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2003-2004 Home Energy Savings Program Residential Impact Evaluation

For the Energy Trust of Oregon, Inc.

Final

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1. INTRODUCTION

The objective of the Single Family Home Energy Savings Program Impact Evaluation is to measure the energy savings resulting from the Energy Trust of Oregon's Home Energy Savings and Home Energy Review programs during program years 2003 and 2004. Although the Home Energy Savings Program extends to multifamily and manufactured homes, this Evaluation measures only the energy savings occurring in the single family segment. This evaluation was commissioned by the Energy Trust of Oregon and completed by Itron, Inc.

The following Introduction section provides an overview of the Home Energy Savings and Home Energy Review programs, an overview of the evaluation objectives, a broad description of analysis methods and data collection strategies, as well as an outline of the remainder of the report.

An overview of the Home Energy Savings and Home Energy Review programs is presented next.

1.1 OVERVIEW OF THE PROGRAMS

This section provides a brief overview of program content and design.

1.1.1 Home Energy Savings Program

The Home Energy Savings program provides services, cash incentives and qualified contractors that improve the energy efficiency of single family homes. Homeowners who are Oregon customers of Portland General Electric, Pacific Power, NW Natural or Cascade Natural Gas[1] are eligible. This program is designed to encourage customers to adopt energy saving measures for their home.

The Energy Trust of Oregon provides cash incentives for energy efficient upgrades to single family homes. Upgrades that qualify for cash incentives include: Air sealing, Insulation Windows, Gas Furnaces, Direct Vent Gas, Room Heaters, Gas Boilers, Duct Insulation, Duct Sealing, Heat Pumps, Water Heaters, and Clothes Washers.

For the convenience of participating customers, the Energy Trust maintains a list of trade ally contractors who are licensed and familiar with Home Energy Savings program requirements. These Trade Allies have appropriate insurance, are eligible to offer special promotions, and have a good track record with other program participants.

Single family residents may be eligible to receive a credit on Oregon income taxes for installing energy efficient equipment. Some of the measures eligible for a cash incentive through the Home Energy Savings program are also eligible for the Oregon tax credit. Measures which may qualify for both the Home Energy Savings Program and the Oregon tax credit include efficient heat pump, gas furnace, duct sealing and water heater.

[1] The Energy Trust of Oregon began offering services to Cascade Natural Gas customers in July of 2006.

1.1.2 Home Energy Review Program

The Home Energy Review Program is designed to improve customer knowledge of energy saving opportunities in the home. The Home Energy Review provides customized and personal information regarding how customers can save energy and money and create a more comfortable living environment. The program also includes the installation of free compact fluorescent bulbs. As part of this program a Home Energy Specialist from the Energy Trust visits each participating home and provides customized recommendations for energy-saving measures and practices. The Specialist will also install up to 10 free compact fluorescent light bulbs.

1.2 PROGRAM ACCOMPLISHMENTS

Exhibit 1-1 below shows program accomplishments for the 2003 and 2004 program years. These data are based on the Energy Trust's current gross impact estimation methods.

Exhibit 1-1
Home Energy Savings and Home Energy Review Program Accomplishments
Program Years 2003 and 2004

Measure	Electricity Saving Measures				Gas Saving Measures			
	Participants	Total kWh Savings	Per Participant kWh Savings	Percent of Total kWh Savings	Participants	Total Therm Savings	Per Participant Therm Savings	Percent of Total Therm Savings
Program Year 2003								
CFL	1,653	601,282	364	48%	0	0	0	0%
Water Heater	366	46,852	128	4%	0	0	0	0%
Gas Furnace	0	0	0	0%	1,593	156,202	98	79%
Heat Pump	11	95,155	8,650	8%	0	0	0	0%
Heat Pump Tune Up	4	4,521	1,130	0%	0	0	0	0%
Ceiling Insulation	161	215,664	1,340	17%	215	18,200	85	9%
Floor Insulation	78	154,485	1,981	12%	100	10,465	105	5%
Wall Insulation	30	50,362	1,679	4%	78	8,471	109	4%
Duct Insulation	21	17,850	850	1%	66	2,681	41	1%
Duct Sealing	7	10,132	1,447	1%	11	746	68	0%
Window	28	63,028	2,251	5%	15	1,748	117	1%
Air Sealing			0	-	1	62	62	0%
Total Program Year 2003	2,359	1,259,330	534	100%	2,079	198,576	96	100%
Program Year 2004								
CFL	2,600	979,802	377	35%	0	0	0	0%
Water Heater	1,560	199,952	128	7%	20	491	25	0%
Gas Furnace	0	0	0	0%	6,065	588,004	97	71%
Direct Vent Gas Furnace	0	0	0	0%	6	517	86	0%
Heat Pump	154	595,094	3,864	21%	0	0	0	0%
Heat Pump Tune Up	1	1,127	1,127	0%	0	0	0	0%
Ceiling Insulation	329	393,936	1,197	14%	895	100,428	112	12%
Floor Insulation	160	331,466	2,072	12%	461	49,621	108	6%
Wall Insulation	62	97,863	1,578	3%	374	40,108	107	5%
Duct Insulation	40	34,000	850	1%	283	30,029	106	4%
Duct Sealing	28	40,435	1,444	1%	89	15,141	170	2%
Window	73	138,274	1,894	5%	222	6,831	31	1%
Air Sealing	2	2,683	1,341	0%	7	261	37	0%
Total Program Year 2004	5,009	2,814,633	562	100%	8,422	831,430	99	100%

1.3 STUDY OBJECTIVES

The primary objective of this evaluation is to determine the energy savings resulting from single family participation in the Home Energy Savings and Home Energy Review programs during the 2003 and 2004 program years. There are two primary subcomponents of this Evaluation, a "gross impact assessment" and a "net-to-gross assessment".

The objective of the gross impact assessment is to measure the energy savings of measures installed through the programs. This is distinct from the energy savings resulting from the program because it does not consider whether adoptions are attributable to the program. The focus of the net-to-gross assessment is exactly that, to determine which adoptions – both within and outside the program- occur as result of program influence.

The result of the impact assessment will be adjusted kWh and Therm savings resulting from program measures. The result of the net-to-gross assessment will be the percent of program savings that are attributable to program activities. The combination of these results provides an estimate of program energy savings – meeting the overall objective of the Study.

1.4 OVERVIEW OF STUDY APPROACH AND DATA COLLECTION STRATEGY

The Gross Impact Assessment uses quantitative techniques to measure energy savings resulting from the installation of program-rebated equipment. The assessment uses a statistical analysis of customer bills and other relevant data to measure the portion of estimated energy savings detectable in energy use patterns. Data utilized in this analysis include home energy consumption, weather, home characteristics and recent changes to homes affecting energy use. A detailed model specification and description of data sources and methods is presented in Chapter 2, Gross Impact Assessment.

The Net-to-Gross Assessment analyzes data collected through telephone interviews to determine the portion of measure adoptions attributable to program influence. Interview questions are designed to characterize the degree of influence the program and program cash incentives had on customer decisions regarding the installation of high efficiency equipment. Interviews are conducted with participating customers as well as program vendors.

Participating customers that would have installed the same energy saving measures even in the absence of the program are termed "free riders" and the impact of their adoptions is not attributable to program influence. Customers may also adopt energy saving measures outside the program as a result of increased knowledge and positive experiences through the program. The impact from these adoptions is termed "spillover" and is attributable to program influence. The specific survey questions and analysis algorithms used to measure free ridership and spillover are provided in *Chapter 3, Net-to-Gross Assessment*.

Exhibit 1-2 below presents an overview of the data sources and uses in the Study. Three telephone surveys were conducted in support of this Study, a participating customer survey, a non-participating customer survey and a participating vendor survey. Other key inputs to the Study include participant tracking data, customer billing data and weather data.

Exhibit 1-2
Data Sources and Uses

Data Characteristic	Participating Customer Survey	Participating Vendor Survey	Nonparticipating Customer Survey	Tracking Data	Weather Data	Participating Customer Bills
Data Description						
Source	Primary Data Collection	Primary Data Collection	Primary Data Collection	Energy Trust of Oregon	NOAA Oregon Weather	Provided by Utilities*
Content	Computer Aided Telephone Interview	Computer Aided Telephone Interview	Computer Aided Telephone Interview	Customer and Measure Information, Estimated kWh/Therm Savings	Monthly cooling degree days and heating degree days	Monthly kWh and Therm Usage for surveyed participating households
Quantity	1,477 surveys	159 surveys	1,000 surveys	All 2003 and 2004 Participants	January 2003 through August 2005	January 2003 through August 2005**
Data Uses						
Gross Impact Assessment	X			X	X	X
Net-to-Gross Assessment	X	X	X	X		

* Portland General Electric, Pacific Power, NW Natural
** Time span covered by valid bills varies by customer

The participant survey collects data in support of both net-to-gross assessment and the gross impact assessment. In support of the net-to-gross assessment the survey includes a battery designed to identify free riders, as well as 'spillover' adoptions. In support of the gross impact assessment, the participant survey collects information about the home, such as the square feet, appliance holdings, and recent changes to the home that may affect energy use, such as a new water heater or air conditioning system[2].

The nonparticipant survey collects information in support of the net-to-gross assessment. The survey obtains self-reported data on energy efficient measure adoptions, program awareness and the influence of the Energy Trust of Oregon or the Programs on the decision to purchase energy saving equipment.

The vendor survey collects information in support of the net-to-gross assessment. Survey questions are designed to characterize the vendor perspective on rates of customer free ridership and spillover.

The full text of all three surveys are presented in Appendices A, B and C. Tables summarizing response frequencies for all three surveys are presented in Appendices D, E and F.

Tracking data is used to identify participants and the measures they installed. Tracking data provides estimates of energy savings for each participant. These estimates are key inputs to the

[2] The participant and nonparticipant surveys also include a battery of questions related to Process and Satisfaction. These questions were analyzed as part of an ancillary Study published under separate cover.

gross impact assessment. Tracking data also provides the basis for the participant survey sample design and is the source for contact and account information.

Weather data was obtained from National Oceanic and Atmospheric Administration and used as an important input to the gross impact assessment modeling effort. The weather data supports the model's ability to attribute changes in energy use more accurately between weather effects and equipment changes. This information is essential to the accurate estimation of energy savings due to program equipment installations.

The sixth and final major data input to the Study are participating customer energy bills. These bills include monthly kWh and therm usage and are essential to the gross impact modeling effort.

1.5 SAMPLE DESIGN

As discussed above, to support the study objectives three distinct telephone surveys were completed. A participant survey, a nonparticipant survey and a vendor survey. A separate discussion of each survey sample frame, sample design, and final survey disposition follow below.

1.5.1 Participant Survey Sample Design

The objective of the participant survey is to support both the gross impact assessment and the net-to-gross assessment. As discussed later, billing data were unavailable for nonparticipating customers. Thus, 2005 participants are included in the participant survey in order to provide support for the billing analysis. More specifically, the 2005 participants provide nonparticipant energy usage patterns through 2003 and 2004. The sample design for the single family participants was limited by the available sample of participants that had valid billing data.

Participants were segmented by measure, year of participation, and fuel savings type (gas or electric heating savings, or electric lighting savings, or electric heat pump savings). The goal of the sample design for the billing analysis was to sample 100 2003-04 participants in each measure, fuel savings type, segment, and to sample 50 2005 participants. However, the available sample was severely limiting.

Exhibit 1-3 below summarizes the sample frame of customers with valid phone numbers and a billing account number. Due to the sample size, a census was done of all electric heating participants with billing account information. Furthermore, for the heat pump measure, additional interviews with 20-40 participants with no billing account information were planned to ensure adequate data to support a net-to-gross assessment for this measure. For all other measures, the combination of electric and gas heating participants was expected to be sufficient to support a free ridership estimate (i.e., on the order of 100 completed interviews).

For some measures, it was possible to select participants for the sample frame that went through a series of validation procedures. For Gas Furnace participants, we only selected customers that had at least 24 valid months of billing data, and at least 10 of those were in 2004. For ceiling insulation participants with gas heating, we only selected customers that had at least 18 valid months of billing data, and at least 8 of those were in 2004. This was also true of Home Energy Review participants with CFLs, among 2003 and 2004 participants. For Floor and Wall

insulation participants with gas heating, we only selected customers that had at least 9 valid months of billing data. Criteria were restricted for Floor and Wall Insulation (and to a lesser extent Ceiling Insulation and CFLs) due to the limited available sample frame.

For the purposes of sample design, participants were counted in a single measure type (the measure was chosen based on sample scarcity.) Exhibit 1-3 below presents the participant survey sample frame, and the expected number of completes by measure, year and fuel savings type. As stated above, in addition to the expected survey completes shown below, an additional 20 – 40 surveys with heat pump participants that do not have electric account information were planned.

Exhibit 1-3
Participant Survey Sample Design

	ELECTRIC				GAS			
	Number of Sites with kWh Savings, Phone Number and ELECTRIC Account Number				Number of Sites with Therm Savings, Phone Number and GAS Account Number			
Measure	2003-04 Participants	2005 Participants	2003-04 Expected Survey Completes	2005 Expected Survey Completes	2003-04 Participants	2005 Participants	2003-04 Expected Survey Completes	2005 Expected Survey Completes
Home Energy Review CFLs	538	85	100	28				
Duct Insulation	22	34	7	11	319	289	100	50
Ceiling/Attic Insulation	186	165	62	55	1,021	766	100	50
Floor Insulation	91	107	30	36	517	513	100	50
Wall Insulation	30	37	10	12	419	373	100	50
Efficient Windows	51	43	17	14	230	236	77	38
Heat Pump	114	138	38	46				
Gas Furnace					3,941	1,134	100	50
Gas Furnace w/ ECM Blower	1,305	1,100			3,254	2,779	100	50
TOTAL	2,337	1,709	265	203	9,701	6,090	677	338

*Survey completes are based on 33% having valid bills and willing to conduct the telephone survey
*Survey completes are capped at 100 per cell

Exhibit 1-4 below shows the distribution of participant survey completes by measure, heating type and program year. For the readers convenience, expected survey completes are repeated below as well. Some surveyed participants installed more than one program measure. For this reason the total number of surveyed participants is less than the sum of the survey completes for each measure.

Exhibit 1-4
Participant Survey Completes[3]

	Electric				Gas			
	Expected 2003/2004	Expected 2005	Actual 2003/2004	Actual 2005	Expected 2003/2004	Expected 2003/2004	Actual 2003/2004	Actual 2005
Home Energy Review CFLs	100	28	123	62				
Duct Insulation	7	11	19	24	100	50	99	86
Ceiling/Attic Insulation	62	55	82	75	100	50	213	163
Floor Insulation	30	36	47	50	100	50	137	130
Wall Insulation	10	12	15	24	100	50	112	99
Efficient Windows	17	14	32	28	77	38	79	72
Heat Pump	38	46	72	78				
Gas Furnace					100	50	110	81
Gas Furnace w/ ECM Blower					100	50	124	94
TOTAL	265	203	257	186	677	338	579	455

1.5.2 Nonparticipant Survey Sample Design

Contact information for a sample of nonparticipating customers in the Program territory was not available at the time of this Study. Account number information was also unavailable and therefore nonparticipants could not be included in the Gross Impact Assessment billing model. Nonparticipant data was collected in support of the Net-to-Gross Assessment. Public telephone listings were used to randomly dial customers in the Portland General Electric, Pacific Power, NW Natural service territories. Telephone survey screening questions were used to verify each respondent is a homeowner of a single family detached residence. Survey questions also verify that the respondent is a customer of an eligible utility service territory. One-thousand nonparticipant surveys were completed. Exhibit 1-5 below shows the gas and electric service provider distribution of the nonparticipants interviewed for this Study.

Exhibit 1-5
Nonparticipant Survey Completes
Summary of Utility Service Providers

Gas Service Provider	Electric Service Provider	Number of Nonparticipant Survey Completes
Northwest Natural Gas	Pacific Power Co.	97
Northwest Natural Gas	Portland General Electric	374
Northwest Natural Gas	Other	65
Other	Pacific Power Co.	275
Other	Portland General Electric	189
Total		1,000

1.5.3 Vendor Survey Sample Design

[3] Heat pump participant survey completes include those conducted with 39 customers with no billing account information.

As discussed above, the primary objective of the Vendor Survey is to provide additional perspectives on customer free ridership to improve the reliability of the net-to-gross Assessment. This survey also provided a format for vendors to comment on their satisfaction with program design and implementation. Home Energy Savings Trade Allies in the single family segment are the targeted population of this survey. Only vendors installing gas furnace, heat pump, insulation or windows during program years 2003 or 2004 were considered for inclusion in this survey. Of course, vendors also must have valid contact information for inclusion in the survey. Participating vendor contact information as well as program participation histories were provided by the Energy Trust of Oregon. The available sample for this survey was limited to 268 vendors. The goal of the survey was to complete 100 surveys, thus a census of available sample was done. Exhibit 1-6 below summarizes the available sample and the completed vendor surveys. Note that the goal of 100 surveys was far surpassed due to an outstanding response rate from the vendor population.

Exhibit 1-6
Vendors Survey Summary
Available Sample and Completed Surveys by Program Measure

Program Measures	Sample Size	Completed Surveys
Gas Furnace Only	122	73
Insulation and Windows	50	36
Gas Furnace and Heat Pump	33	28
Insulation Only	31	7
Windows Only	20	8
Heat Pump Only	8	4
Gas Furnace, Insulation and Heat Pump	2	2
Insulation and Heat Pump	1	1
Gas Furnace and Insulation	1	0
Total	268	159

1.6 REPORT CONTENTS

This section provides the structure of the evaluation report, as describe below.

- The report includes a *Chapter 1 Introduction,* which lays the groundwork for the chapters that follow.
- The *Chapter 2 Gross Impact Assessment*
- The *Chapter 3 Participant Net-to-Gross Assessment….*
- The *Chapter 4 Single Family Vendor Net-to-Gross Assessment*

Supporting study material is found in the appendices.

- Appendix A, B, C present survey instruments
- Appendix D, E, F present tables of survey results

2. GROSS IMPACT ASSESSMENT

This chapter presents the results of the Gross Impact Assessment conducted for energy saving measures offered through the Home Energy Savings and Home Energy Review programs during program years 2003 and 2004. This section begins with a discussion of data sources, followed by an overview of the methodology. Next, there are separate, detailed discussions of the Gas Impact Billing Model and then the Electric Impact Billing Model. These discussions cover the details of model specification, data censoring and results.

The objective of the billing analysis is to determine the energy savings resulting from the installation of program measures. Statistical regression techniques are used to model energy use with actual customer billing data. The models are specified using billing data, weather data and other independent variables that explain changes in customers' energy usage. The latter includes information gathered during the participant telephone surveys as well as engineering estimates of energy impact found in the program tracking data.

The results of the billing regression analysis are ratios, termed "realization rates," of the energy savings detected by the billing model to the impact estimates found in the tracking data. These realization rates are the fraction of engineering estimates actually "observed" or "detected" in the statistical analysis of the billing data.

2.1 DATA SOURCES

The Gross Impact Assessment relies on data from four primary sources: utility billing data, ETO program tracking data, telephone survey data collected from participants specifically for use in this analysis, and weather data from the National Oceanic and Atmospheric Administration.

Participant tracking system data for the Home Energy Savings and Home Energy Review programs were provided by the Energy Trust of Oregon in support of this evaluation. Data were provided for program years 2003 through mid-2005. The tracking system contains dates of participation, program measure descriptions, quantity installed, incentive amounts, and estimated kWh and Therm savings. The tracking database is linked to utility billing databases through customer account numbers.

The utility billing data used in this evaluation were obtained for three Oregon utilities, Portland General Electric (PGE), Pacific Power and Northwest Natural Gas. Monthly billing data include customer account numbers, addresses, kWh and Therm usage, and bill read dates. This monthly billing data spans the period from early 2003 through late 2005. Billing data was not available for our surveyed sample of nonparticipants due to the absence of account numbers. An approach is used that does not require nonparticipant billing data.

The telephone survey data from 1,477 participants was used to support the billing analysis. Survey data collected additional information on the residence, including size, appliance holdings, occupant demographics, and recent changes to the residence made outside the programs.

Weather data were downloaded from NOAA Daily Heating Degree Days and Cooling Degree Days were obtained for each day spanning January 1 2003 through September 2005. Heating degree days is defined as the number of degrees that a day's average temperature is below 65 degrees Fahrenheit. Similarly cooling degree days are the number of degrees that a day's average temperature is above 65 degrees Fahrenheit. Heating Degree Days and Cooling Degree Days were chosen to represent weather patterns, as these have the most direct relationship with energy needs and consumption. Cumulative heating degree days over a billing period are proportional to space heating demand over that period. Similarly, cooling degree days are proportional to cooling needs, for those with air conditioning.

2.2 METHODOLOGY

The methodology used to estimate the kWh and Therm savings associated with the installation of program measures is presented in this section.

Statistical regression techniques are employed to construct models that predict energy consumption as a function of a number of relevant independent factors, such as square feet of the home and the number of heating or cooling degree days. Estimated energy savings for measures installed through the programs, obtained in the program tracking data, are also included as independent variables. Coefficient estimates for these estimated energy savings values represent the portion of estimated energy savings detectable in the bills.

The assessment employs a 'Covariance Model' using pooled monthly usage data. This model is also referred to in the statistical literature as a 'Fixed Effects' model. This approach is commonly used when dealing with pooled cross-section and time-series observations. The basic premise for this approach is the belief that each cross sectional unit is characterized by its own special intercept. This feature is incorporated in the model through the use of binary variables. In fact, this approach is also referred to as a Least Squares Dummy Variable[1] model. Another common implementation of this approach is to assume each time period and each cross-sectional unit have their own particular intercepts. For our model, we assume the weather effect variables capture time period-specific effects and focus instead on customer-specific intercepts.

A question often raised in connection with the covariance model is whether the inclusion of the dummy variables, and the related loss of the degrees of freedom, is validated by the data. The logic of the covariance model is that in specifying the regression model we have failed to include relevant explanatory variables, that generally do not change over time. The inclusion of the dummy variables compensates for our ignorance. In our case, the households we include in our model have a vast array of equipment stocks and many different typical usage patterns. This may include things such as fish tanks, blenders, microwaves, and swimming pools, as well as work schedules, preferences, activities and characteristics of a specific location such as shade trees, windows, typical levels of wind due to local geography. These are extremely difficult to measure using a survey instrument of reasonable length. Nevertheless, to assuage any doubt of the need for the dummy variables, an F test easily addresses the quality of the contribution made by the dummy variables. F-tests were completed for both the gas and electric models and

[1] Elements of Econometrics, 2nd Edition, Jan Kmenta. 1986 Macmillon Publishing Company. Page 632

found that the dummy variables are substantiated by the test at the 99 percent confidence level. These details are provided below.

Separate models are constructed for Therm and kWh consumption. A more detailed explanation, along with model specifications and results follow.

2.2.1 Gas Billing Model

This section presents the model specification, data censoring and attrition and model results.

Gas Model Specification

The gas billing model predicts daily therm usage in a given billing cycle as a function of relevant independent variables using a Covariance modeling approach, as discussed above. Among the advantages of this modeling approach is the ability to use participants as both the experimental and comparison groups. Usage patterns prior to Program measure installation serve as the comparison group sample from which measure impacts are identified. This approach partially controls[2] for the absence of nonparticipant billing data, as well as any potential sample bias inherent in selecting nonparticipants as a comparison group[3].

