now please think about all of the factors that you took into account as you considered installing a heat pump. Please select in the list below all of the factors that you took into account as you made this decision. [PROGRAMMER: ROTATE LIST 1-9]

1. The relative fuel costs for the system over time
2. The relative reliability of the system
3. The relative efficiency of the system
4. The ability to add air conditioning for your home
5. The availability of a rebate / incentive from Energy Trust
6. The availability of manufacturer or utility rebates
7. The availability of state tax credits
8. The ability of the system to provide a comfortable environment for your home
9. The relative installation cost of the system
10. Something else (PLEASE SPECIFY) [RECORD RESPONSE]

[IF QF2 ONLY HAS ONE RESPONSE CHECKED, SKIP TO F4; OTHERWISE, ASK F3]

We would like to know the relative importance of the factors you just identified in terms of their

impact on your final decision to install a new heat pump.

F3. Please assign a total of 100 points across the factors that you just identified in a way that indicates which factors were more or less important to your decision. You can assign any number of points to any of the factors, as long as the total adds to 100.

[PROGRAMMER: ONLY DISPLAY ITEMS BELOW THAT WERE SELECTED IN F2; TOTAL MUST SUM TO 100]

- a. The relative fuel costs for the system over time _____
 - b. The relative reliability of the system _____
 - c. The relative efficiency of the system _____
 - d. The ability to add air conditioning for your home _____
 - e. The availability of a rebate / incentive from Energy Trust _____
 - f. The availability of manufacturer or utility rebates _____
 - g. The availability of state tax credits _____
 - h. The ability of the system to provide a comfortable environment for your home _____
 - i. The relative installation cost of the system _____
 - j. **[IF F2_10 HAS RESPONSE, RESTORE; OTHERWISE CODE F3_J=0]** _____
- Total _____

F4. Now we would like you to please explain in your own words – as completely as possible – what led you to think about making a change in your home’s heating / cooling system, and specifically, why you ultimately chose to install an electric heat pump. Please be as specific as possible. Your detailed answer will help us to understand how to ensure that customers like you get the best information possible in the future.

[OPEN END – RECORD RESPONSE]

F5. Thinking one last time about all of the factors that may have impacted your overall decision about installing a heat pump, please rate those factors using the following scale, where 1 is “Absolutely critical to the decision” and 4 is “Not relevant / important at all”.

[PROGRAMMER, WE SHOULD SEE ALL OF THESE LISTED, NOT JUST THE ONES CHOSEN EARLIER]

	1	2	3	4
[PROGRAMMER: ROTATE LIST BELOW]	Absolutely critical to the decision	Important but not essential	Relevant, but ultimately not very important	Not relevant / important at all
a. The relative fuel costs for the system over time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The relative reliability of the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. The relative efficiency of the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The ability to add air conditioning for your home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. The availability of a rebate / incentive from Energy Trust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The availability of manufacturer or utility rebates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. The availability of state tax credits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. The ability of the system to provide a comfortable environment for your home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. The relative cost of the system to install	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. [IF F2_10 HAS RESPONSE, RESTORE HERE; OTHERWISE CODE RESPONSE F5_J=NOT APPLICABLE]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Household Information

We have only a few more questions for you, in order to help us classify your household.

D1. **Including yourself**, how many individuals normally live in your home?

Do not include anyone who is just visiting, those away in the military, or children who are away at college.

[RECORD NUMBER 1-20] individuals

D2. About when was your home built?

1. Before 1970
2. 1970-1979
3. 1980-1986
4. 1987-1992
5. 1993-2000
6. 2001-2009
7. 2010 or later
8. Not sure
9. Don't know / Prefer not to say

D3. For about how many years have you lived in your present home?

Your best estimate is fine, but please enter a whole number rather than a range of numbers.

1. Less than 1 year
2. [RECORD NUMBER 1-100] years

D4. How many bedrooms are in your home?

0. 0 / Studio/Efficiency apartment
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6 or more

D5. What is your gender?

1. Male
2. Female
3. Prefer not to answer

D6. What is the highest level of education you have completed?

1. Less than a high school degree

2. High school degree
3. Technical/trade school program
4. Associates degree or some college
5. Bachelors degree
7. Graduate / professional degree, e.g., J.D., MBA, MD, etc.
8. Professional certification, e.g., CPA, CNP, etc.
9. Prefer not to answer

D7. What is your current work status?

1. Employed full-time
2. Employed part-time
3. Not currently employed
4. Retired
990. Other [SPECIFY]

D8. Which of the following categories includes your household's total annual income before taxes in 2013? Please include the income of **all** people living in your home in this figure.