Load shapes provided by the Energy Trust of Oregon were used to translate annual ex-ante energy savings values for each measure into monthly values. Because billing cycles do not correspond with calendar months and may vary in duration, normalizing techniques were applied. Specifically, energy usage, estimated measure savings, and heating degree days are expressed in per-day values over the billing period.

The gas billing model specification is as follows:

$$THERMS_{i,j,} = \Sigma^{1023}_{N=1} \beta_N X_{i,j} + C_i$$

Where,

$THERMS_{i,j}$ = Therms consumed per day by customer i over billing period j

β_N = Vector of independent variable coefficients

X_i = Vector of independent variables associated with customer i over billing period j

C_i = Intercept for customer i

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[2] This approach does not control for economic and social trends. However, on a year-to-year basis, we expect these to be minimal.

[3] For example, it is difficult to construct a comparison group of nonparticipating customers with similar demographics and building characteristics, which are also in the market for the same type of equipment that participants are installing under the program.

The vector of independent variables included in the gas billing model are defined in Exhibit 2-1 below. Heating degree days[4] are included to absorb variations in energy consumption due to changes in the weather. Heating degree days are interacted with square feet to account specifically for heating requirements. 'P_CNT' represents the number of people residing in the home during the billing period. Indicator variables for each month in the year are included to control for seasonal effects. The remaining variables relate to changes to the home, both inside and outside the program. Changes to the home occurring inside the program are represented as estimated savings (obtained from the program tracking data), resulting in coefficients that represent the portion of estimated savings detected in the billing data. These coefficients are often referred to as 'Realization Rates' because they are the percent of estimated savings 'Realized' in the bills.

Duct insulation is isolated from other insulation measures because it was found to have a substantially lower realization rate. Ceiling, Wall and Floor insulation are grouped together to avoid potential multicollinearity (they are often installed together) and because they provide a more robust coefficient estimate grouped together. Windows and insulation are also often installed together. Model specifications were tried grouping windows and insulation together, and the results remained consistent with keeping the two separate, which was judged a more useful result.

Exhibit 2-1
Independent Variables Used in Gas Billing Model

Model Variable Name	*Variable Definition*
HDD	Heating Degree Days (per day) over the billing period
P_CNT	Number of people residing in home during billing period
HDD*SQFT	Heating Degree Days (per day) multiplied by square feet of home multiplied by a flag indicating gas heat
OTHER_WINDOWS^	Flag indicating the installation of windows outside the program where customer has gas heating
OTH_HEAT_OUTSIDE^	Flag indicating the installation of gas heat, gas fireplace or gas space heater outside the program
OTH_APP_OUTSIDE	Flag indicating the installation of a new gas appliance, such as a clothes washer or gas stove
DUCT_INS_PROG	Expected Therm savings (per day) over billing period due to installation of duct insulation through the Home Energy Savings Program
INSULATION_PROG	Expected Therm savings (per day) over billing period due to installation of ceiling, wall and/or floor insulation through the Home Energy Savings Program
WINDOWS_PROG	Expected Therm savings (per day) over billing period due to installation of windows through the Home Energy Savings Program
GAS_FURN_PROG	Expected Therm savings (per day) over billing period due to installation of a gas furnace through the Home Energy Savings Program
MON1 - MON11	Month specific constants
C1 through C1013	Customer specific constants

^The independent variables, 'Other_Windows' and 'Oth_Heat_Outside' are multiplied by average daily usage over all valid billing periods and heating degree days in current billing period to allow for variation in effects by consumption patterns and heating needs.

[4] See the Introduction section for a definition of 'heating degree days'.

Gas Model Data Censoring

As shown in Exhibit 2-2 below, there were 1,122 surveyed participants with some valid gas billing data. The total number of monthly bills associated with these 1,122 customers is 32,914. Billing data was removed from the analysis dataset for various reasons.

First, bills were eliminated if the duration of the billing period did not fall between 20 and 40 days. Extremely long or short billing periods may include interruptions in service or other unusual circumstances that would confound the modeling process. Eighty-nine bills were removed for this reason

Second, 824 bills considered anomalous and invalid were removed. Bills were considered anomalous or invalid if they meet one of the following criteria:

- Changes in usage from one month to the next exceeded a factor of two. That is, either doubled or fell to less than 50 percent of previous monthly usage[5].

- Daily usage fell into the top or bottom 1 percent of all calculated daily usage values. These bills have a high probability of being extreme outliers and invalid[6].

About one-third of participants had at least one bill removed for either an unusual billing duration or an anomalous bill.

There was insufficient data to provide a valid impact estimate for duct sealing and gas water heat measures[7]. Four hundred and seventy three bills reflecting the impact of these measures were removed from the analysis dataset to avoid obscuring the more easily accessible effects of other measures.

Customers that did not have at least 20 valid monthly billing records were also removed from the analysis dataset. In order to estimate a reasonable 'fixed effect' –or baseline usage level—for an individual customer there must be a critical mass records available for that customer. Seventy-seven customers and five hundred and eighty five bills were removed for having fewer than 20 valid bills.

Finally, 32 customers were removed from the analysis dataset because telephone survey data did not provide key independent variables, including the square feet of the home or the number of people occupying the home.

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[5] There was a concern that this screen might remove valid bills in shoulder months where the residence had gas heat, but no other gas appliances, and could therefore have dramatic changes in bills due to weather. However, an inspection of the removed bills reveal no clustering in shoulder months, which implies the screen is working properly.

[6] This method was selected for identifying bills outside the normal range because it results in little data attrition while also providing an objective, systematic way to remove outliers from the distribution.

[7] These measures make up less than 2 percent of total program savings (either gas or electric.) for this reason they were not targeted in the participant sample design. For these reasons the resulting sample contained very few duct sealing and water heat measure adopters.

Ultimately, there were 1,013 customers and 29,970 monthly bills contributing to the final gas billing model.

Exhibit 2-2
Summary of Data Censoring and Attrition
Gas Billing Model

Data Description	Customers	Monthly Bills
Surveyed Participants with Gas Billing Data	1,122	32,914
Monthly Bills with Duration Less Than 20 Days or More than 40 Days	0	89
Anomolous or Invalid Monthly Bills	0	824
Bills Following Unmodeled Changes^	0	473
Fewer than 20 Valid Bills	77	581
Missing Model Demographic Variables (Square Feet or Number of People)	32	977
Data Used in Final Billing Model	1,013	29,970

^Duct Sealing and Gas Water Heat

Gas Model Results

Coefficient estimates for the gas billing model are shown in Exhibit 2-3 below. All program measure variables are significant at the 99 percent confidence level. 64 percent of estimated insulation impacts were detected in the bills, while 72 percent of gas furnace impacts and 102 percent of windows impacts were detected. Not surprisingly heating degree days were the most predictive variable in the model. Appliance installation outside the program do not have a significant T – statistic, likely due to a variation in the efficiency and type of installation. As stated above, an F test for the validity of the customer-specific intercepts was significant at the 99 percent confidence level. As shown in the regression statistics below, the model explains 94 percent of the variation in energy use found in the data. The Durbin Watson test statistic is 1.92 indicating 1st order autocorrelation of about 4 percent. If autocorrelation is present the parameter estimates remain unbiased but the standard deviation of the estimates are understated, and the confidence bounds too narrow.

Note that it is not too surprising that the "OTH_HEAT_OUTSIDE" variable is marginally positive because it includes installations of gas fireplaces and space heaters, which may increase gas use.

Exhibit 2-3
Gas Billing Model Results

Dependent Variable	Parameter Estimate	T-Value	T-Statistic	95% Confidence Interval	
				Lower Bound	Upper Bound
HDD	0.09	39.30	0.000	0.08	0.09
P_CNT	0.06	3.33	0.001	0.023	0.090
HDD*SQFT[1]	0.03	54125.92	0.000	0.031	0.034
OTHER_WINDOWS[2]	0.00	-1.24	0.214	0.00	0.00
OTH_HEAT_OUTSIDE[2]	0.01	3.06	0.002	0.00	0.01
OTH_APP_OUTSIDE	-0.07	-1.19	0.235	-0.18	0.04
DUCT_INS_PROG	-0.30	-4.99	0.000	-0.42	-0.18
INSULATION_PROG	-0.64	-25.68	0.000	-0.68	-0.59
WINDOWS_PROG	-1.02	-5.52	0.000	-1.39	-0.66
GAS_FURN_PROG	-0.72	-19.59	0.000	-0.79	-0.64

[1] Per 1,000 Square Feet

[2] The independent variables, 'Other_Windows' and 'Oth_Heat_Outside' are multiplied by average daily usage over all valid billing periods and heating degree days in current billing period to allow for variation in measure effects by consumption patterns and heating needs.

Source	Degrees of Freedom	Sum of Squares	Mean Square	F-Value	F-Statistic
Model	1,025	169,694	165.55	457.50	<.0001
Error	28,672	10,375	0.36		
Uncorrected Total	29,697	180,069			

Root Mean Square Error	0.60
Dependent Mean	1.89
Coefficient of Variation	31.77
R-Square	0.94
Adjusted R-Square	0.94

2.2.2 Electric Billing Model

This section presents the model specification, a summary of data censoring and related data attrition, as well as electric billing model results.

Electric Model Specification

The electric billing model is identical to the gas billing model in its basic modeling approach. The model predicts daily kWh usage in a given billing cycle as a function of relevant

independent variables using a Covariance modeling approach, as discussed above and for the gas billing model. However, in the electric model time specific constants are included to correct for aggregate trends over time. These take the form of 31 indicator flags for the month/year of the bill.

Load shapes provided by the Energy Trust of Oregon were used to translate annual estimated energy savings values for each measure into monthly values. Because billing cycles do not correspond with calendar months and may vary in duration, normalizing techniques were applied. Specifically, energy usage, estimated measure savings, and heating- and cooling-degree days are expressed in per-day values over the billing period.

The electric billing model specification is as follows:

$$kWh_{i,j} = \Sigma^{537}_{N=1} \beta_N x_{i,j} + T_j + C_i$$

Where,

$kWh_{i,j}$ = kWh consumed per day by customer i over billing period j

β_N = Vector of independent variable coefficients

x_i = Vector of independent variables associated with customer i over billing period j

T_i = Intercept for time period j

C_i = Intercept for customer i

The vector of independent variables included in the electric billing model is defined in Exhibit 2-4 below. The variables, P_CNT, HDD and HDD*SQFT are defined identically to those in the gas billing model as described above. The variable 'CDD' is cooling degree days multiplied by a flag indicating air conditioning is present in the home. The variable 'CDD*SQFT' is designed to pick up variation in electricity usage due to air conditioning needs, and consists of cooling degree days multiplied by the square feet of the home, then multiplied by a flag indicating air conditioning is present. The variable 'CFL_PROG' is the kWh savings expected to result from the installation of CFL bulbs through the Home Energy Review Program. The variable 'INS_AND_WIN' are expected kWh savings resulting from the installation of insulation and/or windows through the Home Energy Savings Program. Estimates of separate insulation and windows coefficients were not supported by the data. Estimates of heat pump savings in the tracking system were inconsistently related to kWh consumption patterns. Reasonable estimates of savings were obtained only by using flags to indicate the installation of a heat pump. Separate summer and winter flags were used to allow for different impacts during different times of the year. In the program territory there is a relatively low average cooling need, thus winter impacts are much larger than summer impacts.

Our sample of customers that replaced resistence heat with a heat pump through the program was insufficient to support a robust realization rate estimate. The sample was not large to begin with (50) and many had installed in late 2004, and therefore for these customers there was very

little post-installation winter heating data. There were 18 customers with a reasonable length of post-installation data and these customers' billing data did not behave as expected.

Exhibit 2-4
Independent Variables Used in Electric Billing Model

Model Variable Name	Variable Definition
P_CNT	Number of people residing in home during billing period
HDD	Heating Degree Days (per day) multiplied by a flag indicating electric heat
CDD	Cooling Degree Days (per day) multiplied by a flag indicating air conditioning
HDD*SQFT	Heating Degree Days (per day) multiplied by square feet of home multiplied by a flag indicating electric heat
CDD*SQFT	Cooling Degree Days (per day) multiplied by square feet of home multiplied by a flag indicating air conditioning
CFL_PROG	Expected kWh savings (per day) over billing period due to installation of CFLs through the Home Energy Review Program
INS_AND_WIN	Expected kWh savings (per day) over billing period due to installation of windows or insulation through the Home Energy Savings Program
HPTOHP_SUMMER	Flag indicating heat pump replacement times a flag indicating months May - October
HPTOHP_WINTER	Flag indicating heat pump replacement times a flag indicating months November - March
CC1 - CC31	Month/Year specific constants
C1 through C537	Customer specific constants

Electric Model Data Censoring and Attrition

As shown in Exhibit 2-5 below, there were 834 surveyed participants with at least some valid electric billing data. The total number of monthly bills associated with these 834 customers is 23,146. Billing data was removed from the analysis dataset using an approach consistent with that used in the gas billing model, as described above.

First, bills were eliminated if the duration of the billing period did not fall between 20 and 40 days. Extremely long or short billing periods may include interruptions in service or other unusual circumstances that would confound the modeling process. Five hundred and fifteen bills were removed for this reason

Second, 416 bills considered anomalous and invalid were removed. Bills were considered anomalous or invalid if they meet one of the following criteria:

- Change in kWh consumption from one month to the next exceeded a factor of two. That is, either doubled or fell to less than 50 percent of previous monthly consumption.

- Daily usage fell into the top or bottom 1 percent of all calculated daily usage values. These bills have a high probability of being extreme outliers and invalid[8].

[8] This method was selected for identifying bills outside the normal range because it results in little data attrition while also providing an objective, systematic way to remove outliers from the distribution.

About forty percent of participants had at least one bill removed for either an unusual billing duration or an anomalous bill.

As described above, billing data did not support a valid impact estimate for program heat pump installations where the new heat pump replaced resistence heat. Duct insulation impacts were also undetectable in the bills. Four hundred and eighty bills reflecting the impact of these measures were removed from the analysis dataset to avoid obscuring the more easily accessible effects of other measures.

Customers that did not have at least 20 valid monthly billing records were also removed from the analysis dataset. In order to estimate a reasonable 'fixed effect' –or baseline usage level—for an individual customer there must be a critical mass records available for that customer. Seventy-three customers (and 876 monthly billing records) were removed for having fewer than 20 valid bills.

Generally there is greater variation in appliances and factors contributing to electric demand than gas demand. In addition, fewer customer records were available and expected savings was often smaller as a percent of total usage than typically found in the gas model parameters. Thus, techniques were used to increase the sample uniformity by eliminating customers with changes that are not well understood. Customers who had completed a home remodel or made substantial equipment changes[9] outside the program were removed from the analysis. There were 6,048 bills and 193 customers that were removed for remodels and outside program equipment adoptions.

Finally, 15 customers were removed from the analysis dataset because telephone survey data did not provide key independent variables, including the square feet of the home or the number of people occupying the home.

While these screens did reduce the sample size by a noticeable margin, these reductions resulted in a more uniform sample of bills conducive to statistical regression techniques. Ultimately, there were 537 customers and 14,395 monthly bills contributing to the final electric billing model.

[9] Substantial equipment changes include the installation of an electrical HVAC system, or a major electrical appliance such as clothes washer, dryer, refrigerator or stove.

Exhibit 2-5
Summary of Data Censoring
Electric Billing Model

Data Description	Customers	Monthly Bills
Surveyed Participants with Electric Billing Data	834	23,146
Monthly Bills with Duration Less Than 20 Days or More than 40 Days	15	515
Anomolous or Invalid Monthly Bills	1	416
Fewer than 20 valid bills	73	876
Bills Following Unmodeled Changes ^	0	480
Bills Following Remodels and Outside Program Adoptions	193	6,048
Missing demographic data	15	416
Data Used in Final Billing Model	537	14,395

^Heat pump installations through the program where resistence heat was removed, and duct insulation

Electric Model Results

Coefficient estimates for the electric billing model are shown in Exhibit 2-5 below. With the exception of the heat pump summer impacts (HPTOHP_SUMMER), the program measure variables are significant at the 99 percent confidence level.

Insulation and windows are grouped into one variable, because the data do not support a separate windows estimate. The coefficient for the combination of insulation and windows is 64 percent, generally consistent with the gas model results. Nearly 80 percent of CFL impacts were detected in the bills, although the standard error around this estimate is rather large. Heat pump results were estimated only for customers replacing a heat pump with a more efficient heat pump. Results shown below are expressed in kWh savings per day instead of a 'realization rate.' These results convert into an average annual savings of 1,352 kWh. The average annual savings in the tracking system for those replacing an old heat pump with a new one through the program in 2003 or 2004 is 2,602 kWh. By dividing the model-estimated savings by the average tracking system estimated savings, a realization rate of 52 percent results. The 95 percent confidence bounds are 30 percent and 74 percent. Note, however, that the summer impact estimate is not statistically significant.

An F test for the validity of the customer-specific intercepts was significant at the 99 percent confidence level. As shown in the regression statistics below, the model explains 96 percent of the variation in energy use found in the data. The Durbin Watson test statistic is 1.95, indicating a 1st order autocorrelation of 2 percent. If autocorrelation is present the parameter estimates remain unbiased but the standard deviation of the estimates are understated, and the confidence bounds too narrow.

Exhibit 2-6
Electric Model Results

Dependent Variable	Parameter Estimate	T-Value	T-Statistic	95% Confidence Interval	
				Lower Bound	Upper Bound
HDD	1.01	21.95	0.000	0.92	1.10
CDD	0.86	7.19	0.000	0.63	1.10
HDD*SQFT[1]	0.26	11.23	0.000	0.00	0.00
CDD*SQFT[1]	0.25	4.55	0.000	0.00	0.00
P_CNT	2.65	7.61	0.000	1.96	3.33
CFL	-0.86	-3.12	0.002	-1.40	-0.32
INS_AND_WIN	-0.64	-9.46	0.000	-0.77	-0.51
HPTOHP_SUMMER	-1.05	-1.50	0.133	-2.43	0.32
HPTOHP_WINTER	-6.02	-7.02	0.000	-7.70	-4.34

Source	Degrees of Freedom	Sum of Squares	Mean Square	F-Value	F-Statistic
Model	577	18,453,974	32,139	507.5	<.0001
Error	13,818	875,123	63.33		
Uncorrected Total	14,395	19,419,096			

Root Mean Square Error	7.958146
Dependent Mean	31.02
Coefficient of Variation	25.65
R-Square	0.955
Adjusted R-Square	0.953

2.3 SUMMARY OF IMPACT ASSESSMENT RESULTS

Exhibit 2-7 below summarizes the realization rates associated with billing model results. Again, these ratios represent the portion of estimated energy savings detected by the billing models. Realization rates for program measures range from 30 to 100 percent. The lower and upper bounds of 95 percent confidence intervals are also shown for each realization rate. Gas Furnace and Therm savings associated with insulation have the tightest confidence bounds.

For homes with gas heat, the windows realization rate is estimated at near 100 percent. For electric heat customers, a separate windows estimate could not be found. Windows and insulation were combined, and the realization rate for the combined variable is 64 percent.

These results suggest that duct insulation impact estimates in the tracking system may be too high[10]. Other types of insulation (ceiling, wall, floor) have higher realization rate results, at about 64 percent for both electric and gas heat.

Exhibit 2-7
Summary of Realization Rates

Measure	Realization Rate	95 Percent Confidence Interval	
		Lower Bound	Upper Bound
Therm Saving Measures			
Gas Furnace	72%	64%	79%
Windows	102%	66%	139%
Ceiling, Wall and/or Floor Insulation	64%	59%	68%
Duct Insulation	30%	18%	42%
kWh Saving Measures			
Insulation and Windows	64%	51%	77%
CFL	86%	32%	140%
Heat Pump^	50%	28%	71%

^Efficient Heat Pump replacing Heat Pump

The realization rates presented in Exhibit 2-7 were applied to the Energy Trust's estimated gross energy program savings by measure to develop an evaluation estimate of gross energy savings. Although heat pump results were based on a sample of customers that had replaced a heat pump with a heat pump, and not those that had replaced resistence heat with heat pump, the results are applied to both groups. For other measures that were not included in either billing model (e.g., air sealing, duct sealing, water heaters, etc.), the average realization rate, weighted by energy savings, was applied, separately for gas and electric.

Exhibit 2-8 presents the estimated gross savings developed by the Energy Trust, the adjusted gross savings based on the impact assessment results, and the realization rates for each measure. Results are shown for both the 2003 and 2004 program years. Overall, between 68 and 73 percent of estimated energy savings are verified by the gross impact assessment.

[10] Duct insulation is 9 percent correlated with other insulation types, indicating little reason for concern over multicollinearity of the insulation regressors.

Exhibit 2-8
Gross Impact Assessment Results Summary
Program Years 2003 and 2004
Electricity and Gas Savings

Measure	Elecricity			Gas		
	kWh Savings		Realization Rate	Therm Savings		Realization Rate
	Tracking System Estimates	Impact Assessment Results		Tracking System Estimates	Impact Assessment Results	
Program Year 2003						
CFL	601,282	517,021	86%			
Water Heater^	46,852	32,878	70%			
Gas Furnace				156,202	111,813	72%
Heat Pump	95,155	47,212	50%			
Heat Pump Tune Up^	4,521	3,173	70%			
Ceiling Insulation	215,664	138,302	64%	18,200	11,564	64%
Floor Insulation	154,485	99,068	64%	10,465	6,650	64%
Wall Insulation	50,362	32,296	64%	8,471	5,383	64%
Duct Insulation	17,850	5,403	30%	2,681	811	30%
Duct Sealing^	10,132	7,110	70%	746	513	69%
Window	63,028	40,419	64%	1,748	1,790	102%
Air Sealing^				62	43	69%
Total Program Year 2003	1,259,330	922,882	73%	198,576	138,567	70%
Program Year 2004						
CFL	979,802	842,498	86%			
Water Heater^	199,952	140,317	70%	491	338	69%
Gas Furnace				588,004	420,908	72%
Direct Vent Gas Furnace^				517	355	69%
Heat Pump	595,094	295,258	50%			
Heat Pump Tune Up^	1,127	791	70%			
Ceiling Insulation	393,936	252,624	64%	100,428	63,812	64%
Floor Insulation	331,466	212,563	64%	49,621	31,529	64%
Wall Insulation	97,863	62,758	64%	40,108	25,485	64%
Duct Insulation	34,000	10,292	30%	30,029	9,090	30%
Duct Sealing^	40,435	28,376	70%	15,141	10,403	69%
Window	138,274	88,672	64%	6,831	6,996	102%
Air Sealing^	2,683	1,883	70%	261	179	69%
Total Program Year 2004	2,814,633	1,936,032	69%	831,430	569,094	68%

^ Average realization rate for all measures is applied

3. NET-TO-GROSS ASSESSMENT

This section presents the results of the Home Energy Savings (HES) and Home Energy Review (HER) net-to-gross assessment. The goal of the net-to-gross assessment is to measure all energy saving attributable to the program. This is referred to as "net" program savings. The ratio of the net program savings to gross program savings is the "net-to-gross" ratio, and it represents the portion of gross savings attributable to the programs.

There are two main adjustments to gross savings that are required in order to arrive at net savings. The first is to subtract from gross savings the actions of participants that were unaffected by the program. That is, those participants that would have taken the same energy saving action, at the same time, without the program as they did through the program. This is referred to as "free ridership."

The second adjustment is to add to gross impacts the energy savings from high efficiency actions taken outside the program that are attributable to the program. Nonparticipants have greater knowledge and awareness of energy efficient options due to the ETO programs, and the increase in high efficiency actions as a result of this knowledge and awareness are part of net program effects. These savings are referred as "Spillover."

Spillover may also occur within the participant population, where participants may be inspired to adopt high efficiency measures outside the ETO programs, as a result, at least in part, of their HES or HER program experience.

A thorough understanding of customer behavior and the factors that influence the decision to purchase energy-saving measures is essential for accurate net-to-gross analysis. The analysis must draw conclusions regarding what energy saving measure adoptions would and would not have occurred in the hypothetical circumstance that the programs did not exist. This chapter presents a comprehensive characterization of the decision-making process and the contributions of program and non-program forces to the final purchase decision.

This chapter begins by exploring the role of the contractor in the purchase decision, as well as the importance of the ETO contractor list. Next, the reasons participants report for making the program-qualifying measure purchase are explored. This is followed by an examination of the degree of influence the cash incentive had on the purchase decision and the timing of awareness of the cash incentive. The results of the free ridership analysis are presented next, including detailed outlines of specific questions and methods used to estimate rates of free ridership within each program measure component. Next, nonparticipant and participant spillover analyses are presented, including similarly detailed outlines of specific questions and methods used to estimate spillover rates within the nonparticipant and participant populations. This chapter closes with a summary of the net-to-gross results and final recommendations.

The tables and data presented in this chapter are based on 1,477 participant and 1,000 nonparticipant telephone surveys. The participant surveys include participants from program years 2003 through 2005. Telephone survey instruments and a tabulation of survey responses can be found in Appendices A, B D and E. These surveys were fielded in late 2005.

3.1 CONTRACTOR INFLUENCE

This section explores the role of the contractor in participant measure adoption decisions, and the importance of the ETO contractor list in selecting a contractor.

As shown in Exhibit 3-1 below, a large majority of participants hire contractors to install program measures, particularly for HVAC measures where it is required by program standards. Insulation and windows are more frequently self-installed by participants, at 12 and 11 percent, respectively.

Exhibit 3-1
Frequency of Contractor versus Customer Measure Installation by Measure Type

INS3. Did you hire a contractor to install your new <measure>?	Insulation	Window	Heat Pump	Gas Furnace
Yes	88%	89%	97%	93%
No	12%	11%	3%	7%
N	808	191	151	410

Exhibit 3-2 below shows the frequency participants report using the Energy Trust Contractor List. The list is used between 20 and 40 percent of the time, with the highest rates reported among insulation and windows participants. Heat pump and gas furnace participants are required to use a Trade Ally contractor. However, just about one-fourth of participants report using the list.

Exhibit 3-2
Use of the Energy Trust Contractor List

INC6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Insulation	Window	Heat Pump	Gas Furnace
Yes	39%	27%	25%	21%
No	51%	67%	72%	69%
Don't Know	9%	6%	3%	10%
N	702	169	147	382

Exhibit 3-3 shows that those who did use the Energy Trust Contractor List found it to be a very important factor in their contractor selection. About 90 percent of those that used the contractor list rated it a 4 or 5 on a scale of 1 to 5, where 1 is not important at all and 5 is very important.

Exhibit 3-3
Importance of Energy Trust Contractor List

INC7. How important was this list in selecting a contractor?	Insulation	Window	Heat Pump	Gas Furnace
1 - Not at all Important	1%	5%	0%	6%
2	2%	0%	0%	6%
3	4%	4%	7%	0%
4	24%	18%	28%	46%
5 - Extremely Important	66%	71%	65%	42%
Don't Know	2%	3%	0%	0%
N	142	24	16	23

Exhibit 3-4 shows the influence of the contractor on the decision to install program measures, as reported by participants. For the HVAC measures the contractor was highly influential. For these measures nearly two-thirds reported the contractor to be very or somewhat influential. Among insulation participants, the contractor is markedly less influential.

Exhibit 3-4
Influence of Contractor on Decision to Install Program Measures

INC15. How influential was your contractor in your decision to install <measure>? Would you say your contractor was…	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	21%	29%	40%	33%
Somewhat influential	21%	29%	35%	32%
Not at all influential	57%	40%	24%	34%
Don't Know	1%	2%	1%	2%
N	702	169	147	382

As shown in Exhibit 3-5, about one-fourth of windows and insulation contractors installing program measures made recommendations to customers of other energy saving measures to consider. Contractor recommendations are less common among heat pump and gas furnace participants.

Exhibit 3-5
Frequency that Program Contractors Recommend Additional Measures

INC17. Did the contractor that installed your <measure> recommend other energy saving measures for your home?	Insulation	Window	Heat Pump	Gas Furnace
Yes	24%	22%	13%	14%
No	73%	76%	84%	82%
Don't Know	3%	1%	4%	3%
N	342	89	60	117

Insulation contractors generally recommend additional insulation and/or windows to their customers. Window contractors also recommend insulation, as well as weather stripping. Heat pump and gas furnace contractors are likely to recommend duct work and insulation. One-third of the recommendations made by gas furnace contractors were for air conditioning measures. Overall, insulation was the measure most frequently recommended by contractors installing other program measures.

Exhibit 3-6
Measures Recommended by Program Contractors

INC17a. What measures did the contractor recommend?	Insulation	Window	Heat Pump	Gas Furnace
Insulation	42%	49%	29%	22%
Windows	31%	0%	14%	9%
Weather Stripping	0%	17%	0%	0%
Ducts	0%	0%	43%	23%
AC	0%	0%	0%	30%
Other	18%	35%	0%	15%
Don't Know	6%	4%	14%	0%
N	82	19	8	16

3.2 PRIMARY REASONS FOR MEASURE PURCHASE

In this section the primary reasons for the purchase of program measures is explored. That is, the reasons participants report for making the purchase. For example, due to the high cost of HVAC equipment, much of these purchase decisions are motivated by the presence of a very old or broken piece of existing equipment. As shown in Exhibit 3-7 below, between one-quarter and one-third of the participants installing heat pumps or gas furnaces report that their existing equipment was broken beyond repair. Still, between 40 and 60 percent report that their existing equipment was still in working order, indicating a sizable portion of 'early replacements'.

Exhibit 3-7
Condition of Removed Equipment

GF5. Could your old heating/cooling system have been fixed, or was it beyond repair?	Heat Pump	Gas Furnace
Could have been fixed	15%	26%
Was beyond repair	26%	32%
Was still in working order	58%	41%
Don't Know	1%	2%
N	142	407

The desire to save energy or money on utility bills is an important factor in the decision to install program measures for all measure categories. Insulation participants are primarily motivated by a desire to save energy or money on their utility bill (53%), while improving comfort also ranks very high (33%.) Forty-two percent of windows participants were primarily motivated by a desire to save energy, but old and broken windows are also a common reason for replacement (29%). Gas furnace participants were more likely than any other measure participants to cite energy savings as a primary reason for installing their new gas furnace. Similar to windows, old or broken equipment was also high on the list for gas furnace participants, at nearly 30 percent. Almost no one cited the cash incentive as the primary reason for their program installation.

Exhibit 3-8
Reasons for Installing Program Measures

PRT3. What was the primary reason you installed your new <measure>?	Insulation	Window	Heat Pump	Gas Furnace
To save energy	29%	42%	23%	49%
Equipment was old or broken	0%	29%	38%	29%
To improve comfort/reduce noise	33%	3%	12%	6%
To save on my utility bill	24%	1%	5%	7%
Remodeled	3%	12%	4%	2%
Available cash incentive	1%	0%	0%	0%
N	797	191	106	271

3.3 CASH INCENTIVE: TIMING OF AWARENESS AND SELF-REPORTED INFLUENCE

This section begins by exploring the timing of awareness of the cash incentive. The timing of awareness of the cash incentive can provide insight into the free ridership component of program elements. Suppose, for example, all of the gas furnace participants became aware of the cash incentive after making the decision to install a new high efficiency gas furnace. This would indicate very high rates of free ridership. Similarly, this section explores the degree of influence the cash incentive had on the purchase decision, by examining customer self reported data.

As shown in Exhibit 3-9 below, between 60 and 64 percent of participants in each program measure became aware of the cash incentive before or at the same time as making the decision to install program measures. Again, these customers have a lower likelihood of being free riders than those who became aware of the cash incentive after making the decision to purchase program qualifying equipment. The percent that became aware of the incentive after making the decision to purchase varies from 36 to 40 percent, and is similar to the free ridership rates calculated in the "Free Ridership Calculations by Measure" section below.

Exhibit 3-9
Timing of Awareness
Cash Incentive

IN10. Did you become aware of the cash incentive before or after you decided to install <measure>?	Insulation	Window	Heat Pump	Gas Furnace
Before	43%	45%	31%	47%
After	35%	36%	33%	32%
Same Time	17%	17%	34%	17%
Don't Know	4%	2%	3%	4%
N	808	191	151	410

Participants were asked to report the degree of influence the cash incentive had on their decision to purchase program-qualifying equipment. The question text and response patterns for each measure are shown in Exhibit 3-10 below. Between 60 and 70 percent of participants in each measure category report that the cash incentive was either "very" or "somewhat" influential in their decision to purchase program qualifying equipment.

Exhibit 3-10
Influence of Cash Incentive on Purchase Decision

IN30. How influential was the cash incentive in your decision to install <measure>? Would you say the cash incentive was…	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	32%	32%	21%	20%
Somewhat influential	40%	31%	47%	48%
Not at all Influential	28%	36%	29%	31%
Don't Know	1%	2%	2%	1%
N	808	191	151	410

Heat pump participants that had converted from a forced air furnace to a heat pump were asked to report the degree of influence the cash incentive had on their decision to convert.

Exhibit 3-11 below presents the question text and the response pattern for these 29 surveyed heat pump participants that converted. The exhibit shows that nearly 60 percent of the participants report the cash incentive was "very" or "somewhat" influential in their decision to convert from a forced air furnace to a heat pump.

Exhibit 3-11
Influence of Cash Incentive on the Decision to Convert from Forced Air to Heat Pump

FA1. How influential was the program in your decision to convert from a forced air furnace to a heat pump?	Heat Pump
Very Influential	28%
Somewhat influential	30%
Not at all Influential	39%
Don't Know	4%
N	29

3.4 ROLE OF OREGON TAX CREDIT

The state of Oregon offers a tax credit for the installation of some HES program-qualifying measures, including heat pump and gas furnace. This tax credit is applied for at the time the customer files taxes. This section explores the role of the tax credit in influencing customers to install energy saving measures through the HES program.

Exhibit 3-12 below shows the rate at which heat pump and gas furnace participants applied for the Oregon tax credit. Gas furnace participants had the highest rate of participation in the tax credit program, at 87 percent. Heat pump participants had a somewhat lower rate of participation, at 76 percent.

Exhibit 3-12
Redemption of Oregon Tax Credit

INTX. Did you take advantage of the Oregon Tax Credit for the <measure> you installed through the program?	Heat Pump	Gas Furnace
Yes	76%	87%
No	18%	10%
Don't Know	6%	3%
N	130	370

Participants were also asked to characterize their likelihood of purchasing the same high efficiency measures in the absence of the tax credit. Over half of heat pump and gas furnace participants report that they would be 'very likely' to have purchased the same equipment even in the absence of the Oregon tax credit. Thus, while the tax credit and HES incentive work together to influence customers to adopt energy efficient measures, customers report higher levels of influence from the HES cash incentive than the tax credit.

Exhibit 3-13
Influence of Oregon Tax Credit on Purchase Decision

INTXI. How likely is it that you would have installed the same equipment had you not received a Tax Credit from the State of Oregon? Would you say …	Heat Pump	Gas Furnace
Very likely	53%	60%
Somewhat likely	36%	30%
Not at all likely	7%	9%
Don't Know	3%	1%
N	99	324

3.5 FREE RIDERSHIP CALCULATIONS BY MEASURE

This section outlines the specific questions and methods used to estimate rates of free ridership within each program measure component. As discussed above, free ridership is defined as participants that would have installed the same high efficiency equipment (or measure), at the same time, even in the absence of the program.

3.5.1 Heat Pump

For the heat pump measure, free ridership is estimated separately for participants that replaced an existing heat pump and those that converted from resistence heat to heat pump.

Replacement of an Existing Heat Pump

The calculation of the heat pump free ridership for customers replacing an existing heat pump is a multi-step process. First, three probability scores are assigned, each relating to the probability the respondent is a free rider. Each of these probability scores is based on survey responses to specific questions. The product of these three probability scores forms the probability the participant is a free rider. A free ridership score is assigned to each participant in the survey sample, and the average of these scores represents the program result. The three probability scores include:

a. **Probability that the respondent would have purchased a new heat pump in the absence of the program**

b. Probability that a heat pump purchased in the absence of the program would be as efficient as that purchased through the program

c. Probability that the respondent was *not*[1] influenced by the cash incentive in making the decision to purchase a program qualifying heat pump

Four survey questions are used to assign each participant these 3 probability scores. The four survey questions and the associated response categories are listed below:

HP30. Which of the following three statements best describes the actions you would have taken had the cash incentive NOT existed:

a. We would not have bought a Heat Pump
b. We would have bought a standard efficiency Heat Pump
c. We would have bought an energy efficient Heat Pump
d. Don't Know

HP35. If the cash incentive was not available, would you have bought the energy efficient Heat Pump…

a. At the same time
b. Within a year
c. More than a year later
d. Don't Know

HP32. If the cash incentive had not existed, would you have bought the SAME Heat Pump that you purchased through the program, or would you have selected a Heat Pump that was less expensive and less efficient, although still an energy efficient unit?

a. We would bought the same Heat Pump as we did through the program
b. We would have bought a less expensive/less efficient unit
c. Don't Know

HP45. We'd like to get a sense of what influenced you to purchase your heat pump. How influential was the cash incentive in your decision to purchase an energy efficient Heat Pump? Would you say the cash incentive was…

a. Very Influential
b. Somewhat Influential
c. Not at all Influential
d. Don't Know

The first two questions (HP30 and HP35) are used to assign the probability a respondent would have purchased a heat pump in the absence of the program. Those who state they would have purchased nothing in the absence of the program are assigned a zero (HP30=a); those who state they would purchase anyway, but over a year later are also assigned a zero (HP35=c); those who state they would purchase later, but within the year are assign a probability of 0.5 (HP35=b); and those that report they "don't know" what they would purchase in the absence of

[1] The probability of *not* being influenced, rather than being influenced, by the cash incentive is estimated so that all three probabilities have the same relationship with the likelihood of free ridership.

the program are also assigned a purchase probability of 0.5 (HP30=d). All others are assigned a probability of purchasing a heat pump in the absence of the program of 1.

Questions HP30 and HP32 are used to assign each respondent a probability of selecting a high efficiency heat pump in the absence of the program. Those that stated they would have purchased a standard heat pump (HP30=b) are assigned a value of zero; those that state they would have bought a less efficient heat pump (HP32=b) are assigned a probability of 0.5; those that "don't know" how efficient a heat pump they would have purchased are assigned a probability of 0.75. All others are assigned a value of 1 for the probability of selecting a high efficiency heat pump in the absence of the program.

Question HP45 is used to assign a probability of *not* being influenced by the cash incentive in the decision to purchase a program qualifying heat pump. Those that stated they were "very influenced" (HP45=a) by the cash incentive are assigned a value of 0; those that state they were "somewhat influenced" (HP45=b) are assigned a value of 0.5; and those that state they were "not at all influenced" (HP45=c) are assigned a value of 1. Those that respond they "don't know" how influential the cash incentive was on their decision are also assigned a value of 0.5.

The product of these three probabilities results in an overall probability of free ridership. For example, consider the case of the following survey responses:

1. HP30="energy efficient heat pump" meaning the respondent would purchase an energy efficient heat pump in the absence of the program

2. HP35="Later, but within 1 year" meaning the respondent would have purchased the energy efficient heat pump at a later date in the absence of the program.

3. HP32="Less Efficient" meaning the respondent would have purchased a heat pump with a lower efficiency rating in the absence of the program.

4. HP45="Somewhat Influential" meaning the respondent reported the cash incentive was somewhat influential in the decision to purchase the program-qualifying heat pump.

In this example, the participant's response to HP30 and HP35 translate into a probability of purchasing a heat pump in the absence of the program of 0.5. The response of "Less Efficient" for HP32 translates into a probability of purchasing a high efficiency heat pump of 0.5. Finally, the response of "Somewhat Influential" to HP45 translates into a probability of not being influenced by the cash incentive of 0.5. The product of these three probabilities, (0.5 x 0.5 x 0.5) is 13 percent. This particular response pattern is shown in row 9 of the table.

Exhibits 3-14 below summarize participant responses to each question and the resulting free ridership rates for each unique response pattern, for participants that replaced a heat pump with an efficient heat pump. The total program free ridership rate, calculated as a straight average of participant free ridership is 46 percent for those replacing an existing heat pump.

Exhibit 3-14
Free Ridership Calculation for Heat Pump Participants
Replacement of an Existing Heat Pump

What Would Have Been Purchased in the Absence of the Program?			How Influential Was the Cash Incentive? (HP45)	Frequency	Free Ridership Score
What Type of Equipment? (HP30)	When? (HP35)	How Efficient? (HP32)			
None	N/A	N/A	Very Influential	3	0%
None	N/A	N/A	Somewhat Influential	3	0%
None	N/A	N/A	Not at all Influential	1	0%
Standard Efficiency	N/A	N/A	Very Influential	1	0%
Standard Efficiency	N/A	N/A	Somewhat Influential	1	0%
Energy Efficient	> 1 year Later	Less Efficient	Very Influential	1	0%
Energy Efficient	> 1 year Later	Same Unit	Very Influential	1	0%
Energy Efficient	Later, but within 1 yr	Less Efficient	Very Influential	1	0%
Energy Efficient	Later, but within 1 yr	Less Efficient	Somewhat Influential	2	13%
Energy Efficient	Later, but within 1 yr	Same Unit	Somewhat Influential	4	25%
Energy Efficient	Same Time	Less Efficient	Very Influential	3	0%
Energy Efficient	Same Time	Less Efficient	Somewhat Influential	6	25%
Energy Efficient	Same Time	Same Unit	Very Influential	10	0%
Energy Efficient	Same Time	Same Unit	Somewhat Influential	30	50%
Energy Efficient	Same Time	Same Unit	Not at all Influential	35	100%
Energy Efficient	Same Time	Same Unit	Don't Know	1	50%
Energy Efficient	Same Time	Don't Know	Very Influential	1	0%
Energy Efficient	Same Time	Don't Know	Somewhat Influential	1	38%
Energy Efficient	Same Time	Don't Know	Not at all Influential	1	75%
Don't Know	Don't Know	Don't Know	Very Influential	6	0%
Don't Know	Don't Know	Don't Know	Somewhat Influential	8	19%
Don't Know	Don't Know	Don't Know	Not at all Influential	2	38%
TOTAL Free Ridership Score for Heat Pump					**46%**

Conversions from Forced Air Furnaces

Free Ridership calculations for customers that replaced a forced air furnace with an efficient heat pump use a somewhat different approach to that described above for customers replacing a heat pump. For conversion, total free ridership estimates are based on two separate component free ridership estimates. The first is the likelihood that the customer would have converted to a heat pump in the absence of the program—we call this "conversion free ridership". The second component is the probability the participant would have purchased a high efficiency heat pump (as opposed to a standard heat pump) in the absence of the program—termed "efficient heat pump free ridership".

Program tracking system data indicate that the impacts from customers converting to heat pumps from forced air furnaces are about 45 percent due to the conversion and 55 percent due to the installation of an efficient rather than standard heat pump[2]. Thus, the final free ridership rate is a weighted average of the two separate free ridership values –45 percent conversion free ridership and 55 percent efficient heat pump free ridership. The algorithms used to calculate each free ridership component are discussed below.

[2] Average annual kWh savings for customers converting from a forced air furnace is 4,986 kWh, while average annual savings is 2,703 for those replacing a heat pump. Dividing the latter by the former yields approximately 55 percent.

Conversion Free Ridership

Conversion free ridership is calculated using HP30F, HP35 and HP45. Although they are shown in the previous section, for the readers convenience these questions and their response categories are shown below.

HP30F. Which of the following three statements best describes the actions you would have taken had the cash incentive NOT existed:

a. We would not have bought anything
b. We would have bought a forced air furnace instead of a Heat Pump
c. We would have bought a standard efficiency Heat Pump
d. We would have bought an energy efficient Heat Pump
e. Don't Know

HP35. If the cash incentive was not available, would you have bought the energy efficient Heat Pump…

a. At the same time
b. Within a year
c. More than a year later
d. Don't Know

HP45. We'd like to get a sense of what influenced you to purchase your heat pump. How influential was the cash incentive in your decision to purchase an energy efficient Heat Pump? Would you say the cash incentive was…

a. Very Influential
b. Somewhat Influential
c. Not at all Influential
d. Don't Know

There are two elements that contribute to the conversion free ridership calculation. The first reflects a probability of converting from resistence heat to heat pump based on customers' stated actions in the absence of the program. For simplicity, lets call this the "purchase score". The second element is the probability that the customer is truly not influenced by the program. The product of these two elements yields the conversion free ridership score for each customer.

The purchase score is calculated as follows. A customer stating that they would not have purchased anything in the absence of the program, or that they would have purchased a forced air furnace is assigned a purchase score of zero. Those that stated they would have purchased a heat pump (standard or high efficiency) but more than a year later are also assigned a purchase score of zero. Those that would have purchased later, but within the year are assigned a score of 0.5. Those that would have purchased a heat pump (high or standard efficiency) at the same time are assigned a purchase score of 1.

The second component of the conversion free ridership calculation is the probability that a customer is *not* influenced by the program. This score is assigned in accordance with algorithms used for other measures. Specifically, a response of 'very influential' to question HP45 receives a probability score of 0, 'somewhat influential' receives a 0.5, 'not at all influential' receives a value of 1 and a 'don't know' receives a 0.5.

Final conversion free ridership scores are the product of the purchase score and the influence probability score. These are shown in the 6th column of Exhibit 3-15 below.

Efficient Heat Pump Free Ridership

As stated above, total free ridership for customers converting from resistence heat is a weighted average of 'conversion free ridership' and 'efficient heat pump free ridership'. Efficient heat pump free ridership is the probability that customers would have selected a high efficiency heat pump instead of a standard efficiency heat pump in the absence of the program. This probability is calculated using the same two questions noted above (HP30F, HP35, and HP45) with the addition of HP32. Question HP32 is shown below for the readers convenience:

HP32. If the cash incentive had not existed, would you have bought the SAME Heat Pump that you purchased through the program, or would you have selected a Heat Pump that was less expensive and less efficient, although still an energy efficient unit?

a. We would bought the same Heat Pump as we did through the program
b. We would have bought a less expensive/less efficient unit
c. Don't Know

There are two elements that contribute to the efficient heat pump free ridership calculation. The first reflects a probability of selecting a high efficiency heat pump as opposed to a standard heat pump. For simplicity, lets call this the "efficient purchase score". The second element is the probability that the customer is truly not influenced by the program. The product of these two elements yields the efficient heat pump free ridership score for each customer.