1. Less than \$60,000
2. \$60,000 or more

D9. Which of the following categories includes your household's total annual income before taxes in 2013? Please include the income of **all** people living in your home in this figure.

[IF D8=1, DISPLAY OPTIONS 1-5 AND 12; IF D8=2, DISPLAY OPTIONS 6-12]

1. Less than \$10,000
2. \$10,000 to less than \$30,000
3. \$30,000 to less than \$40,000
4. \$40,000 to less than \$50,000
5. \$50,000 to less than \$60,000
6. \$60,000 to less than \$70,000
7. \$70,000 to less than \$90,000
8. \$90,000 to less than \$110,000
9. \$110,000 to less than \$150,000
10. \$150,000 to less than \$200,000
11. \$200,000 or more
12. Don't know / Prefer not to say

CONCLUSION

[INCENTIVE NAME/ADDRESS COLLECTION SCREEN]

Those are all the questions we have for you today. We sincerely appreciate your participation.

Please press "CONTINUE" below to give us the information for sending your \$50 thank you payment, which will be in the form of a check.

Q63. To receive the \$50 thank you payment from Universal Survey that you earned by completing this survey, please provide your name and address below.

- A. Full name
- C. Mailing Address Line #1
- D. Mailing Address Line #2 (optional)
- E. City
- F. State
- G. ZIP Code

Q63a. I would prefer not to receive the \$50 thank you payment.

[PROGRAMMER, PLEASE SHOW Q63 AND Q63a ON SAME SCREEN]

[INCENTIVE NAME/ADDRESS VERIFICATION SCREEN]

[IF Q63a SELECTED, SHOW: "You have indicated that you do **not** wish to receive the \$50 thank you payment. Is that correct?"

- Q64a. 1. Yes
2. No

[IF Q64a=2, REASK Q63, THEN CONTINUE TO Q64;
IF Q64a=1, SKIP TO THANK YOU SCREEN;
OTHERWISE, RESTORE NAME AND ADDRESS INFORMATION FOR VERIFICATION AFTER RE-ENTERING]

Q64. Please review the information you provided and verify that it is complete and correct:

[DISPLAY NAME AND ADDRESS COLLECTED AND DISPLAY:]

Is your mailing information correct?

- 1. Yes
- 2. No

[IF Q64=1, CONTINUE TO PAYMENT GOODBYE SCREEN; OTHERWISE ALLOW RE-ENTRY OF MAILING INFO AND CODE AS Q63a1=Q63g1; AT BOTTOM OF Q63a-g DISPLAY PAGE, ADD THIS INSTRUCTION IN LARGE BOLD LETTERS: "PLEASE CONTINUE TO THE NEXT SCREEN TO SUBMIT YOUR SURVEY"

GOODBYE SCREEN

[IF Q63a=YES and Q64a=1 (DO NOT GET INCENTIVE), DISPLAY:]

Thank you very much for your help with our research. We sincerely appreciate your participation. Have a nice day!

[PROGRAMMER, PLEASE BE SURE THAT THIS INSTRUCTION IS LARGER AND BOLDER THAN THE REST OF THE TEXT:]

Please click "CONTINUE" below to submit your survey.

Please contact us with any questions or concerns:
EMAIL: Oregon.Energy.Survey@Outlook.com / Phone: 866-484-8720

[END SURVEY]

[PROGRAMMER, EVERYONE WHO IS GETTING AN INCENTIVE NEEDS TO SEE THIS BEFORE SURVEY END:]

You have successfully submitted the information we need so we can send you your \$50 thank you payment. This payment, which will be issued in the form of a check, will be mailed within 3-4 weeks to the address you provided.

Thank you very much for your help with our research. We sincerely appreciate your participation. Please click CONTINUE below to submit your survey.

Have a nice day! **[END SURVEY]**

Please contact us with any questions or concerns:
EMAIL: Oregon.Energy.Survey@Outlook.com / Phone: 866-484-8720

APPENDIX C. Additional Survey Question

Once the core survey was completed, the survey team realized that one item that should have been in the original questionnaire was not included. As a result, a follow-up question was asked of each respondent, either by email (for the 60 respondents with email addresses) or by telephone (for the other 30 respondents). The email text version of that question was phrased as follows:

Thank you so much for completing our online survey about your heat pump installation. We forgot to ask one question that we need in order to finish our analysis – that question is: Prior to installing the heat pump, did you have air conditioning in this home? If you could email us back your "yes," or "no" answer by replying to this email, we would really appreciate it. Thank you for your help. The Oregon Energy Survey Team.