If a customer responds to question HP30F indicating that he/she would have purchased a standard heat pump, or no heat pump, in the absence of the program (HP30F= a,b or c) then the efficient purchase score is zero. If a customer states that he or she would have purchased a high efficiency heat pump in the absence of the program (HP30F=d) they are most likely assigned an efficient purchase score of 1. However, if a customer states that the efficient purchase would have taken place at least one year later (responding 'b' to question HP32) they are assigned an efficient purchase score of zero instead. Similarly, if the customer states the purchase would have been made later, but within the year, the efficient purchase score assigned is 0.5.

The second component of efficient heat pump free ridership—the probability of no program influence—is assigned as described previously, and as applied for all measures[3].

Efficient heat pump free ridership is the product of the efficient purchase score and the probability of no program influence. Resulting efficient heat pump free ridership scores are shown in the 7th column of Exhibit 3-15 below.

[3] A response of 'very influential' received a probability score of 0, 'somewhat influential' receives a 0.5, 'not at all influential' receives a value of 1 and a 'don't know' receives a 0.5.

Total Free Ridership for Customers Converting from Resistance Heat to Heat Pump

Exhibit 3-15 shows the distribution of survey responses and the corresponding conversion, efficient heat pump, and total free ridership rates. The conversion free ridership rate is 41 percent, the efficient heat pump free ridership is lower, at just 26 percent, and the total rate is 33 percent. The fact that the conversion rate is higher than the efficient heat pump rate implies the program has a greater influence on customers' decision to install an efficient heat pump (as opposed to a standard one) than on the decision to convert from resistance heat. This makes intuitive sense, as the conversion is a much greater ordeal and much more expensive than an efficiency upgrade. As discussed above, the final free ridership rate is a weighted average of the conversion free ridership (45%) and the efficient heat pump free ridership (55%). Again, the final overall free riderhsip rate for customers converting from a forced air furnace to a heat pump is 33 percent.

Exhibit 3-15
Free Ridership Calculation for Heat Pump Participants
Conversions from Forced Air Furnaces

What Would Have Been Purchased in the Absence of the Program?							
What Type of Equipment? (HP30)	*When? (HP35)*	*How Efficient? (HP32)*	*How Influential Was the Cash Incentive? (HP45)*	*Frequency*	*Conversion from FAF Free Ridership*	*Efficient Heat Pump Free Ridership*	*Total Free Ridership*
None/Electric Forced Air Furnace	N/A	N/A	Very Influential	1	0%	0%	0%
None/Electric Forced Air Furnace	N/A	N/A	Somewhat Influential	1	0%	0%	0%
Standard Efficiency	N/A	N/A	Very Influential	2	0%	0%	0%
Standard Efficiency	N/A	N/A	Somewhat Influential	3	50%	0%	23%
Standard Efficiency	N/A	N/A	Not at all Influential	2	100%	0%	45%
Standard Efficiency	N/A	N/A	Don't Know	1	50%	0%	23%
Standard Efficiency	N/A	N/A	Don't Know	1	50%	0%	23%
Energy Efficient	> 1 year Later	Same Unit	Very Influential	1	0%	0%	0%
Energy Efficient	Later, but within 1 yr	Same Unit	Somewhat Influential	1	25%	50%	39%
Energy Efficient	Same Time	Same Unit	Very Influential	2	0%	0%	0%
Energy Efficient	Same Time	Same Unit	Somewhat Influential	6	50%	50%	50%
Energy Efficient	Same Time	Same Unit	Not at all Influential	3	100%	100%	100%
Energy Efficient	Same Time	Less Efficient	Very Influential	1	0%	0%	0%
Energy Efficient	Same Time	Less Efficient	Somewhat Influential	1	50%	25%	36%
Don't Know	Don't Know	Don't Know	Somewhat Influential	3	25%	25%	25%
TOTAL Free Ridership Score for Heat Pump					*41%*	*26%*	*33%*

3.5.2 Gas Furnace

The approach used to assign free ridership scores to gas furnace participants is similar to that used for heat pump participants, described above. Three individual probability scores are calculated for each participant, each relating to the likelihood the respondent is a free rider. The product of these three probabilities is the participant's assigned likelihood of being a free rider. A free ridership score is assigned to each participant in the survey sample, and the average of these ratios represents the program result. The three probability scores include:

a. **Probability that respondent would have purchased a gas furnace in the absence of the program**
b. **Probability that a gas furnace purchased in the absence of the program would be as efficient as that purchased through the program**
c. **Probability that the respondent was not influenced by the cash incentive in making the decision to purchase a program qualifying gas furnace**

Four survey questions are used to assign these 3 probability scores. The survey questions and associated response categories are as follows:

GF30. Which of the following four statements best describes the actions you would have taken had the cash incentive NOT existed:

a. We would not have bought a Gas Furnace
b. We would have bought a standard efficiency Gas Furnace
c. We would have bought an energy efficient Gas Furnace
d. Don't Know

GF40. If the cash incentive was not available, when would you have bought the energy efficient Gas Furnace …

a. At the same time
b. Within a year
c. More than a year later
d. Don't Know

GF32. If the cash incentive had not existed, would you have bought the SAME Gas Furnace that you purchased through the program, or would you have selected a Gas Furnace that was less expensive and less efficient, although still an energy efficient unit?

a. We would bought the same Gas Furnace as we did through the program
b. We would have bought a less expensive/less efficient unit
c. Don't Know

GF50. We'd like to get a sense of what influenced you to purchase your Gas Furnace. How influential was the cash incentive in your decision to purchase an energy efficient Gas Furnace? Would you say the cash incentive was:

a. Very Influential
b. Somewhat Influential
c. Not at all Influential
d. Don't Know

The first two questions (GF30 and GF40) are used to assign the probability a respondent would have purchased a gas furnace in the absence of the program. Those who state they would have purchased nothing in the absence of the program are assigned a zero (GF30=a); those who state they would purchase anyway, but over a year later are also assigned a zero (GF40=c); those who state they would have purchased later, but within the year are assign a probability of 0.5 (GF40=b); and those that report they "don't know" what they would purchase in the absence of the program are also assigned a purchase probability of 0.5 (GF30=d). All others are assigned a probability of purchasing a gas furnace in the absence of the program of 1.

Questions GF30 and GF32 are used to assign each respondent a probability of selecting a high efficiency gas furnace in the absence of the program. Those that stated they would have purchased a standard efficiency gas furnace (GF30=b) are assigned a value of zero; those that state they would have bought a less efficient gas furnace (GF32=b) are assigned a probability of 0.5; those that "don't know" how efficient a gas furnace they would have purchased are assigned a probability of 0.75. All others are assigned a value of 1 for the probability of selecting a high efficiency gas furnace in the absence of the program.

Question GF50 is used to assign a probability of *not* being influenced by the cash incentive in the decision to purchase a program qualifying gas furnace. Those that stated they were "very influenced" (HP45=a) by the cash incentive are assigned a value of 0; those that state they were "somewhat influenced" (HP45=b) are assigned a value of 0.5; and those that state they were "not at all influenced" (HP45=c) are assigned a value of 1. Those that respond they "don't know" how influential the cash incentive was on their decision are also assigned a value of 0.5.

The product of these three probabilities results in an overall probability of free ridership between zero and one. Exhibit 3-16 below summarizes participant responses to each question and the resulting free ridership score for each unique response pattern. The total program free ridership rate, calculated as an average of participant free ridership rates, is 45 percent.

Exhibit 3-16
Free Ridership Calculation for Gas Furnace Participants

What Would Have Been Purchased in the Absence of the Program?					
What Type of Equipment? (GF30)	When? (GF40)	How Efficient? (GF32)	How Influential Was the Cash Incentive? (GF50)	Frequency	Free Ridership Score
None	N/A	N/A	Very Influenced	8	0%
None	N/A	N/A	Somewhat Influenced	5	0%
None	N/A	N/A	Not at all Influenced	2	0%
Standard Efficiency	N/A	N/A	Very Influenced	19	0%
Standard Efficiency	N/A	N/A	Somewhat Influenced	10	0%
Standard Efficiency	N/A	N/A	Not at all Influenced	2	0%
Energy Efficient	> 1 year Later	Same Unit	Very Influenced	3	0%
Energy Efficient	> 1 year Later	Same Unit	Somewhat Influenced	1	0%
Energy Efficient	> 1 year Later	Same Unit	Not at all Influenced	1	0%
Energy Efficient	> 1 year Later	Less Efficient	Very Influenced	4	0%
Energy Efficient	> 1 year Later	Less Efficient	Somewhat Influenced	3	0%
Energy Efficient	> 1 year Later	Less Efficient	Not at all Influenced	1	0%
Energy Efficient	> 1 year Later	Don't Know	Very Influenced	1	0%
Energy Efficient	Later, but within 1 yr	Same Unit	Very Influenced	2	0%
Energy Efficient	Later, but within 1 yr	Same Unit	Somewhat Influenced	9	25%
Energy Efficient	Later, but within 1 yr	Same Unit	Not at all Influenced	3	50%
Energy Efficient	Later, but within 1 yr	Less Efficient	Very Influenced	2	0%
Energy Efficient	Later, but within 1 yr	Less Efficient	Somewhat Influenced	10	13%
Energy Efficient	Later, but within 1 yr	Don't Know	Not at all Influenced	2	38%
Energy Efficient	Same Time	Less Efficient	Very Influenced	13	0%
Energy Efficient	Same Time	Less Efficient	Somewhat Influenced	27	25%
Energy Efficient	Same Time	Less Efficient	Not at all Influenced	11	50%
Energy Efficient	Same Time	Same Unit	Very Influenced	18	0%
Energy Efficient	Same Time	Same Unit	Somewhat Influenced	113	50%
Energy Efficient	Same Time	Same Unit	Not at all Influenced	97	100%
Energy Efficient	Same Time	Same Unit	Don't Know	1	50%
Energy Efficient	Same Time	Don't Know	Very Influenced	3	0%
Energy Efficient	Same Time	Don't Know	Somewhat Influenced	9	38%
Energy Efficient	Same Time	Don't Know	Not at all Influenced	4	75%
Energy Efficient	Same Time	Don't Know	Don't Know	2	38%
Energy Efficient	Don't Know	Same Unit	Somewhat Influenced	3	38%
Energy Efficient	Don't Know	Less Efficient	Very Influenced	2	0%
Energy Efficient	Don't Know	Less Efficient	Somewhat Influenced	1	19%
Energy Efficient	Don't Know	Less Efficient	Not at all Influenced	1	38%
Energy Efficient	Don't Know	Don't Know	Very Influenced	2	0%
Energy Efficient	Don't Know	Don't Know	Somewhat Influenced	1	28%
Don't Know	Missing	Missing	Very Influenced	5	0%
Don't Know	Missing	Missing	Somewhat Influenced	6	19%
Don't Know	Missing	Missing	Not at all Influenced	1	38%
Don't Know	Missing	Missing	Don't Know	2	19%
TOTAL Free Ridership Score for Gas Furnace					**45%**

3.5.3 Windows

The approach used to assign free ridership scores to windows participants is similar to that used for heat pump and gas furnace participants, described above. Again, three individual probability scores are calculated for each participant. Each of these probabilities relates to the likelihood the respondent is a free rider. The product of these three probabilities is the participant's final assigned likelihood of being a free rider. A free ridership score is assigned to

each participant in the survey sample, and the average of these ratios represents the program result. The three probability scores include:

a. **Probability that respondent would have purchased new windows in the absence of the program**

b. **Probability that windows purchased in the absence of the program would be as efficient as those purchased through the program**

c. **Probability that the respondent was *not* influenced by the cash incentive in making the decision to purchase program qualifying windows**

Five survey questions are used to assign these 3 probability scores. The survey questions and associated response categories are as follows:

WIN30. If the program did not exist, would you still have purchased new windows?
- **a. Yes**
- **b. No**
- **c. Don't Know**

WIN35. If the cash incentive was not available, when would you have bought new windows…(READ)
- **a. At the same time**
- **b. Within a year**
- **c. More than a year later**
- **d. Don't Know**

WIN6. Thinking about your new windows that were purchased through the program, how energy efficient are they relative to the old ones? Would you say your new windows are…
- **a. About as energy efficient as the old ones**
- **b. Slightly more energy efficient than the old ones**
- **c. Significantly more energy efficient than the old ones**
- **d. The most energy efficient windows available**
- **e. Don't Know**

WIN33. Thinking about the efficiency of the old windows that were replaced through the program…if the program did not exist would you have bought windows that were…(READ)
- **a. About as energy efficient as the old ones**
- **b. Slightly more energy efficient than the old ones**
- **c. Significantly more energy efficient than the old ones**
- **d. The most energy efficient windows available**
- **e. Don't Know**

WIN45. We'd like to get a sense of what influenced you to purchase your windows. How influential was the cash incentive in your decision to purchase Energy Star windows? Would you say the cash incentive was…

a. Very Influential
b. Somewhat Influential
c. Not at all Influential
d. Don't Know

The first two questions (WIN30 and WIN35) are used to assign the probability a respondent would have purchased windows in the absence of the program. Those who state they would have purchased nothing in the absence of the program are assigned a zero (WIN30=b); those who state they would purchase anyway, but over a year later are also assigned a zero (WIN35=c); those who state they would have purchased later, but within the year are assign a probability of 0.5 (WIN35=b); and those that report they "don't know" what they would purchase in the absence of the program are also assigned a purchase probability of 0.5 (WIN30=d). All others are assigned a probability of purchasing windows in the absence of the program of 1.

Questions WIN6 and WIN33 are used to assign each respondent a probability of selecting high efficiency windows in the absence of the program. WIN6 asks the respondent to rate the efficiency of their program windows relative to the efficiency of the old, removed windows. WIN33 asks the respondent to rate the efficiency of the windows they *would have purchased in the absence of the program* relative to the efficiency of the old, removed windows. If the response to WIN6 is higher than the response to WIN33 then the program influenced the respondent to purchase higher efficiency windows than they would have in the absence of the program[4]. These respondents are assigned a probability of 0.5 for purchasing high efficiency windows in the absence of the program; all others are assigned a value of 1.

Question WIN45 is used to assign a probability of *not* being influenced by the cash incentive in the decision to purchase program qualifying windows. Those that stated they were "very influenced" (WIN45=a) by the cash incentive are assigned a value of 0; those that state they were "somewhat influenced" (WIN45=b) are assigned a value of 0.5; and those that state they were "not at all influenced" (WIN45=c) are assigned a value of 1. Those that respond they "don't know" how influential the cash incentive was on their decision are also assigned a value of 0.5.

The product of these three probabilities results in an overall probability of free ridership for each windows participant in the survey. Exhibit 3-17 below summarizes participant responses to each question and the resulting free ridership score for each unique response pattern. The total program free ridership score, calculated as an average of participant scores, is 43 percent.

[4] This response pattern is noted in Exhibit X-X below as "Less Efficient". Providing the same response to WIN6 and WIN33 is noted in the Exhibit as "Same Efficiency".

Exhibit 3-17
Free Ridership Calculation for Windows Participants

What Would Have Been Purchased in the Absence of the Program?					
Would Windows Have Been Purchased? (WIN30)	When? (WIN35)	Efficiency Relative to Program Windows (WIN6, WIN33)	How Influential Was the Cash Incentive? (WIN45)	Frequency	Free Ridership Score
No	N/A	N/A	Very Influential	10	0%
No	N/A	N/A	Somewhat Influential	4	0%
Yes	> 1 year Later	Less Efficient	Very Influential	6	0%
Yes	> 1 year Later	Less Efficient	Somewhat Influential	2	0%
Yes	> 1 year Later	Same Efficiency	Very Influential	5	0%
Yes	> 1 year Later	Same Efficiency	Somewhat Influential	3	0%
Yes	> 1 year Later	Same Efficiency	Not at all Influential	1	0%
Yes	Later, but within 1 yr	Less Efficient	Very Influential	6	0%
Yes	Later, but within 1 yr	Less Efficient	Somewhat Influential	3	13%
Yes	Later, but within 1 yr	Less Efficient	Not at all Influential	1	25%
Yes	Later, but within 1 yr	Same Efficiency	Very Influential	9	0%
Yes	Later, but within 1 yr	Same Efficiency	Somewhat Influential	4	25%
Yes	Later, but within 1 yr	Same Efficiency	Not at all Influential	4	50%
Yes	Same Time	Less Efficient	Very Influential	7	0%
Yes	Same Time	Less Efficient	Somewhat Influential	8	25%
Yes	Same Time	Less Efficient	Not at all Influential	5	50%
Yes	Same Time	Same Efficiency	Very Influential	16	0%
Yes	Same Time	Same Efficiency	Somewhat Influential	35	50%
Yes	Same Time	Same Efficiency	Not at all Influential	55	100%
Yes	Same Time	Same Efficiency	Don't Know	3	50%
Yes	Don't Know	Less Efficient	Somewhat Influential	1	19%
Don't Know	Missing	Missing	Very Influential	2	0%
Don't Know	Missing	Missing	Somewhat Influential	1	25%
TOTAL Free Ridership Score for Windows					*43%*

3.5.4 Insulation

The approach used to assign free ridership scores to insulation participants is similar to that used for the other measure categories described above. Again, three individual probability scores are calculated for each participant. Each of these probabilities relates to the likelihood the respondent is a free rider. The product of these three probabilities is the participant's final assigned likelihood of being a free rider, i.e. their free ridership score. The average of these individual scores represents the program free ridership result. The three probability scores include:

d. Probability that respondent would have installed insulation in the absence of the program

e. Probability that the participant would have installed insulation in as many areas as they did through the program in the absence of the program

f. Probability that the respondent was *not* influenced by the cash incentive in making the decision to install insulation

Four survey questions are used to assign these 3 probability scores. The survey questions and associated response categories are as follows:

IN15. Which of the following THREE statements best describes the actions you would have taken had the cash incentive NOT existed:

a. **We would not have installed insulation**
b. **We would have installed insulation anyway, but at a later date**
c. **We would have installed insulation anyway, and at the same time**
d. **Don't Know**

IN25. If the cash incentive was not available, when would you have installed insulation? (Asked if IN15=b)

a. **Within a year**
b. **More than a year later**
c. **Don't Know**

IN20. Our records indicate that you installed insulation in your [Ceiling, Ducts, Floor, Wall] If the program did not exist would you have installed insulation in all of these areas, or just some of these areas? (Asked if Participant installed insulation in more than one area)

a. **I would have installed insulation in ALL of these areas**
b. **I would have installed insulation in SOME of these areas**
c. **Don't Know**

IN30. We'd like to get a sense of what influenced you to purchase your insulation. How influential was the cash incentive in your decision to install insulation? Would you say the cash incentive was…

a. **Very Influential**
b. **Somewhat Influential**
c. **Not at all Influential**
d. **Don't Know**

The first two questions (IN15 and IN25) are used to assign the probability a respondent would have installed insulation in the absence of the program. Those who state they would have purchased nothing in the absence of the program are assigned a zero (IN15=a); those who state they would purchase anyway, but over a year later are also assigned a zero (IN25=b); those who state they would have purchased later, but within the year are assign a probability of 0.5 (IN25=a); and those that report they "don't know" what they would purchase in the absence of the program are also assigned a purchase probability of 0.5 (IN15=d). All others are assigned a probability installing insulation in the absence of the program of 1.

Question IN20 is used to assign each respondent a probability that they would install insulation in as many areas in the absence of the program as they did through the program. Those that state that they would have installed insulation in fewer areas (IN20=b) are assigned a value of 0.5. A value of zero is not assigned because these participants are not 100% net as they would have installed at least some of the insulation anyway. Those that only installed insulation in one area, or did not respond to IN20 with response b, are assigned a value of 1.

Question IN30 is used to assign a probability of *not* being influenced by the cash incentive in the decision to install insulation. Those that stated they were "very influenced" (IN30=a) by the cash incentive are assigned a value of 0; those that state they were "somewhat influenced" (IN30=b) are assigned a value of 0.5; and those that state they were "not at all influenced"

(IN30=c) are assigned a value of 1. Those that respond they "don't know" how influential the cash incentive was on their decision are also assigned a value of 0.5.

The product of these three probabilities results in an overall probability of free ridership for each windows participant in the survey. Exhibit 3-18 below summarizes participant responses to each question and the resulting free ridership scores for each unique response pattern. The total program free ridership result, calculated as an average of participant free ridership scores, is 41 percent.

Exhibit 3-18
Free Ridership Calculation for Insulation Participants

What Would Have Been Purchased in the Absence of the Program?					
Would Customer Install Insulation? (IN15)	When? (IN25)	How much? (IN20)	How Influential Was the Cash Incentive? (IN30)	Frequency	Free Ridership Score
No	N/A	N/A	Very Influential	45	0%
No	N/A	N/A	Somewhat Influential	9	0%
No	N/A	N/A	Not at all Influential	2	0%
No	N/A	N/A	Don't Know	1	0%
Yes	Later, but within 1 yr	Fewer Areas	Very Influential	14	0%
Yes	Later, but within 1 yr	Same Area(s)	Very Influential	41	0%
Yes	Later, but within 1 yr	Fewer Areas	Somewhat Influential	7	13%
Yes	Later, but within 1 yr	Same Area(s)	Somewhat Influential	29	25%
Yes	Later, but within 1 yr	Same Area(s)	Not at all Influential	6	50%
Yes	Later, but within 1 yr	Fewer Areas	Don't Know	1	13%
Yes	> 1 year Later	Fewer Areas	Very Influential	14	0%
Yes	> 1 year Later	Same Area(s)	Very Influential	39	0%
Yes	> 1 year Later	Fewer Areas	Somewhat Influential	7	0%
Yes	> 1 year Later	Same Area(s)	Somewhat Influential	25	0%
Yes	> 1 year Later	Fewer Areas	Not at all Influential	1	0%
Yes	> 1 year Later	Same Area(s)	Don't Know	1	0%
Yes	Same Time	Fewer Areas	Very Influential	24	0%
Yes	Same Time	Same Area(s)	Very Influential	74	0%
Yes	Same Time	Fewer Areas	Somewhat Influential	21	25%
Yes	Same Time	Same Area(s)	Somewhat Influential	215	50%
Yes	Same Time	Fewer Areas	Not at all Influential	6	50%
Yes	Same Time	Same Area(s)	Not at all Influential	200	100%
Yes	Same Time	Same Area(s)	Don't Know	6	50%
Don't Know	Don't Know	Fewer Areas	Very Influential	1	0%
Don't Know	Don't Know	Don't Know	Very Influential	5	0%
Don't Know	Don't Know	Don't Know	Somewhat Influential	7	25%
Don't Know	Don't Know	Don't Know	Not at all Influential	5	50%
TOTAL Free Ridership Score for Insulation				806	41%

3.5.5 Compact Fluorescent Lights (CFLs)

Compact Fluorescent Lights were delivered and installed in participants' homes as part of the Home Energy Review program. An auditor would visit the home, suggest home improvements to save energy, and install an average of 10 CFL bulbs at no cost to the participant. This type of program delivery, requiring very little initiative or money on the part of the participant, generally results in lower levels of free ridership.

The approach used to assign free ridership scores to Home Energy Review participants is similar to that used for the other measure categories described above. Again, three individual

probability scores are calculated for each participant. Each of these probabilities relates to the likelihood the respondent is a free rider. The product of these three probabilities is the participant's final assigned likelihood of being a free rider. The average of these individual scores represents the program result. The three probability scores include:

a. **Probability that the participant already had plans to install CFL bulbs prior to the Home Energy Review**

b. **Probability that the participant would have installed the same number of CFLs in the absence of the program**

c. **Probability that the participant would have installed CFLs at the same time as they did through the program**

Three survey questions are used to assign these 3 probability scores. The survey questions and associated response categories are as follows:

CFL20. Before your Home Energy Review, did you have specific plans to install CFLs in your home?

a. **Yes**
b. **No**
c. **Don't Know**

CFL25. If you had not received free CFLs during the Home Energy Review, which of the following three statements best describes the actions you would have taken:

a. **We would not have installed CFLs in our home**
b. **We would have installed fewer CFLs**
c. **We would have installed the same number of CFL's**
d. **Don't Know**

CFL30. If you had not participated in the Home Energy Review and received free CFL bulbs, when would you have bought CFLs:

a. **At roughly the same time as the Home Energy Review**
b. **Within a few months of the Home Energy Review**
c. **Within a year of the Home Energy Review**
d. **More than a year after the Home Energy Review**
e. **Don't Know**

Question CFL20 is used to assign the probability a respondent already had plans to install CFLs prior to participating in the program. Those who state they had no plans to install CFLs prior to participating in the program (CFL20=b) are assigned a probability of zero. All others are assigned a probability value of 1.

Question CFL25 is used to determine the probability the participant would have installed the same number of CFLs in the absence of the program. Those who state they would have purchased nothing in the absence of the program are assigned a zero (CFL25=a); those who state they would purchase fewer CFLs (CFL25=b) are assigned a value of 0.5; those who state they would have purchased the same number are assigned a value of 1 (CFL25=c); and those

that report they "don't know" what they would purchase in the absence of the program are also assigned a probability of 0.5 (IN15=d).

Question CFL30 is used to assign each respondent a probability that the participant would have installed CFLs at the same time in the absence of the program. Those stating that in the absence of the program they would have installed CFLs at roughly the same time (CFL30=a) are assigned a value of 1; those stating they would have installed CFLs within a few months are assigned a value of 0.67; those stating they would have installed within a year are assigned a value of 0.33; and those that state they would have installed them over a year later are assigned a value of 0. Those that "don't know" when they would have installed them are assigned a value of 0.5 as the probability they would have installed CFLs at the same time in the absence of the program.

The product of these three probabilities results in an overall probability of free ridership for each CFL participant in the survey. Exhibit 3-19 below summarizes participant responses to each question and the resulting net-to-gross ratios for each unique response pattern. The total program free ridership score, calculated as an average of participant scores, is 15 percent. Lower free ridership for "turn-key" programs such as the Home Energy Review program is consistent with expectations. Very little initiative or cost is borne by the customer, resulting in a greater portion of participants not predisposed to purchase even in the absence of the program.

Exhibit 3-19
Free Ridership Calculation for CFL Participants

Prior to HER, Did You Have Plans to Purchase CFLs? (CFL20)	*What would you have done in absence of program? (CFL25)*	*When would you have purchased CFLs? (CFL30)*	*Frequency*	*Free Ridership Score*
Yes	Not installed CFLs	N/A	1	0%
Yes	Not installed CFLs	N/A	2	0%
Yes	Installed fewer	Same Time	3	50%
Yes	Installed fewer	Same Time	2	50%
Yes	Installed fewer	Within a Few Months	8	34%
Yes	Installed fewer	Within a Few Months	1	34%
Yes	Installed fewer	Within a year	11	17%
Yes	Installed fewer	Within a year	3	17%
Yes	Installed fewer	More Than 1 Year Later	3	0%
Yes	Installed fewer	Don't Know	1	25%
Yes	Installed same number	Same Time	10	100%
Yes	Installed same number	Within a Few Months	9	67%
Yes	Installed same number	Within a Few Months	1	67%
Yes	Installed same number	Within a year	5	33%
Yes	Installed same number	More Than 1 Year Later	5	0%
Yes	Installed same number	Don't Know	2	50%
Yes	Installed same number	Don't Know	1	50%
Yes	Don't Know	Don't Know	1	25%
No	Not installed CFLs	N/A	12	0%
No	Not installed CFLs	N/A	32	0%
No	Installed fewer	At the Same Time	3	0%
No	Installed fewer	Within a Few Months	11	0%
No	Installed fewer	Within a Few Months	3	0%
No	Installed fewer	Within a Few Months	1	0%
No	Installed fewer	Within a year	10	0%
No	Installed fewer	Within a year	8	0%
No	Installed fewer	More Than 1 Year Later	3	0%
No	Installed fewer	More Than 1 Year Later	2	0%
No	Installed fewer	Don't Know	4	0%
No	Installed fewer	Don't Know	1	0%
No	Installed same number	At the Same Time	5	0%
No	Installed same number	At the Same Time	3	0%
No	Installed same number	Within a Few Months	3	0%
No	Installed same number	Within a Few Months	5	0%
No	Installed same number	Within a year	4	0%
No	Installed same number	Within a year	2	0%
No	Installed same number	More Than 1 Year Later	1	0%
No	Don't Know	Don't Know	1	0%
No	Don't Know	Don't Know	2	0%
Don't Know	Not installed CFLs	N/A	1	0%
Don't Know	Installed fewer	Same Time	1	25%
Don't Know	Installed fewer	Within a year	1	8%
Don't Know	Don't Know	Don't Know	1	13%
TOTAL Free Ridership Score for CFLs				***15%***

3.6 NONPARTICIPANT SPILLOVER

This section describes the methods used to calculate participant and nonparticipant spillover by program measure. "Spillover" include all adoptions of energy saving measures that result from the program, but are not done through the program. It is reasonable to expect that the program, by providing experience and knowledge of energy efficient measures, motivated customers (both participants and nonparticipants) to install program qualifying measures *outside* the program. In this section, the spillover effect is explored; first for nonparticipants and then for participants.

The nonparticipant survey fielded in support of this evaluation gathered information on equipment installations and measure adoptions during the years 2004 and 2005. Information collected on nonparticipant adoptions include:

a. the efficiency of the installed equipment or measure, and

b. the degree of self-reported influence of the program on the decision to purchase the equipment

c. whether the customer received any rebates whatsoever for the installation or purchase of high efficiency equipment or measure.

A nonparticipant measure adoption is considered a spillover adoption if the following three conditions are met:

a. The measure is program-qualifying

b. The degree of self-reported influence of the program is sufficient to reasonably conclude that the adoption would not have occurred in the absence of the program.

c. The customer did not receive any rebates whatsoever for the measure adoption.

It is very important to note that, while 1,733 nonparticipants were surveyed, this represents only one-tenth of one percent of the nonparticipant population. The nonparticipant population is 100 times larger than the participant population overall. Every nonparticipant surveyed represents approximately 750 nonparticipants in the overall population. Therefore, if just one nonparticipant is identified as contributing to spillover, that would represent approximately 750 adoptions in the nonparticipant population. For some measures, such as window and heat pumps, there are not even 750 participants. Therefore, while 1,733 nonparticipant surveys may seem like a large number, generally only 1 or 2 nonparticipants are identified as contributing toward spillover. With this small sample of contributors, the nonparticipant spillover result can have a significant level of variation. While results are presented based on these small samples, it is important to consider these issues, and focus on whether or not there is significant evidence that some level of spillover exists, rather than focusing on the resulting number itself.

3.6.1 Gas Furnace and Heat Pump

The methods used to identify gas furnace and heat pump spillover adoptions in the nonparticipant population are very similar. Thus, they are presented here together for the convenience of the reader.

Gas furnace and heat pump adoptions made by nonparticipants, which satisfy all spillover criteria, are identified through a battery of 5 survey questions. The first three questions identify

program-qualifying adoptions. These questions and the associated response categories are shown below:

GSC1. Have you purchased a new <gas furnace/heat pump> for your home since January 2004?

a. **Yes**
b. **No**
c. **Don't know**

GSP2. Is the new <gas furnace/heat pump> high or standard efficiency?

a. **High Efficiency**
b. **Standard efficiency**
c. **Don't Know**

GSP2b. What is the energy efficiency rating of your new <gas furnace/heat pump>?

a. **Record Verbatim**
b. **Don't Know**

In order for a gas furnace or heat pump adoption to be considered program qualifying the customer must respond that the equipment is "high efficiency" (GSP2=a) and the open-ended response to GSP2b must support this response.

The next step is to assess whether each qualifying adoption took place as a result of the programs run by the Energy Trust of Oregon. The following question is used to separate adoptions influenced by the program from those that were not:

GSP3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient <gas furnace/heat pump>? Would you say…

a. **Very Influential**
b. **Somewhat influential**
c. **Not at all influential**
d. **Don't Know**

Only a response of "very influential" (GSP3=a) is considered sufficient evidence that the adoption was a result of program activities. All other responses are considered insufficient to conclude the adoption was a result of program influence.

The final criterion is whether the customer received a cash incentive from any source for the adoption of the gas furnace or heat pump. If any cash incentive was received, the adoption is excluded from the spillover calculation. Receipt of a cash incentive is assessed with the following question:

GSP6. Did you receive a cash incentive for installing your new <gas furnace/heat pump>?

a. **Yes**
b. **No**
c. **Don't Know**

Only a response of "no" (GSP6=b) is considered sufficient evidence that the heat pump adoption did not occur through another incentive program.

3.6.2 Insulation and Compact Fluorescent Lights

The methods used to identify insulation and CFL spillover adoptions in the nonparticipant population is nearly the same as that used for gas furnace and heat pump. The only difference is that there is no need to collect detailed information regarding the efficiency of the measure, thus only one question is used to determine that a program qualifying action has taken place:

IC1. Have you <added any insulation to/installed any CFLs in> your home since January 2004?

a. Yes
b. No
c. Don't know

A response of "yes" (IN1=a) is considered sufficient evidence that a program qualifying action has taken place. The assessment of program influence and rebates is analogous to that described above for gas furnace and heat pump.

3.6.3 Windows

The methods used to identify spillover adoptions of windows in the nonparticipant population is nearly the same as that used for gas furnace, insulation and heat pump. The only difference is that that in order to determine whether a program qualifying action has taken place, the following questions are asked:

WC1. Have you purchased and installed new windows for your home since January 2004?

a. Yes
b. No
c. Don't know

WK1. Are the new windows you purchased Energy Star?

d. Yes
e. No
f. Don't know

A response of "yes" to both questions (WC1=a and WK1=a) is considered sufficient evidence that a program qualifying action has taken place. However, windows must meet more stringent criteria to qualify for the HES program than to be considered Energy Star. Thus, this scoring algorithm will result in some overstatement of spillover[5]. The assessment of program influence and rebates is analogous to that described above for gas furnace, heat pump and insulation.

3.6.4 Nonparticipant Spillover Results

The above criteria were used to identify spillover adoptions occurring within the surveyed nonparticipant group. A number of manipulations are used to translate these raw spillover results into a spillover "rate" that is expressed as a percentage of program savings.

[5] More technical questions on window efficiency often yield generally unreliable data, and so were avoided.

First, the survey questions identify spillover adoptions occurring within a two year window. A factor of 0.5 must be applied to the gross number of spillover adoptions to yield an annual result.

Next, a spillover rate is calculated by dividing the number of spillover adoptions by the number of surveyed customers. Third, the spillover rate is then multiplied by the population of nonparticipating customers. This results in an estimate of the total number of spillover adoptions that occurred in 2004 within the nonparticipant population.

The resulting estimate of 2004 spillover adoptions is then divided by the number of participants in 2004. This yields an estimate of the nonparticipant spillover effects expressed as a percentage of program savings.

Nonparticipant spillover results are summarized in Exhibit 3-20 below. Shown are the number of nonparticipants that adopted the measure overall, the number that contributed towards spillover (were influenced, program qualifying, and not rebated), the annualized number of spillover adoptions, the number of adoptions extrapolated to the overall population, the participant population in 2004, and the final spillover rate.

As expected, the range is broad— from 0 percent for heat pump to nearly 260 percent for windows. This wide variation relates to the high sensitivity of results to small changes in the number of spillover adoptions identified in the survey (only one or two spillover adoptions were identified for most measures). As discussed above, the windows result is also effected by the categorization of Energy Star windows installations as program-qualifying, resulting in an overestimate of windows spillover.

Clearly there is evidence that some level of nonparticipant spillover exists for most measures. Although there were no program qualifying heat pump installations that were influenced, only 19 nonparticipants were identified as having installed a heat pump. Therefore, it is likely that some level of spillover may exist, and that the sample size was not sufficient to identify any. Given the low number of participants, spillover could potential be large for heat pumps even though none were identified in the nonparticipant survey. For example, if we had surveyed ten times as many nonparticipants (17,330) and found just one that contributed to spillover, this would have represented a spillover rate of 25%.

We would also caution the reader that the high level of spillover for Windows and CFLs are likely overstated. These results should be interpreted as strong evidence that spillover exists for these measures, but we do not recommend using these actual values.

Exhibit 3-20
Nonparticipant Spillover Calculations

Spillover Component	Gas Furnace	Windows	Heat Pump	Insulation	CFLs
Surveyed Nonparticipants with Adoptions	42	144	19	84	505
Surveyed Nonparticipants with Spillover Adoptions	2	2	0	1	32
Surveyed Nonparticipant Spillover Adoptions per Year	1	1	0	0.5	16
Population Extrapolated Spillover Adoptions per Year	757	757	0	378	12,112
Number of Program Year 2004 Participants	6,091	294	154	1,712	5,484
Final Nonparticipant Spillover Rate	**12%**	**257%**	**0%**	**22%**	**221%**

It is also important to bear in mind that there are some questions regarding the comparability of participant and nonparticipant adoptions that should be considered when interpreting these results. Specifically, these questions relate to the size of installations occurring within the participant and nonparticipant populations. This issue is less of a concern for heat pump and gas furnace adoptions where the size of installations is generally dictated by the size of the home. However, the size and scope of insulation, windows and CFL installations may vary by participant/nonparticipant population segments. For insulation, some data on the size of installations was collected from nonparticipants. The insulation adoption identified as a spillover adoption included installation of both floor and duct insulation[6]. The average number of insulation types installed by participants in 2004 is 1.6. The sample of nonparticipant installations is clearly too small to draw any meaningful conclusions regarding the size of installations. Given the installations appear comparable, no adjustment is made for quantity.

Quantity data was not captured for nonparticipant windows adoptions, and thus the windows spillover result should be interpreted with this uncertainty in mind. This uncertainty compounds the upward bias of the spillover estimate due to categorization of Energy Star windows as program qualifying, as discussed previously.

Details regarding the number of compact fluorescent bulbs involved in spillover installations was collected. The average number of bulbs installed in nonparticipant spillover adoptions is 8. The average number of bulbs installed by the Home Energy Review auditors in participant homes is 10. However, given the small sample of nonparticipant installations from which to capture average installation size, no adjustment to the nonparticipant spillover result is made.

[6] Details regarding square feet and R-values were not collected due to survey length concerns.

3.7 PARTICIPANT SPILLOVER

Participant spillover is measured in much the same way nonparticipant spillover is measured. The participant survey includes the same survey questions as those described above to identify spillover adoptions. The participant survey questions identify program-qualifying adoptions not rebated under any programs and very influenced by the programs.

The above criteria were used to identify spillover adoptions occurring within the surveyed participant group. A number of manipulations are used to translate these raw spillover results into a spillover "rate" that is expressed as a percentage of program savings.

First, spillover adoptions are identified within a two-year window. A factor of 0.5 must be applied to the gross number of spillover adoptions to yield an annual result. Next, a spillover rate is calculated by dividing the number of spillover adoptions by the number of surveyed customers. Then, the spillover rate is applied to the appropriate population of participating customers. The issue of what is the 'appropriate' participant population revolves around who is a reasonable candidate for addition measure adoptions. Consider that it is less likely a gas furnace or heat pump participant would adopt an additional gas furnace or heat pump. Even windows, insulation and CFL participants seem less likely to purchase additional equipment of the same type. Thus, the 'appropriate' participant population for the calculation of spillover is the total participant population less the participants in the measure for which spillover is being calculated. For example, in 2004 there were a total of 13,735 participants in all five measure categories. The participant population applied to the gas furnace spillover rate is 13,735 minus the number of gas furnace participants (6,091).

Annual participant spillover adoptions are then divided by program-year 2004 participation to yield an estimate of participant spillover expressed as a percent of program savings. Participant spillover results are summarized in Exhibit 3-21 below. Results range from 0 percent for gas furnace to 36 percent for windows. Again, the windows result is affected by the categorization of Energy Star windows as program-qualifying, resulting in an overstatement of spillover for windows. The low value for gas furnaces is likely a result of there being a large participant population. There appears to be some level of spillover for gas furnaces, but when represented as a percentage, it is relatively small.

Contrary to the nonparticipant spillover estimates calculated above, these results are not as sensitive to the extrapolation to the population. Over ten percent of the participant population was surveyed. Therefore, one participant that is identified as contributing to spillover only represents 5 to 10 participant spillover adoptions. Overall, there is a higher level of confidence in these numbers, except for windows, which we believe to be overstated due to the inability to accurately categorize windows as program-qualifying over the phone.

Exhibit 3-21
Participant Spillover Results

	Gas Furnace	Windows	Heat Pump	Insulation	CFLs
Surveyed Participants with Adoptions	99	343	18.0	137	692
Surveyed Participants with Spillover Adoptions	2	23	1	11	218
Surveyed Participant Spillover Adoptions per Year	1	12	0.5	6	109
Spillover Rate	0.07%	0.78%	0.03%	0.37%	7.38%
Participant Population (Excluding Measure)	7,644	13,441	13,581.0	12,023	8,251
Population Extrapolated Spillover Adoptions per Year	5	105	5	45	609
Number of Program Year 2004 Participants	6,091	294	154	1,712	5,484
Final Participant Spillover Rate	0.1%	36%	3%	3%	11%

Similar to nonparticipant spillover, Participant spillover calculations bring up questions regarding the comparability of spillover and program adoptions. Again, the issue is the size of installations occurring through and outside the program. This issue is less of a concern for heat pump and gas furnace adoptions where the size of installations is generally dictated by the size of the home. However, the size and scope of insulation, windows and CFL installations may vary by spillover versus program adoption.

Survey data show that the average spillover adoption of insulation involved 1.1 different types of insulation, which is similar to the 1.6 types installed by participants. Given the sample of just 11 participant spillover installations, no adjustment for this difference is warranted.

Quantity data was not captured for participant windows adoptions, and thus the windows spillover result should be interpreted with this uncertainty in mind.

Details regarding the number of compact fluorescent bulbs installed by participant spillover adopters was collected. The average number of bulbs installed in a participant spillover adoption is 10. The average number of bulbs installed by the Home Energy Review auditors in participant homes is 5. Again, given the small sample of participant spillover installations from which to capture average installation size, no adjustment is warranted.

3.8 NET-TO-GROSS SUMMARY AND RECOMMENDATIONS

Results of the free ridership and spillover analyses are summarized in Exhibit 3-21 below. The exhibit shows the current net-to-gross ratios used to adjust gross savings. The current ratios are 100 percent for CFLs and heat pump, 78 to 80 percent for insulation and windows, and 70 percent for gas furnace[7]. Evaluation results for free ridership, nonparticipant spillover and spillover rates are shown in the exhibit. The evaluation net-to-gross ratio is calculated as one minus free ridership plus the two spillover rates.

[7] Note that slightly different values are used by ETO for gas versus electric savings for insulation and windows measures.

- The gas furnace result is similar to the current adjustment, 67 versus 70 percent. No change is recommended to the current adjustment for gas furnace participants.

- The windows result is well over 1. However, considering that the free ridership rate is comparable to other measures, and the upward bias of the spillover estimates due to categorizing Energy Star windows as program-qualifying, no adjustment to the current net-to-gross factor is recommended here either.

- The evaluation result for insulation is comparable to the current net-to-gross adjustment at 84 versus 78-80 percent, respectively. Thus no change is recommended for insulation.

- The evaluation result for CFL is well above 1, and the current ratio is 100%. Thus no adjustment is recommended for CFLs.

- The heat pump free ridership results are higher among customers replacing heat pumps than for customers converting from resistance heat, 46 versus 33 percent, respectively. Currently, the net-to-gross adjustment for heat pump participants is 50 percent for those converting from resistance heat and 100 percent for efficient upgrades. We recommend lowering the net-to- gross adjustment for converters to 70 percent, and raising the efficient upgrade net-to-gross adjustment to 70 percent. These changes are supported by evaluation findings and create a consistent adjustment for HVAC measures, as gas furnace also has a current net-to-gross adjustment of 70 percent.

Exhibit 3-22
Summary of Net-to-Gross Results and Recommendations

			Heat Pump			
	Gas Furnace	Windows	Conversion from Resistence Heat	Replacing Heat Pump	Insulation	CFLs
Evaluation Results						
Free Ridership Rate	45%	43%	33%	46%	41%	15%
Nonparticipant Spillover Rate	12%	257%	0%	0%	22%	221%
Participant Spillover Rate	0%	36%	3%	3%	3%	11%
Evaluation Net-to-Gross Adjustment	67%	350%	70%	57%	84%	317%
Current Net-to-Gross Adjustment						
Gas	70%	80%	-		80%	
Electric		78%	50%	100%	78%	100%
Recommendation	No change	No change	Raise to 70%	Decrease to 70%	No change	No change

As discussed earlier, we caution the reader against using the spillover results presented above. In particular, the nonparticipant spillover results have a very large level of variation associated with the values due to the small sample sizes of spillover adopters, and the large extrapolation factor to the nonparticipant population. These results do indicate, however, that the program has influenced adoptions outside of the program. Interestingly, if a combined participant and nonparticipant spillover rate of about 15% were assumed (which is reasonable given the results provided above), the recommended net-to-gross ratios would all be within 8% of the evaluation result (and two would be identical).

4. SINGLE FAMILY VENDOR NET-TO-GROSS ASSESSMENT

An analysis of vendor net-to-gross data is presented in this section. The assessment provides additional perspective on net-to-gross issues in order to validate, and potentially gain greater confidence in the customer-centered net-to-gross assessment results presented in the previous chapter.

A survey of 159 vendors was conducted in January of 2006. The survey captured participation and sales trends, expectations and the vendors' perspectives on customer behavior. A copy of this survey instrument, and the response patterns to each question can be found in Appendices C and E.

This chapter begins with a discussion of the trends in installation rates and incentives reported by program vendors. This is followed by a discussion of vendor's perceptions of the influence of the program on customer decision-making. Finally, data were also collected regarding vendor propensity to receive and provide recommendations for the installation of program-qualifying equipment.

4.1 INSTALLATION TRENDS

In this section, data collected in the Single Family Vendor Survey regarding trends in measure installations, installations receiving incentives, and measure efficiency, are examined in relation to participant free ridership. Similar analytical methods are used to examine installation trends for each measure. For each measure, vendor data is analyzed in two ways. First, vendor-reported expectations for the upcoming year in sales and incentives are analyzed in regards to participant free ridership. This analysis is termed "prospective" because the data comes from vendors' expectations. The second method, termed "retrospective" interprets data reported by vendors on sales and incentives that have already occurred in the past. The prospective and retrospective analyses often yield quite disparate results. However, the objective of this vendor analysis is to determine whether there is evidence of *inconsistency* between the customer-centered analysis results presented previously, and these data collected from program vendors.

4.1.1 Insulation

Exhibit 4-1 below shows the trends in insulation installation over the past several years, and expectations regarding sales and program participation in 2006. The data in the table reflect the mean response from the 16 insulation vendors surveyed. Although more vendors were surveyed, data was included only when a response was provided for every question required for the table. This ensures comparability across numbers in the table.

The numbers in the table represent the mean number of jobs completed in recent years, and expected sales in the coming year. The data show that the surveyed vendors expect to complete an average of 255 rebated insulation jobs in 2006. If there were no program, they would expect to do 76 fewer jobs in 2006. Thus, vendors expect that 76 of these 255 customers would not install insulation in the absence of the program. Further, they report that in the absence of the

program 82 customers would install insulation in fewer areas (371 minus 289.) Adding 82 to 76 and dividing by 255 yields 62 percent, corresponding to a free ridership rate of 38 percent.

However, it is possible that the two groups—those that would not install without the program and those that would install fewer types of insulation without the program—are not mutually exclusive. That is, some of the customers that would not install insulation at all without the program, are also counted among those that would install more than one type of insulation. Further, those that would install fewer types of insulation in the absence of the program should not be counted as 100% net, as they would have installed some insulation anyway. Assuming the most conservative possible case—that the two groups overlap to the greatest extent possible (76 customers)—and discounting the remaining 6 that would install fewer types of insulation by 50 percent, results in a free ridership rate of 69 percent.

Our best estimate is somewhere in between these two scenarios. Assuming 20 percent overlap between the two groups (those that would install less and those that would not install at all) is sufficient and still conservative. A discount of 50 percent applied to the remaining customers that would install fewer types of insulation is also reasonable. These assumptions yield a free ridership of 57 percent. This is notably higher than the result presented in the Net-to-Gross chapter based on customer data. However, the vendors' retrospective data tells a somewhat different story.

The retrospective data in the table shows that the difference between the number of jobs in 2003 and 2005 is 57. The total number rebated in 2005 is 124. Vendors report 52 additional jobs with more than one type of insulation. Using our 'best estimate' criteria—assuming a 20 percent overlap between customers that would not install and those that would install less, and discounting customers that would install less by 50 percent, yields free riderhsip of 37percent.

Exhibit 4-1
Trends of Insulation Installations
Through and in the Absence of the Home Energy Savings Program

Insulation	2003	2005	2006 Expected	2006 Expected in Absence of Program
Number of Jobs	340	397	469	393
Number of Jobs Receiving Incentives		124	255	
Number of Jobs with more than one type	246	298	371	289

In summary, as shown in Exhibit 4-2, the prospective analysis yields a best estimate of free ridership of 57 percent. The retrospective data yields a free ridership estimate of 37 percent. The customer centered analysis presented in Chapter 3 yielded an estimate of 41 percent, which lies nicely between these two vendor-based results.

Exhibit 4-2
Comparison of Free-Ridership Estimates for Insulation Installations
Vendor and Participant Self Report Results

Insulation		Free Ridership Rate
Free Ridership Based on Vendor Self Report		
Retrospective	2003-2005	37%
Prospective	2006 w/ and w/o program	57%
Free Riderhsip Based on Participant Self Report		41%

4.1.2 Windows

Exhibit 4-3 below shows the trends in window installation over the past two years, and expectations regarding sales and participation in 2006. The data in the table reflect the mean response from the 14 vendors surveyed. Although more windows vendors were surveyed, data was included only when a respondent answered every question required for the table. This ensures comparability across numbers in the table.

The numbers in the table represent the mean number of jobs completed in recent years, and expected sales in the coming year. The data show that vendors expect to complete 83 window jobs with incentives in 2006. If there were no program, they would expect to do 16 fewer jobs in 2006 and 45 fewer program qualifying jobs. Of course, the 16 fewer jobs must also be counted among the 45 fewer program qualifying jobs, as any customer motivated to install windows due to the program must also install program qualifying windows if they are to participate. Dividing 45 by 83 yields 54 percent, corresponding to a free ridership rate of 46 percent. Next, we examine the window vendors' retrospective data.

The retrospective data in Exhibit 4-3 shows that the difference between the number of jobs in 2003 and 2005 is 9, and the difference is program-qualifying installations is 38. The total number rebated in 2005 is 52. Again, we focus on the change in the number of program-qualifying jobs (38) and divide that number by 52. This ratio yields 73 percent, corresponding to free ridership of 27 percent.

Exhibit 4-3
Trends of Window Installations
Through and in the Absence of the Home Energy Savings Program

Windows	2003	2005	2006 Expected	2006 Expected in Absence of Program
Number of Jobs	189	198	219	203
Number of Jobs Receiving Incentives		52	83	
Number of jobs with U Value < .35	175	191	213	194
Number of jobs with U Value < .32	48	86	136	91

The data show a strong trend toward higher efficiency installations, particularly for jobs with U values below .32. Jobs with U values less than .32 increase from 25 percent of total jobs to 62 percent of expected 2006 sales (with the program). The data also demonstrate that vendors believe the program significantly affects their sales of windows with less then .32 U value. Jobs with .32 and lower U values fall from an expected 62 percent of total jobs in 2006 to just 45 percent if the program were to end.

As shown in Exhibit 4-4, the vendor data nicely supports the customer-centered analysis results presented in Chapter 3. The vendor data yields a prospective free ridership rate of 46 percent, and a retrospective rate of 27 percent. The customer-centered rate presented in Chapter 3 is 43 percent, which lies well between these two estimates.

Exhibit 4-4
Comparison of Free-Ridership Estimates for Window Installations
Vendor and Participant Self Report Results

Windows		Free Ridership Rate
Free Ridership Based on Vendor Self Report		
Retrospective	2003-2005	27%
Prospective	2006 w/ and w/o program	46%
Free Riderhsip Based on Participant Self Report		43%

4.1.3 Gas Furnace

Exhibit 4-5 below shows the trends in gas furnace installations over the past several years, and expectations regarding sales and participation in 2006. The data in the table reflect the mean response from the 64 vendors surveyed. Although more gas furnace vendors were surveyed,

data was included only when a respondent answered every question required for the table. This ensures comparability across numbers in the table.

The numbers in the table represent the mean number of jobs completed in recent years, and expected sales in the coming year. The data show that vendors expect to complete 96 rebated gas furnace jobs in 2006. If there were no program, they would expect to do 26 fewer jobs in 2006, and 38 fewer program qualifying jobs. Similar to windows, the 26 fewer jobs must also be counted among the 38 fewer program qualifying jobs, as any customer motivated to install a gas furnace due to the program must also install a program qualifying furnace if they are to participate. Dividing 38 by 96 yields 40 percent, corresponding to a free ridership rate of 60 percent. Next, we examine the gas furnace vendors' retrospective data.

The retrospective data in the table shows that the difference between the number of jobs in 2003 and 2005 is 31, and the difference is program-qualifying installations is 37. The total number rebated in 2005 is 39. Again, we focus on the change in the number of program-qualifying jobs (37) and divide that number by 39. This ratio yields 95 percent, corresponding to free ridership of just 5 percent.

Exhibit 4-5
Trends of Gas Furnace Installations
Through and in the Absence of the Home Energy Savings Program

Gas Furnace	2003	2005	2006 Expected	2006 Expected in Absence of Program
Number of Jobs	87	118	136	110
Number of Jobs Receiving Incentives		39	96	
Number of .9+ AFUE	53	90	105	67
Number of .9+ AFUE + ECM	38	72	89	49

As shown in Exhibit 4-6, the vendor data yield more disparate results for gas furnace free ridership. The prospective rate of 60 percent is well above the retrospective rate of just 5 percent. This range is too great to provide reliable interpretation. Nonetheless the customer-centered rate presented in Chapter 3 is 45 percent, which lies well between these two estimates.

The purchase of an electrically commutated motor (ECM) with the installation of a gas furnace is slightly more sensitive to program influence than installation of a gas furnace alone. If the program were to terminate, vendors expect efficient gas furnace sales to decline by 25 percent in 2006 versus 2005, while efficient furnaces with ECM are expected to decline 32 percent versus 2005.

Exhibit 4-6
Comparison of Free-Ridership Estimates for Gas Furnace Installations
Vendor and Participant Self Report Results

Gas Furnace	Free Ridership Rate
Free Ridership Based on Vendor Self Report	
Retrospective 2003-2005	5%
Prospective 2006 w/ and w/o program	60%
Free Riderhsip Based on Participant Self Report	45%

4.1.4 Heat Pump

Exhibit 4-7 below shows the trends in heat pump installations over the past several years, and expectations regarding sales and participation in 2006. The data in the table reflect the mean response from the 21 vendors surveyed. Although more heat pump vendors were surveyed, data was included only when a respondent answered every question required for the table. This ensures comparability across numbers in the table.

The numbers in the table represent the mean number of jobs completed in recent years, and expected sales in the coming year. The data show that vendors expect to complete 67 rebated heat pump jobs in 2006. If there were no program, they would expect to do 24 fewer jobs in 2006, and 25 fewer program qualifying jobs. Similar to windows and gas furnace, the 24 fewer jobs must also be counted among the 25 fewer program qualifying jobs, as any customer motivated to install a heat pump due to the program must also install a program qualifying heat pump if they are to participate. Dividing 25 by 67 yields 37 percent, corresponding to a free ridership rate of 63 percent. Next, we examine the heat pump vendors' retrospective data.

The retrospective data in the table shows that the difference between the number of jobs in 2003 and 2005 is 32, and the difference in program-qualifying installations is 30. The total number rebated in 2005 is 30. Again, we focus on the change in the number of program-qualifying jobs (30) and divide that number by 30. This ratio yields 100 percent, corresponding to free ridership of zero.

Exhibit 4-7
Trends of Heat Pump Installations
Through and in the Absence of the Home Energy Savings Program

Heat Pump	2003	2005	2006 Expected	2006 Expected in Absence of Program
Number of Jobs	47	79	98	74
Number of Jobs Rebated		30	67	
Number of Conversions	11	20	27	18
Number of HSPF 8.5+	15	40	69	46
Number of HSPF 8.1+	25	55	72	47

As shown in Exhibit 4-8, the vendor data again yield quite disparate results for heat pump free ridership. The prospective rate of 63 percent is in opposition to the retrospective rate of zero. This range really is too great to provide any kind of interpretation. Nonetheless the customer-centered rate presented in Chapter 3 is 42 percent, which lies well between these two estimates.

As a percentage of total sales, HSPF 8.5 increase from 50 percent in 2005 to an expected 70 percent in 2006. At the same time HSPF 8.1 are expected to increase by a much smaller margin—from 70 percent in 2005 to an expected 73 percent in 2006. However, this increase is very program-dependent, as vendors state they would expect HSPF 8.5 and 8.1 to make up 64 percent of sales each if the program ended.

Conversions from resistance heat to heat pump increase in magnitude between 2003 and expected 2006 levels. However, as a percentage of jobs conversions are very stable, ranging from 23 percent of 2003 jobs to a high of 27 percent of expected 2006 jobs (with the program). If the program were ended, vendors expect conversions to be 24 percent of jobs in 2006. Thus, program influence seems to be concentrated in moving customers to an HSPF 8.5, having less effect on HSPF 8.1 and the decision to convert.

Exhibit 4-8
Comparison of Free-Ridership Estimates for Heat Pump Installations
Vendor and Participant Self Report Results

Heat Pump		Free Ridership Rate
Free Ridership Based on Vendor Self Report		
Retrospective	2003-2005	0%
Prospective	2006 w/ and w/o program	63%
Free Riderhsip Based on Participant Self Report		42%

4.2 INFLUENCE OF PROGRAM

Vendors were asked a series of questions relating to how they perceive the Home Energy Savings program to influence customers' decisions to install program qualifying measures. This section reviews the responses to these questions and their implications to the net-to-gross analysis.

Vendors were asked to rate the effectiveness of the program in increasing the volume of business in existing single-family homes. This question is intended to reveal the extent to which vendors perceive the program to be important in customers' decisions to install new equipment or insulation. Exhibit 4-9 below shows the vendors' responses to this question by measure. Over 90% of insulation, gas furnace, and heat pump vendors reported that the HES program was at least somewhat effective in increasing business. The windows program is focused on moving customers to select *higher efficiency* windows, not to purchase windows when they otherwise would not. Nevertheless, 80% of window vendors reported that the program was at least somewhat effective in increasing business.

Exhibit 4-9
Effect of the Home Energy Savings Program
on Increasing Business

How effective do you think the Home Energy Savings Program has been in increasing your company's business in existing single family homes? Would you say…	***Insulation***	***Windows***	***Gas Furnace***	***Heat Pump***
Very effective	43%	41%	70%	54%
Somewhat effective	48%	39%	27%	46%
Not at all effective	9%	20%	1%	0%
Don't know	0%	0%	1%	0%
N	31	30	103	29

Vendors were also asked to describe the degree of influence the incentive offers had on customers' decisions to install high efficiency measures. This question differs from the last in that it refers to the selection of high efficiency equipment, not simply increased business. Exhibit 4-10 below shows the vendor response by measure, and they are overwhelmingly positive. Virtually all of the vendors say the program is somewhat or very influential in customers' decisions to install high efficiency measures. Nearly two-thirds of gas furnace and insulation vendors report that customers are very influenced by the programs. Over half of heat pump vendors report customers are very influenced. Windows vendors are somewhat less positive, with just 40 percent reporting customers are very influenced by the program to install high efficiency windows.

Exhibit 4-10
Effect of the Home Energy Savings Program
on Customers Decisions

Which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install high efficiency measures? Would you say most customers were…	*Insulation*	*Windows*	*Gas Furnace*	*Heat Pump*
Very influenced by the incentive offers	63%	40%	64%	54%
Somewhat influenced by the incentive offers	36%	57%	33%	46%
Not at all influenced by the incentive offers	1%	3%	1%	0%
Don't know	0%	0%	1%	0%
N	31	30	103	29

Finally, vendors were asked what "most" of their customers would have installed in the absence of the program. They were read a response list ranging from "the exact same measure" to "no measure at all". The responses, shown in Exhibit 4-11 below, indicate that between 60 and 70 percent of vendors believe their customers would purchase lower efficiency equipment or no equipment at all in the absence of the program. Conversely, about one-third of vendors perceive most of their customers to be free riders. Results from the first row are indicative of vendor perceived free ridership and are generally consistent with the participant self-reported results presented previously.

Exhibit 4-11
Vendor Reported Free Ridership by Measure[1]

If the rebate had not been available, which of the following best describes what most of your company's customers would have installed…	*Insulation*	*Windows*	*Gas Furnace*	*Heat Pump*
The exact same measure	36%	38%	27%	33%
Slightly less efficient measure	46%	0%	50%	67%
Standard efficiency measure	0%	62%	20%	0%
Not to install measure at all	15%	0%	0%	0%
Don't know	3%	0%	3%	0%
N	31	30	103	29

Exhibit 4-12 compares the self-reported estimates of free ridership developed in Chapter 3 to the vendor's self-reported response as to the percentage of customers that would have purchased the exact same measure if the rebate had not been available. With the exception of gas furnaces, the vendor and participant responses validate one another.

[1] For insulation option two, shown as "slightly less efficient measure" in this exhibit, was actually read as, "Most would have installed less insulation, or installed the same amount but in fewer areas."

Exhibit 4-12
Comparison of Participant and Vendor Self Report Responses

	Gas Furnace	Windows	Heat Pump	Insulation
Participant Self Report				
Free-Ridership Estimate	45%	43%	42%	41%
Vendor Self Report				
Would have purchased exact same measure	27%	38%	33%	36%

4.3 CONTRACTOR RECOMMENDATIONS

The Home Energy Savings program provides incentives for customers to install efficient measures, and in some cases provides additional incentives for installing more than one measure type. For example, incentives for efficient windows are only available to customers that install at least one other program qualifying measure. This section reviews the extent to which referrals and recommendations are provided by program contractors, as well as the degree to which referrals play a key role in new business.

Contractors were asked whether they provide referrals or recommendations to their customers for the installation of other program-qualifying measures. Exhibit 4-13 below shows that nearly all windows and heat pump contractors report making this type of recommendation. Insulation and gas furnace contractors were also very likely to make these recommendations, at 75 and 81 percent, respectively. It is interesting that while most contractors have made this type of recommendation, only about 15 to 25 percent of customers report receiving these recommendations from their program contractors[2].

Exhibit 4-13
Contractor Recommendations
Through the Home Energy Savings Program

Have you referred or recommended to any of your customers that they install other measures qualifying for Incentive Offers in order to take advantage of additional rebates and save energy?	Insulation	Windows	Gas Furnace	Heat Pump
Yes	75%	91%	81%	98%
No	24%	9%	17%	2%
Don't know	1%	0%	2%	0%
N	31	30	103	29

[2] See Exhibit 3-5 in Chapter 3.

Insulation and windows contractors were asked to report the percent of their rebated customers that chose to install additional measures due to the HES program incentives[3]. Exhibit 4-14 below demonstrates that vendors believe most rebated customers choose to install additional measures to take advantage of HES incentives.

Exhibit 4-14
Effect of Contractor Recommendations
Through the Home Energy Savings Program

What percent of your rebated customers choose to install additional measures primarily to take advantage of the Incentive Offers?	***Insulation***	***Windows***
Mean	56%	63%
N	22	30

Insulation and windows vendors were also asked to report how often they receive referrals for jobs from other contractors in order to take advantage of the additional windows incentive available for multi-measure installations. Exhibit 4-15 below shows that while a good portion (42 percent) of insulation vendors had installed insulation for customers interested in receiving the windows rebate, only 9 percent of windows vendors had installed windows for customers already installing another measure. This data suggests that it is more common for customers interested in installing windows to be influenced to also install insulation to gain an additional rebate than the other way around. Vendors that had received this type of referral were asked what percent of their jobs were a result of type of referral. The mean response from insulation vendors is 11 percent, while windows vendors report that only about 5 percent of their jobs result from this type of referral.

Exhibit 4-15
Referrals from Other Contractors
As a Result of the Home Energy Savings Program

Have you received any referrals from other contractors to complete jobs so that customers would be eligible for Efficient Windows rebates?	***Insulation***	***Windows***
Yes	42%	9%
No	58%	73%
Don't know	0%	18%
What percent were a result of type of referral?	11%	5%
N	31	30

[3] Heat pump and gas furnace vendors were asked the same question in a slightly different way. These results are discussed below.

Gas furnace and heat pump vendors were asked to characterize the extent to which customers to whom they recommend additional installations to take advantage of incentives, actually take that advice. Exhibit 4-16 below indicates that it is not uncommon for customers to follow through on recommendations provided by gas furnace and heat pump vendors.

Exhibit 4-16
Effect of Contractor Recommendations
Through the Home Energy Savings Program

How often do customers take this advice and install additional measure to take advantage of greater Incentive Offers? Would you say…	***Gas Furnace***	***Heat Pump***
Often	11%	17%
Sometimes	53%	48%
Rarely	23%	23%
Never	1%	0%
Don't know	11%	12%
N	80	28

4.4 SUMMARY

Overall, the vendor free ridership analysis supports the results of the participant self-reported free ridership analysis presented in Chapter 3. The vendor data is generally less consistent than the participant self-report data, with prospective and retrospective free ridership scores varying quite widely for some measures. Nonetheless, the results shown above do not contradict, and in some cases nicely support, the participant self-report results. Participant self-report results are more consistent and in-line with expectations, due to self-report method's the ability to collect multiple perspectives from each participant on issues related to free ridership. Thus, the Vendor analysis does not indicate any change to the recommendations presented at the end of Chapter 3 regarding revisions to program free ridership assumptions.

5. FINAL RESULTS

This chapter presents the final results of the Impact Analysis conducted on various measures offered through the 2003 and 2004 Home Energy Savings and Home Energy Review programs. The gross analysis presented in Chapter 2 and the net analysis presented in Chapter 3 are integrated to produce a final net savings estimate for the Home Energy Savings and Home Energy Review programs, and these results are compared with the Energy Trust's estimates of savings.

5.1 SUMMARY OF EVALUATION FINDINGS

Exhibit 5-1 below summarize the 2003 and 2004 net savings estimates based on Evaluation Findings. The table shows estimated energy savings as reported in the FastTrack database, the Evaluation-based gross impact realization rate adjustment and net-to-gross adjustment. Overall, net impacts represent about 62 percent of estimated kWh savings, and 50 percent of estimated therm savings. The gross impact adjustments are similar for gas and electricity, and marginally higher for 2003 relative to 2004, due a relative increase in heat pumps and insulation in 2004. The net impact adjustments are higher for electric measures relative to gas measures, due to the high net-to-gross adjustment result for CFLs. Overall, the Evaluation findings indicate the programs saved 2,506 MWh and 516,118 Therms over program years 2003 and 2004.

Exhibit 5-1
Summary of Evaluation Findings
Net Impact Results for 2003 and 2004 Program Years
Single Family Measures

Measure	Electricity				Gas			
		Evaluation Results				Evaluation Results		
	Estimated Savings (kWh)	Gross Impact Realization Rate	Net-to-Gross Adjustment	Net Savings	Estimated Savings (Therms)	Gross Impact Realization Rate	Net-to-Gross Adjustment	Net Savings
Program Year 2003								
CFL	601,282	86%	100%	517,021				
Water Heater^	46,852	70%	78%	25,667				
Gas Furnace					156,202	72%	70%	79,099
Heat Pump Efficient Upgrade								
Heat Pump Conversion from Resistence Heat	95,155	52%	70%	34,637				
Heat Pump Tune Up^	4,521	70%	100%	3,175				
Ceiling Insulation	215,664	64%	78%	107,875	18,200	64%	78%	9,020
Floor Insulation	154,485	64%	78%	77,273	10,465	64%	78%	5,187
Wall Insulation	50,362	64%	78%	25,191	8,471	64%	78%	4,199
Duct Insulation	17,850	30%	78%	4,214	2,681	30%	78%	633
Duct Sealing^	10,132	70%	100%	7,116	746	69%	100%	517
Window	63,028	64%	78%	31,527	1,748	102%	80%	1,432
Air Sealing^					62	69%	100%	43
Total Program Year 2003	1,259,330	73%	90%	833,697	198,576	70%	72%	100,129
Program Year 2004								
CFL	979,802	86%	100%	842,498				
Water Heater^	199,952	70%	78%	109,540	491	69%	80%	272
Gas Furnace					588,004	72%	70%	297,760
Direct Vent Gas Furnace^					517	69%	100%	358
Heat Pump Efficient Upgrade	192,555	50%	70%	66,876				
Heat Pump Conversion from Resistence Heat	402,540	50%	70%	139,805				
Heat Pump Tune Up^	1,127	70%	100%	792				
Ceiling Insulation	393,936	64%	78%	197,047	100,428	64%	78%	49,774
Floor Insulation	331,466	64%	78%	165,800	49,621	64%	78%	24,593
Wall Insulation	97,863	64%	78%	48,951	40,108	64%	78%	19,878
Duct Insulation	34,000	30%	78%	8,028	30,029	30%	78%	7,090
Duct Sealing^	40,435	70%	78%	22,152	15,141	69%	100%	10,487
Window	138,274	64%	78%	69,164	6,831	102%	80%	5,597
Air Sealing^	2,683	70%	100%	1,884	261	69%	100%	180
Total Program Year 2004	2,814,633	69%	86%	1,672,536	831,430	69%	73%	415,988

5.2 RECOMMENDATIONS

This section presents recommendations resulting from the Evaluation

- A complete tracking system is a critical component to many EM&V efforts, and important to program design and implementation as well. Of critical importance to many evaluation techniques are customer account numbers, resulting in accurate customer size data and access to billing histories. Customer contact information is also of central importance, particularly for follow up efforts and customer surveys. It is important that the FastTrack database maintain both electric and gas account numbers, and continue to maintain complete customer contact information. Multifamily housing and manufactured housing program results are not in this Evaluation due to billing data issues.

- Heat pump gross impact estimation algorithms (for both conversions from resistance heat and efficient upgrades) are producing results that are generally too high, and do not show a consistent relationship to changes in customer electric usage. Heat pump algorithms should be re-evaluated and potentially revised. We also recommend a future study of heat pump gross impacts incorporating a larger sample of participants and potentially revised engineering estimates of energy savings.

- Net-to-gross assessment results suggest that the heat pump net-to-gross adjustments – for both conversions and efficient upgrades—be revalued at 70 percent. This is a decrease for efficient upgrade, which are currently 100 percent. Conversely, conversions are currently 50 percent and we recommend increasing to 70 percent.

- Duct insulation gross impact realization rate results are very low, suggesting a review of this measure may be warranted. This may include a review of installation procedures, gross impact estimation algorithms, and accuracy in tracking.

- Gross impact assessment results also suggest it may be worthwhile to revisit the insulation gross impact estimation methods. Recall the billing analysis was able to detect approximately 64 percent of impact estimates. Note that many people are installing multiple insulation measures at the same time, which reduces the incremental effect of each insulation measure.

APPENDIX A
PARTICIPANT SURVEY

ENERGY TRUST OF OREGON
SINGLE FAMILY RESIDENTIAL
HOME ENERGY SAVINGS AND HOME ENERGY REVIEW PROGRAMS
PARTICIPANT SURVEY

VARIABLES FOR SURVEY	Values	
CFL	0,1	1 if had Home Energy Review and received CFL
Duct	0,1	1 if Duct Insulation
Ceil	0,1	1 if Ceiling (Attic) Insulation
Floor	0,1	1 if Floor Insulation
Wall	0,1	1 if Wall Insulation
INS	0,1	1 if any Insulation, 0 otherwise
NUM_INS	#	Number of insulation measures (0 to 4)
WIN	0,1	1 if Windows
Heat_Pump	0,1	1 if Heat Pump
Gas_Furn	0,1	1 if Gas Furnace
Gas_Furn_B	0,1	1 if Gas Furnace with Blower
Year	2003,2004	Year of Participation
Num	#	Number of CFL Bulbs Installed during HER
HES	0,1	1 if participated in Home Energy Savings
HER	0,1	1 if participated in Home Energy Review
PROG	Home Energy Savings or Home Energy Review	Equal "Home Energy Savings", unless HES=0
Therm_save	0,1	1 if had therm savings from program measures
KWh_save	0,1	1 if had kWh savings from program measures
Process	0.1	1 if process questions get asked

Participation and Measure Verification

Intro. Hello, this is <INTERVIEWER NAME> calling from Quantum Consulting on behalf of the Energy Trust of Oregon. This is not a sales call. May I please speak with [PROGRAM CONTACT]?

I'm calling to do a follow-up survey about your participation in the [Home Energy Savings/Home Energy Review] program.

[IF PROGRAM CONTACT NOT AVAILABLE]
Who would be the best person to talk to about your household's participation in the [Home Energy Savings/Home Energy Review]?

[IF NEEDED] The Energy Trust of Oregon would like to better understand how residential customers like you think about and manage their energy consumption, and how satisfied you are with your experience with the Program. Your input is very important to the Energy Trust.

ASK IF HES=1 and HER=0
S2. Just to check did your household participate in the **Home Energy Savings Program** in &Year? This is a program that provides cash incentives for installing one or more energy-efficient products covered under the program.

1	Yes, participated	S10
2	NO, did NOT participate/ receive cash incentive/CFLs	T&T
77	Other (specify)	T&T

88	Refused	T&T
99	Don't know	T&T

ASK if HER=1, ELSE SKIP TO S10

Aud1. Our records show that you received a **Home Energy Review,** where an energy consultant visited your home and provided a list of potential energy efficiency improvements and **also installed &NUM CFL bulbs.** Is that correct?

1	Yes, correct		S10
2	Yes, but number of CFL's incorrect		AUD2
3	No		T&T
88	Refused		T&T
99	Don't Know		T&T

AUD2. **How many** CFL's were installed during the **Home Energy Review?**

#	Correct number of CFL's		S10
88	Refused		S10
99	Don't Know		S10

S10. Have you lived at your current residence since **January 2003**?

1	Yes		S20
2	No		T&T
88	Refused		T&T
99	Don't Know		T&T

S20. What **type of home** do you live in**?**

1	Single Family Detached		S25
2	Townhome, condominium		T&T
3	Other (Multifamily, apartment, Mobile/Manufactured Home)		T&T
88	Refused		T&T
99	Don't Know		T&T

S25. Do you **own** your home or **rent?**

1	Own		VER
2	Rent		T&T
88	Refused		T&T
99	Don't Know		T&T

ASK IF HES=1

VER. We would like to verify our records regarding your participation in the Home Energy Saving program. Our records indicate that you installed….[MEASURE] is that correct? And [NEXT MEASURE]? And [NEXT MEASURE]? etc.

Duct1	Duct Insulation	0 or 1	SAT1
Ceil1	Ceiling or Attic Insulation	0 or 1	SAT1
Floor1	Floor Insulation	0 or 1	SAT1
Wall1	Wall Insulation	0 or 1	SAT1
Win1	Energy Star Windows	0 or 1	SAT1
HP1	Heat Pump	0 or 1	SAT1
GF1	Gas Furnace	0 or 1	SAT1
GFE1	Gas Furnace with Blower	0 or 1	SAT1

IF SUM OF (CFL1,DUCT1,CEIL1, FLOOR1, WALL1, WIN1, HP1, GF1, GFE1)=0 THEN T&T

IF PROCESS = 0 THEN SKIP TO P8A

Satisfaction with ETO

This first set of questions deals specifically with any interactions you may have had with the Energy Trust. If you have had more than one interaction with the Energy Trust, please give us your response based on all experiences with them, not just a single event.

Please use a scale from 1 to 5, where 1 indicates extremely unsatisfactory and 5 indicates extremely satisfactory.

Please rate …

ETO1. The Energy Trust's courtesy on the phone.

#	Ranking	ETO1a
76	Not Applicable – No phone contact	ETO3
88	Refused	ETO2
99	Don't Know	ETO2

ASK IF ETO1 <=2

ETO1a. Can you describe the factors leading to your lack of satisfaction?

77	RECORD VERBATIM	ETO2
88	Refused	ETO2
99	Don't Know	ETO2

ETO2. The Energy Trust's helpfulness on the phone.

#	Ranking	ETO2a
76	Not Applicable – No phone contact	ETO3
88	Refused	ETO3
99	Don't Know	ETO3

ASK IF ETO2 <=2

ETO2a. Can you describe the factors leading to your lack of satisfaction?

77	RECORD VERBATIM	ETO3
88	Refused	ETO3
99	Don't Know	ETO3

ETO3. The Energy Trust's knowledge of program services.

#	Ranking	ETO3a
76	Not Applicable – No contact	ETO4
88	Refused	ETO4
99	Don't Know	ETO4

ASK IF ETO3 <=2

ETO3a. Can you describe the factors leading to your lack of satisfaction?

77	RECORD VERBATIM	ETO4
88	Refused	ETO4
99	Don't Know	ETO4

ETO4. The ease of your transactions (paperwork / payments).

#	Ranking	ETO4a
76	Not Applicable – Did not do paperwork or receive payment	ETO5
88	Refused	ETO5
99	Don't Know	ETO5

ASK IF ETO4 <=2

ETO4a. Can you describe the factors leading to your lack of satisfaction?

77	RECORD VERBATIM	ETO5
88	Refused	ETO5
99	Don't Know	ETO5

ETO5. Your satisfaction with any issue that needed resolution.

#	Ranking	ETO5a
77	Not Applicable	SAT1
88	Refused	SAT1
99	Don't Know	SAT1

ASK IF ETO5 <=2

ETO5a. Can you describe the factors leading to your lack of satisfaction?

77	RECORD VERBATIM	SAT1
88	Refused	SAT1
99	Don't Know	SAT1

Program Satisfaction and Program Awareness

Next, we'd like to talk about your participation in the program and your satisfaction with this experience.

ASK IF HER=1, ELSE SKIP TO SAT2

SAT1. We'd like to get a sense of your satisfaction with the Home Energy Review program. Please use 1 to 5 scale, where 1 means EXTREMELY DISSATISFIED and 5 means EXTREMELY SATISFIED. How satisfied were you with the following:

SAT1a	Scheduling Process.	Number from 1 to 5	SAT1b
SAT1b	Promptness of the Energy Auditor.	Number from 1 to 5	SAT1c
SAT1c	Length of time required for the Audit.	Number from 1 to 5	SAT1d
SAT1d	Quality and completeness of recommendations provided at the completion of the Audit.	Number from 1 to 5	SAT1e
SAT1e	Information provided on how to find more information on saving energy.	Number from 1 to 5	SAT1f
SAT1f	Quality and completeness of information provided on how to participate in Energy Trust Programs.	Number from 1 to 5	MEF1

MEF1. How did you first learn about the **Home Energy Review** program? (DO NOT READ, ACCEPT MULTIPLE)

1	Participating in the Home Energy Saving Program	MEF2
2	Contractor/Trade ally	MEF2
3	Utility newsletter / Publication	MEF2
4	Utility bill insert	MEF2
5	Newspaper ad	MEF2
6	Word-of-mouth from friend	MEF2
7	Television, radio	MEF2
8	Magazine or trade journal	MEF2
9	Participation in previous years	MEF2
10	Manufacturer information/suggestion	MEF2
11	Salesperson/in the store	MEF2
12	Energy Trust website	MEF2
13	Utility website	
14	Customer Service Representative	
15	Trade Show/Event	MEF2
77	Other [SPECIFY]	MEF2
88	Refused	MEF2
99	Don't know	MEF2

MEF2. What was the primary reason that you requested a Home Energy Review? [Do Not Read]

1	Save Energy	MEF5
2	Improve comfort –House was too cold/too hot	MEF5
4	Peace of mind	MEF5
5	Get free CFLs	MEF5
6	Save money on energy bills	MEF5
7	Find out about available incentives	MEF5
77	Other [SPECIFY]	MEF5
88	Refused	MEF5
99	Don't know	MEF5

MEF5. As a result of the Home Energy Review, is the likelihood that you will install measures that qualify for a cash incentive under the Home Energy Savings program greater than, less than, or about the same as before?

1	Greater than before	SAT2
2	Less than before	SAT2
3	About the Same as before the review	SAT2
88	Refused	SAT2
99	Don't know	SAT2

ASK IF HES=1, ELSE SKIP TO EFF1

SAT2. We'd like to get a sense of your satisfaction with the **Home Energy Savings** program. Please use 1 to 5 scale, where 1 means EXTREMELY DISSATISFIED and 5 means EXTREMELY SATISFIED. How satisfied were you with the following:

SAT2a	Quality and completeness of information provided by the Energy Trust about energy savings opportunities?	Number from 1 to 5	SAT2b
SAT2c	Quality and completeness of information provided to you about financial incentives available from the Energy Trust?	Number from 1 to 5	SAT2d
SAT2d	Performance of the measures that you installed under this program?	Number from 1 to 5	SAT2e
SAT2e	Ease of applying for financial incentives from the Energy Trust?	Number from 1 to 5	SAT2f
SAT2f	Turnaround time in receiving your financial incentive?	Number from 1 to 5	PART1

PART1. How did you first learn about financial incentives available from the **Home Energy Savings** Program? [ACCEPT MULTIPLES][DO NOT READ]

1	Participating in the Home Energy Saving Program	CONF1
2	Contractor/Trade ally	CONF1
3	Utility newsletter	CONF1
4	Utility bill insert	CONF1
5	Newspaper ad	CONF1
6	Word-of-mouth from friend	CONF1
7	Television, radio	CONF1
8	Magazine or trade journal	CONF1
9	Participation in previous years	CONF1
10	Manufacturer information/suggestion	CONF1
11	Salesperson/in the store	CONF1
12	Energy Trust website	CONF1
13	Utility website	CONF1
14	Customer Service Representative	CONF1
15	Trade Show/Event	CONF1
77	Other [SPECIFY]	CONF1
88	Refused	CONF1
99	Don't know	CONF1

CONF1. How confident are you that the measures you installed through the program are saving energy? Would you say you are…

1	Very Confident the measures will save energy	EFF1
2	Somewhat Confident	EFF1
3	Not at all Confident	EFF1
88	Refused	EFF1
99	Don't know	EFF1

ASK IF KWH_SAVE=1, ELSE SKIP TO EFF3

EFF1. As a result of participating in the program, have you seen any savings on your monthly ELECTRIC bill?

1	Yes	EFF2
2	No	EFF3
88	Refused	EFF3
99	Don't know	EFF3

EFF2. Are the savings on your monthly ELECTRIC bill higher, lower or about the same as you expected?

1	Higher	EFF3
2	Lower	EFF3
3	Same	EFF3
77	Other [SPECIFY]	EFF3
88	Refused	EFF3
99	Don't Know	EFF3

ASK IF THERM_SAVE=1, ELSE SKIP TO A1

EFF3. As a result of participating in the program, have you seen any savings on your monthly GAS bill?

1	Yes	EFF4
2	No	A1
88	Refused	A1
99	Don't know	A1

EFF4. Are the savings on your monthly GAS bill higher, lower or about the same as you expected?

1	Higher	A1
2	Lower	A1
3	Same	A1
77	Other [SPECIFY]	A1
88	Refused	A1
99	Don't Know	A1

General EE Knowledge and Awareness

I'd like to ask you some questions about your knowledge of energy efficiency.

A1. Overall, how would you rate your knowledge of the ways you could save energy in your home ? On a scale of 1 to 5, with 1 meaning "you are not at all knowledgeable" and 5 meaning "you are extremely knowledgeable," how knowledgeable are you about ways to save energy in your home?

#	Rating from 1 to 5	A3
88	Refused	A3
99	Don't Know	A3

A3. My next question is about the benefits of energy efficient measures. I will name three benefits of energy efficient measures and I'd like you to rate each one on a 5 point scale where 1 means not at all important and 5 means extremely important…[RANDOMLY CHANGE ORDER OF BENEFITS READ]

1 – 5	Increased comfort in your home	PART5a
1 – 5	Improved air quality and similar health benefits	PART5a
1 – 5	Saving money on energy bills	PART5a
88	Refused	PART5a
99	Don't know	PART5a

PART5a. Are you aware that information is available online about Energy Trust programs?

1	Yes	PART6
2	No	PART6
88	Refused	PART6
99	Don't know	PART6

PART6. What energy saving measures are you aware of that the Energy Trust will provide financial incentives for?
[Do not read, Accept Multiples]

1	Ceiling/Attic Insulation	P8A
2	Floor Insulation	P8A
3	Wall Insulation	P8A
4	Windows	P8A
5	Water Heaters	P8A
6	Duct Insulation	P8A
7	Duct Sealing	P8A
8	Heat Pump Installation	P8A
9	Air Sealing	P8A
10	Gas Furnace	P8A
11	Direct Vent Gas Heater	P8A
77	Other [SPECIFY]	P8A
88	Refused	P8A
99	Don't know	P8A

END PROCESS SKIP.

P8A. Are you aware of Oregon tax credits available for the purchase and installation of certain energy saving measures?

1	Yes	P8B
2	No	INS3
88	Refused	INS3
99	Don't know	INS3

P8B. Where did you hear about the Oregon tax credits? [DO NOT READ, SELECT ALL THAT APPLY]

1	Energy Trust Website	INS3
2	Contractor	INS3
3	Utility	INS3
4	Newspaper or magazine	INS3
5	Retail sales representative	INS3
6	Manufacturer	INS3
7	Friend/family (word-of-mouth)	INS3
8	Oregon Department of Energy WEBSITE	INS3
88	Refused	INS3
99	Don't know	INS3

Insulation

ASK if INS=1, else skip to HEAT PUMP BATTERY
We'd like to ask some questions about the insulation you installed.
INS3. Did you hire a contractor to install your new Insulation?

1	Yes	INC4
2	No	PRT3
88	Refused	PRT3
99	Don't Know	PRT3

IF PROCESS = 0 THEN SKIP TO INC6
Ask if INS3=1, ELSE SKIP TO PRT3
INC4. Please rate your satisfaction with your insulation contractor on a 1-5 scale, where 1 means extremely DISSATISFIED and 5means extremely SATISFIED.

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	INC5
88	Refused	SAT2BI
99	Don't Know	SAT2BI

ASK If INC4 < 5, Else skip to INC6
INC5. Why do you say that?

77	Record Verbatim	SAT2BI
88	Refused	SAT2BI
99	Don't Know	SAT2BI

SAT2BI. On the same 1 to 5 scale, how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	INC6
88	Refused	INC6
99	Don't Know	INC6

End Skip

INC6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	INC7
2	No	INC9
88	Refused	INC9
99	Don't Know	INC9

IF PROCESS = 0 THEN SKIP INC7
INC7. How important was this list in selecting a contractor? Please give me a rating from 1 to 5, where 1 means NOT AT ALL important and 5 means EXREMELY important.

#	Rating from 1 (Not at all Important) to 5 (Extremely Important)	INC15
88	Refused	INC15
99	Don't Know	INC15

INC9. Did your contractor contact you first regarding installing insulation in your home?

1	Yes	INS13
2	No	INC15
88	Refused	INC15
99	Don't Know	INC15

INC13. Did your contractor inform you of the **Home Energy Savings** cash incentive program?

1	Yes	INC15
2	No	INC15
88	Refused	INC15
99	DK	INC15

INC15. How influential was your **contractor** in your decision to install insulation? Would you say your **contractor** was:

1	Very Influential	INC17
2	Somewhat influential	INC17
3	Not at all influential	INC17
99	DK/Refused	INC17

IF PROCESS = 0 THEN SKIP TO PRT3

INC17. Did the **contractor** that installed your insulation recommend other energy saving measures for your home?

1	Yes	INC17a
2	No	PRT3
88	Refused	PRT3
99	DK	PRT3

INC17a. What measures did the contractor recommend?

77	SPECIFY	PRT3
88	Refused	PRT3
99	DK	PRT3

END SKIP

END CONTRACTOR BATTERY

PRT3. What was the primary reason you installed Insulation?

1	To save energy	IN10
2	Available cash incentive	IN10
3	To improve comfort	IN10
4	To improve health	IN10
77	Other [SPECIFY]	IN10
88	Refused	IN10
99	Don't know	IN10

IN10. Did you become aware of the cash incentive **before or after** you decided to install insulation?

1	Before	IN15
2	After	IN15
3	Same time	IN15
88	Refused	IN15
99	Don't know	IN15

IN15. Which of the following THREE statements best describes the **actions you would have taken had the cash incentive NOT existed:**

1	We would not have installed insulation	IN30
2	We would have installed insulation anyway, but at a later date	IN25
3	We would have installed insulation anyway, and at the same time	IN20
88	Refused	IN20
99	Don't know	IN20

ASK IF IN15 = 2

IN25. If the cash incentive was not available, when would you have installed insulation?

1	Within a year	IN20
2	More than a year	IN25
88	Refused	IN20
99	Don't know	IN20

ASK IF IN25 = 2

IN25. How many years would you have waited before installing insulation if the cash incentive had not existed?

#	Number of Years	IN20
88	Refused	IN20
99	Don't know	IN20

ASK IF &NUM_INS GREATER THAN 1 AND IN15 NOT EQUAL 1

IN20. Our records indicate that you installed insulation in your [Ceiling, Ducts, Floor, Wall] If the program did not exist would you have installed insulation in all of these areas, or just some of these areas?

1	I would have installed insulation in ALL of these areas	IN30
2	I would have installed insulation in SOME of these areas	IN20A
88	Refused	IN30
99	Don't know	IN30

IF IN20=2 then read "If the program did not exist…" then go to IN20A

ASK IF &Ceil=1, Else skip to IN20B

IN20A. Would you have installed &Ceiling insulation?

1	Yes	IN20B
2	No	IN20B
88	Refused	IN20B
99	Don't know	IN20B

ASK IF &Duct=1, Else skip to IN20C

IN20B. Would you have installed Duct Insulation?

1	Yes	IN20C
2	No	IN20C
88	Refused	IN20C
99	Don't know	IN20C

ASK IF &FLOR=1, Else skip to IN20D

IN20C. Would you have installed Floor Insulation?

1	Yes	IN20D
2	No	IN20D
88	Refused	IN20D
99	Don't know	IN20D

ASK IF &WALL=1, Else skip to IN30

IN20D. Would you have installed Wall Insulation?

1	Yes	IN30
2	No	IN30
88	Refused	IN30
99	Don't know	IN30

IN30. We'd like to get a sense of what influenced you to purchase your insulation. How influential was the **cash incentive** in your decision to install insulation? Would you say the cash incentive was…

1	Very Influential	INTX
2	Somewhat influential	INTX
3	Not at all influential	INTX
99	DK/Refused	INTX

ASK IF PA8=1

INTX. Did you take advantage of the Oregon Tax Credit for the insulation you installed through the program?

1	Yes	INTXI
2	No	INTXA
99	DK/Refused	INH3

INTXa. Why not? [IF NECESSARY: Why didn't you take advantage of the Oregon Tax Credit for the insulation you installed?]

77	RECORD VERBATIM	INH3
99	DK/Refused	INH3

INTXI. How likely is it that you would have installed the same amount of insulation had you not received a Tax Credit from the State of Oregon? Would you say …

1	Very likely	INH3
2	Somewhat likely	INH3
3	Not at all likely	INH3
99	DK/Refused	INH3

Heat Pump

IF HP1=1 Ask INH3, Else skip to Gas Furnace Battery

We'd like to ask some questions about the Heat Pump that you installed through the Home Energy Savings cash incentive program.

INH3. Did a contractor install your new Heat Pump?

4	Yes	CH4
77	No	HP2
88	Refused	HP2
99	Don't Know	HP2

Ask if INH3=1, ELSE SKIP TO HP2
IF PROCESS = 0 THEN SKIP TO CH6

CH4. Please rate your satisfaction with your contractor on a 1-5 scale, where 5 means extremely SATISFIED and 1 means extremely DISSATISFIED.

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CH5
88	Refused	SAT2BH
99	Don't Know	SAT2BH

ASK If CH4 < 5, ELSE SKIP to SAT2BH
CH5. Why do you say that?

77	Record Verbatim	SAT2BH
88	Refused	SAT2BH
99	Don't Know	SAT2BH

SAT2BH. On the same 1 to 5 scale, how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CH6
88	Refused	CH6
99	Don't Know	CH6

End Skip

CH6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CH7
2	No	CHP9
88	Refused	CHP9
99	Don't Know	CHP9

IF PROCESS = 0 THEN SKIP CH7
CH7. How important was this list in selecting a contractor? Please give me a rating from 1 to 5, where 1 means NOT AT ALL important, and 5 means EXREMELY important.

#	Rating from 1 (Not at all Important) to 5 (Extremely Important)	HPC2
88	Refused	HPC2
99	Don't Know	HPC2

CHP9. Did your contractor contact you first regarding installing a new **heat pump** in your home?

1	Yes	HPC1
2	No	HPC2
88	Refused	HPC2
99	Don't Know	HPC2

HPC1. Did the contractor that installed your new Heat Pump tell you about the Home Energy Savings cash incentive program?

1	Yes	HPC2
2	No	HPC2
88	Refused	HPC2
99	Don't know	HPC2

HPC2. How influential was your contractor in your decision to purchase an energy efficient Heat Pump? Would you say your contractor was…

1	Very Influential	HPC17
2	Somewhat influential	HPC17
3	Not at all influential	HPC17
99	DK/Refused	HPC17

IF PROCESS = 0 THEN SKIP TO HP2

HPC17. Did the **contractor** that installed your heat pump recommend other energy saving measures for your home?

1	Yes	HPC17a
2	No	HP2
88	Refused	HP2
99	DK	HP2

HPC17a. What measures did the contractor recommend?

77	SPECIFY	HP2
88	Refused	HP2
99	DK	HP2

END SKIP

END CONTRACTOR BATTERY

HP2. Did the new Heat Pump that was installed through the program replace an old Heat Pump, an Electric Forced Air Furnace, or something else?

1	Heat Pump		HP3
2	Electric Forced Air Furnace		HP3
3	Other		HP2a
88	Refused		HP3
99	Don't Know		HP3

HP2a. What type of system was removed and replaced with the new Heat Pump?

1	Gas Furnace		HP3
2	Electric Furnace		HP3
4	Electric Strip Heat		HP3
5	Space Heating – Electric		HP3
6	Heat Pump		HP3
7	NO NE		HP3
77	Other (Specify)		HP3
88	Refused		HP3
99	Don't Know		HP3

HP3. How old was the system that was replaced when you installed the new heat pump?

#	Number of Years	HP4
88	Refused	HP3A
99	Don't Know	HP3A

HP3a. Was it…?

1	<5 years old		HP4
2	5 - 10 years old		HP4
3	10 – 15 years old		HP4
4	15 – 20 years old		HP4
5	>20 years old		HP4
88	Refused		HP4
99	Don't Know		HP4

HP4. Could your old system have been fixed, or was it beyond repair?

1	Could have been fixed		HP5
2	Was beyond repair		HP10
88	Refused		HP5
99	Don't Know		HP5

HP5. What was your main reason for installing a new Heat Pump?

1	Previous system really old	HP10
2	Previous system was broken/emergency replacement	HP10
3	Save energy	HP10
4	Remodeling home	HP10
5	Did not have air conditioner/heater before	HP10
6	Increased Comfort	HP10
77	Other [SPECIFY]:_____	HP10
88	Refused	HP10
99	Don't Know	HP10

HP10. Before you began shopping for a new Heat Pump, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Heat Pump?

1	Yes	HP20
2	No	HP20
88	Refused	HP20
99	Don't know	HP20

HP20. Did you become aware of the cash incentive before or after you made the decision to purchase a high efficiency heat pump?

1	Before	FA1
2	After	FA1
3	Same time	FA1
88	Refused	FA1
99	Don't know	FA1

ASK IF HP2=2

FA1. How influential was the program in your decision to convert from a forced air furnace to a heat pump? Please rate the program influence on a scale from 1 to 5 where 1 is not influential at all and 5 is extremely influential?

1 to 5	Rating from 1 to 5	FA1
88	Refused	FA1
99	Don't know	FA1

ASK IF HP2=2

FA3. How likely is it that you would have converted from a forced air furnace to a heat pump if the cash incentive did not exist? Would you say it is …

1	Extremely likely you would have converted in the absence of the program	HP30
2	Somewhat likely	HP30F
3	Not at all likely	HP30F
88	Refused	HP30F
99	Don't know	HP30F

ASK IF FA3 in (2,3,4, 88,99) ELSE SKIP to HP30

HP30F. Which of the following four statements best describes the **actions you would have taken had the cash incentive NOT existed:**

1	We would not have bought anything	HP45
2	We would have bought a new forced air furnace instead of a heat pump	HP45
3	We would have bought a standard efficiency Heat Pump	HP45
4	We would have bought an **energy efficient** Heat Pump	HP32
88	Refused	HP45
99	Don't know	HP45

HP30. Which of the following three statements best describes the **actions you would have taken had the cash incentive NOT existed:**

1	We would not have bought a Heat Pump	HP45
2	We would have bought a standard efficiency Heat Pump	HP45
3	We would have bought an **energy efficient** Heat Pump	HP32
88	Refused	HP45
99	Don't know	HP45

ASK IF HP30 = 3 or HP30F=4, ELSE SKIP to HP45

HP32. If the cash incentive had not existed, would you have bought the SAME Heat Pump that you purchased through the program, or would you have selected a Heat Pump that was less expensive and less efficient, although still an energy efficient unit?

1	We would bought the same Heat Pump as we did through the program	HP35
2	We would have bought a less expensive/less efficient unit	HP35
88	Refused	HP35
99	Don't know	HP35

HP35. If the cash incentive was not available, would you have bought the energy efficient Heat Pump…

1	At the same time	HP45
2	Within a year	HP45
3	More than a year later	HP40
88	Refused	HP45
99	Don't know	HP45

IF HP35 = 3

HP40. How many years would you have waited before buying an energy efficient Heat Pump if the cash incentive had not existed?

1	Number of Years	HP45
88	Refused	HP45
99	Don't know	HP45

HP45. We'd like to get a sense of what influenced you to purchase your heat pump. How influential was the **cash incentive** in your decision to purchase an energy efficient Heat Pump? Would you say the cash incentive was…

1	Very influential	HPTX
2	Somewhat influential	HPTX
3	Not at all influential	HPTX
99	DK/Refused	HPTX

ASK IF P8A=1

HPTX. Did you take advantage of the Oregon Tax Credit for the Heat Pump you installed?

1	Yes, Applied for Tax Credit	HPTXI
2	No, Did not Apply for Tax Credit	HPTXa
88	Refused	ECM1
99	Don't know	ECM1

HPTXa. Why not? (IF NECESSARY: Why didn't you take advantage of the Oregon Tax Credit for the heat pump you purchased?)

77	RECORD VERBATIM	ECM1
99	DK/Refused	ECM1

HPTXI. How likely is it that you would have purchased the same exact Heat Pump had you not received a Tax Credit from the State of Oregon? Would you say…

1	Very likely	ECM1
2	Somewhat likely	ECM1
3	Not at all likely	ECM1
99	DK/Refused	ECM1

Gas Furnace/Gas Furnace with ECM Blower

ASK ECM1 IF GF1=1, ELSE SKIP TO WINDOW BATTERY
We'd like to ask some questions about the Gas Furnace that you installed.

ECM1. Does your new Gas Furnace have an Electrically Commutated Motor, also known as an ECM Blower?

1	Yes	ING3
2	No	ING3
88	Refused	ING3
99	Don't Know	ING3

ING3. Did you hire a contractor to install your new Gas Furnace?

1	Yes	CG4
2	No	GF2
88	Refused	GF2
99	Don't Know	GF2

IF PROCESS = 0 THEN SKIP TO CG6
Ask if ING3=1, ELSE SKIP TO GF2
CG4. Please rate your satisfaction with your contractor on 1-5 scale, where 1 means extremely DISSATISFIED and 5 means extremely SATISFIED.

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CG5
88	Refused	SAT2BG
99	Don't Know	SAT2BG

ASK If CG4 < 5, ELSE SKIP TO CG6
CG5. Why do you say that?

77	Record Verbatim	SAT2BG
88	Refused	SAT2BG
99	Don't Know	SAT2BG

SAT2BG. On the same 1 to 5 scale, how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CG6
88	Refused	CG6
99	Don't Know	CG6

END SKIP

CG6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CG7
2	No	GG9
88	Refused	GG9
99	Don't Know	GG9

IF PROCESS = 0 THEN SKIP CG7

CG7. How important was this list in selecting a contractor? Please give me a rating from 1 to 5, where 5 means EXREMELY important, and 1 means NOT AT ALL important.

#	Rating from 1 (Not at all Important) to 5 (Extremely Important)	GFC2
88	Refused	GFC2
99	Don't Know	GFC2

CG9. Did your contractor contact you first regarding installing a Gas Furnace in your home?

1	Yes	GFC1
2	No	GFC2
88	Refused	GFC2
99	Don't Know	GFC2

GFC1. Did the contractor that installed your Gas Furnace inform you of the Home Energy Savings cash incentive program?

1	Yes	GFC2
2	No	GFC2
88	Refused	GFC2
99	Don't Know	GFC2

GFC2. How influential was your contractor in your decision to purchase an energy efficient Gas Furnace? Would you say your contractor was:

1	Very influential	GFC17
2	Somewhat influential	GFC17
3	Not at all influential	GFC17
99	DK/Refused	GFC17

IF PROCESS = 0 THEN SKIP TO GF2

GFC17. Did the **contractor** that installed your gas furnace recommend other energy saving measures for your home?

1	Yes	GFC17a
2	No	GF2
88	Refused	GF2
99	DK	GF2

GFC17a. What measures did the contractor recommend?

77	SPECIFY	GF2
88	Refused	GF2
99	DK	GF2

END SKIP

END CONTRACTOR BATTERY

GF2. Did the new Gas Furnace that was installed through the program replace an old gas furnace? (IF NEEDED: As opposed to another type of heating system such as electric forced air furnace or electric heat pump?)

1	Yes	GF3
2	No	GF2a
88	Refused	GF3
99	Don't Know	GF3

GF2a. What type of heating system was removed and replaced with the new Gas Furnace?

1	Gas Furnace	GF3
2	Electric forced air furnace	GF3
3	Electric Heat Pump	GF3
4	Electric Space Heater	GF3
5	None. Did not have heater before	GF3
77	Other [SPECIFY]:_____	GF3
88	Refused	GF3
99	Don't Know	GF3

GF3. How old was the system that was replaced by the new Gas Furnace?

#	Number of Years	GF5
88	Refused	GF3A
99	Don't Know	GF3A

GF3A. Was it…?

1	<5 years old		GF5
2	5 - 10 years old		GF5
3	10 - 15 years old		GF5
4	15 - 20 years old		GF5
5	>20 years old		GF5
88	Refused		GF5
99	Don't Know		GF5

GF5. Could your old heating system have been **fixed**, or was it **beyond repair**?

1	Could have been fixed		GF6.
2	Was beyond repair		GF09
88	Refused		GF6.
99	Don't Know		GF6

GF6. What was your **main reason** for installing your new Gas Furnace?

1	Previous system really old	GF09
2	Previous system was broken/emergency replacement	GF09
3	Save energy	GF09
4	Remodeling home	GF09
5	Did not have air conditioner/heater before	GF09
6	Increased Comfort	GF09
77	Other [SPECIFY]:_____	GF09
88	Refused	GF09
99	Don't Know	GF09

GF09. Before you began shopping for a new Gas Furnace, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Gas Furnace?

1	Yes, was aware of differences before shopping	GF10
2	No, was not aware of differences before shopping	GF10
88	Refused	GF10
99	Don't know	GF10

ASK IF GFE1=1 and ECM1=1

GF10. Before you began shopping for a new Gas Furnace, were you aware of the benefits of an ECM Blower?

1	Yes	GF20
2	No	GF20
88	Refused	GF20
99	Don't know	GF20

GF20. Did you become aware of the **cash incentive before** or **after** you decided to purchase an **energy efficient** Gas Furnace that qualified for the cash incentive?

1	Before	GF30
2	After	GF30
3	Same time	GF30
88	Refused	GF30
99	Don't know	GF30

ASK IF GFE1=1 and ECM1=1, ELSE SKIP TO G31

GF30. Which of the following four statements best describes the **actions you would have taken had the cash incentive NOT existed:**

1	We would not have bought a Gas Furnace	GF50
2	We would have bought a standard efficiency Gas Furnace	GF50
3	We would have bought an energy efficient Gas Furnace and ECM Blower anyway	GF32
4	We would have bought an energy efficient Gas Furnace, but would not have bought the ECM Blower	GF32
88	Refused	GF50
99	Don't know	GF50

ASK IF (GFE1 not equal to 1) OR (GFE1=1 and ECM1 not equal to 1)

GF31. Which of the following three statements best describes the **actions you would have taken had the cash incentive NOT existed:**

1	We would not have bought a Gas Furnace	GF50
2	We would have bought a standard efficiency Gas Furnace	GF50
3	We would have bought an **energy efficient** Gas Furnace anyway	GF32
88	Refused	GF50
99	Don't know	GF50

GF32. If the cash incentive had not existed, would you have bought the SAME Gas Furnace that you purchased through the program, or would you have selected a Gas Furnace that was less expensive and less efficient, although still an energy efficient unit?

1	We would have bought the SAME gas furnace	GF40
2	We would have bought a less expensive/less efficient unit	GF40
88	Refused	GF40
99	Don't know	GF40

ASK IF GF31 = 3 OR GF30 in (3,4)
GF40. If the cash incentive was not available, when would you have bought the energy efficient Gas Furnace:

1	At the same time	GF50
2	Within a year	GF50
3	More than a year	GF45
88	Refused	GF50
99	Don't know	GF50

ASK IF GF40 = 3
GF45. How many years would you have waited before buying an energy efficient Gas Furnace if **the cash incentive had not existed**?

1	Number of Years	GF50
88	Refused	GF50
99	Don't know	GF50

ASK ALL GAS FURNACE PARTS
GF50. We'd like to get a sense of what influenced you to purchase your Gas Furnace. How influential was the **cash incentive** in your decision to purchase an energy efficient Gas Furnace? Would you say the cash incentive was:

1	Very Influential	GFTX
2	Somewhat influential	GFTX
3	Not at all influential	GFTX
99	DK/Refused	GFTX

ASK IF P8A=1, Else skip to INW3
GFTX. Did you take advantage of the Oregon Tax Credit for the Gas Furnace you installed?

1	Yes, Applied for Tax Credit	GFTXI
2	No, Did not Apply for Tax Credit	GFTXa
88	Refused	INW3
99	Don't know	INW3

GFTXa. Why not? (IF NECESSARY: Why didn't you take advantage of the Oregon Tax Credit for the gas furnace you installed?

77	RECORD VERBATIM	INW3
99	DK/Refused	INW3

GFTXI. How likely is it that you would have purchased the same exact Gas Furnace had you not received a Tax Credit from the State of Oregon?

1	Very likely	INW3
2	Somewhat likely	INW3
3	Not at all likely	INW3
99	DK/Refused	INW3

Windows

ASK IF WIN1 = 1, ELSE SKIP TO EQUIPMENT CHANGES AND SPILLOVER BATTERY
We'd like to ask some questions about the windows you installed.

INW3. Did you hire a contractor to install your new windows?

1	Yes	CW4
2	No	Win5
88	Refused	Win5
99	Don't Know	Win5

IF PROCESS = 0 THEN SKIP TO CW6

Ask if INW3=1, ELSE SKIP TO WIN5

CW4. Please rate your satisfaction with your contractor on 1-5 scale, where 1 means extremely DISSATISFIED and 5 means extremely SATISFIED.

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CW5
88	Refused	SAT2BW
99	Don't Know	SAT2BW

ASK If SAT4 < 5, ELSE SKIP TO SAT2BW

CW5. Why do you say that?

77	Record Verbatim	SAT2BW
88	Refused	SAT2BW
99	Don't Know	SAT2BW

SAT2BW. On the same 1 to 5 scale, how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?

#	Rating from 1 (Extremely Dissatisfied) to 5 (Extremely Satisfied)	CW6
88	Refused	CW6
99	Don't Know	CW6

END SKIP

CW6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CW7
2	No	CW9
88	Refused	CW9
99	Don't Know	CW9

IF PROCESS = 0 THEN SKIP CW7

CW7. How important was this list in selecting a contractor? Please give me a rating from 1 to 5, where 1 means NOT AT ALL important, and 5 means EXTREMELY important.

#	Rating from 1 (Not at all Important) to 5(Extremely Important)	CW13
88	Refused	CW13
99	Don't Know	CW13

CW9. Did your contractor contact you first regarding installing **windows** in your home?

1	Yes	CW11
2	No	CW13
88	Refused	CW13
99	Don't Know	CW13

CW11. Did the contractor that installed your windows inform you of the Home Energy Savings cash incentive program?

1	Yes	CW13
2	No	CW13
88	Refused	CW13
99	Don't Know	CW13

CW13.How influential was your contractor in your decision to purchase program qualifying windows? Would you say your contractor was:

1	Very Influential	CW17
2	Somewhat influential	CW17
3	Not at all influential	CW17
99	DK/Refused	CW17

IF PROCESS = 0 THEN SKIP TO WIN 5

CW17. Did the contractor that installed your windows recommend other energy saving measures for your home?

1	Yes	CW17a
2	No	WIN5
88	Refused	WIN5
99	DK	WIN5

CW17a. What measures did the contractor recommend?

77	SPECIFY	WIN5
88	Refused	WIN5
99	DK	WIN5

END SKIP

END Window Contractor Battery

ASK ALL WINDOW PARTS

WIN5. Before purchasing energy efficient windows through the program, did you have single pane or dual pane windows?

1	Single pane	Win6
2	Dual pane	Win6
77	Other [SPECIFY]: _____	Win6
88	Refused	Win6
99	Don't Know	Win6

WIN6. Thinking about your new windows that were purchased through the program, how energy efficient are they relative to the old ones? Would you say your new windows are… (READ)

1	About as energy efficient as the old ones	Win7
2	Slightly more energy efficient than the old ones	Win7
3	Significantly more energy efficient than the old ones	Win7
4	The most energy efficient ones available	
77	Other [SPECIFY]: _____	Win7
88	Refused	Win7
99	Don't Know	Win7

WIN7. What was your main reason for replacing your windows?
[ACCEPT MULTIPLES]

1	Windows really old	WK1
2	Windows were broken/emergency replacement	WK1
3	Save energy	WK1
4	Remodeling home	WK1
5	Reduce noise	WK1
6	Moisture buildup in window	WK1
7	Better looking/Design	WK1
8	UV light blocking/Reduces fading	WK1
9	Less drafty/less heat gain in summer/Better sealing	WK1
10	Better quality	WK1
11	Increased Comfort	WK1
77	Other [SPECIFY]:_____	WK1
88	Refused	WK1
99	Don't Know	WK1

WK1. Are the windows you purchased through the program Energy Star?

1	Yes	WK3
2	No	WK3
88	Refused	WK3
99	DK	WK3

WK3. Are the windows you purchased through the program Argon Gas filled?

1	Yes	WK5
2	No	WK5
88	Refused	WK5
99	DK	WK5

WK5. Do the windows you purchased through the program have Low E glass?

1	Yes	WIN20
2	No	WIN20
88	Refused	WIN20
99	DK	WIN20

WIN20. Did you become aware of the cash incentive before or after you decided to purchase windows that qualified for the cash incentive?

1	Before	Win30
2	After	Win30
3	Same time	Win30
88	Refused	Win30
99	Don't know	Win30

WIN30. If the program did not exist, would you still have purchased new windows?

1	Yes	Win30a
2	No	Win45
88	Refused	Win45
99	Don't know	Win45

ASK IF WK1 = 1, ELSE SKIP TO WIN30b

WIN30a. If the program did not exist, would you have bought Energy Star Windows anyway?

1	Yes	Win30b
2	No	Win30b
88	Refused	Win30b
99	Don't know	Win30b

ASK IF WK3 = 1, ELSE SKIP TO WIN30c

WIN30b. If the program did not exist, would you have bought Argon Gas filled windows anyway?

1	Yes	Win30c
2	No	Win30c
88	Refused	Win30c
99	Don't know	Win30c

ASK IF WK5 = 1, ELSE SKIP TO WIN35

WIN30c. If the program did not exist would you have bought Low E Glass anyway?

2	Yes	Win33
3	No	Win33
88	Refused	Win33
99	Don't know	Win33

WIN33. Thinking about the efficiency of the old windows that were replaced through the program…if the program did not exist would you have bought windows that were…(READ)

1	About as energy efficient as the old ones	WIN35
2	Slightly more energy efficient than the old ones	WIN35
3	Significantly more energy efficient than the old ones	WIN35
4	The most energy efficient windows available	WIN35
77	Other [SPECIFY]: _____	WIN35
88	Refused	WIN35
99	Don't Know	WIN35

ASK IF WIN30 =1

WIN35. If the cash incentive was not available, when would you have bought new windows…(READ)

1	At the same time	Win45
2	Within a year	Win45
3	More than a year later	Win40
88	Refused	Win45
99	Don't know	Win45

ASK IF WIN35 = 3

WIN40. How many years would you have waited before buying new windows if the cash incentive had not existed?

1	Number of Years	Win45
88	Refused	Win45
99	Don't know	Win45

ASK ALL WINDOWS PARTS

WIN45. We'd like to get a sense of what influenced you to purchase your windows. How influential was the cash incentive in your decision to purchase Energy Star windows? Would you say the cash incentive was…

1	Very Influential	WTX
2	Somewhat influential	WTX
3	Not at all influential	WTX
99	DK/Refused	WTX

ASK IF P8A=1, Else skip to C1

WTX. Did you take advantage of the Oregon Tax Credit for the Windows that you installed?

1	Yes, Applied for Tax Credit	WTXI
2	No, Did not Apply for Tax Credit	WTXa
88	Refused	CFL3
99	Don't know	CFL3

WTXa. Why not? (IF NECESSARY: Why didn't you take advantage of the Oregon Tax Credit for the Windows you installed?

77	RECORD VERBATIM	CFL3
99	DK/Refused	CFL3

WTXI. How likely is it that you would have purchased program-qualifying energy-efficient windows had you not received a Tax Credit from the State of Oregon? Would you say…

1	Very likely	CFL3
2	Somewhat likely	CFL3
3	Not at all likely	CFL3
99	DK/Refused	CFL3

CFL

IF AUD1 = (1 or 2) then Ask CFL3, Else skip to Insulation Battery

We'd like to ask some questions about the CFL bulbs that were installed at the time of your Home Energy Review.

CFL3. Did the CFLs installed during the Home Energy Review replace incandescent bulbs or older CFLs? [ACCEPT MULTIPLE]

1	Incandescent		CFL4
2	CFLs		CFL4
77	Other, specify		CFL4
88	Refused		CFL4
99	Don't Know		CFL4

CFL4. Did the Home energy Review Auditor install all the bulbs that were provided by the program, or were some placed in storage?

1	Yes		CFL4a
2	No		CFL7
88	Refused		CFL7
99	Don't Know		CFL7

CFL4A. How many are in storage? (Ask for best guess if necessary)

#	Number		CFL7
88	Refused		CFL7
99	Don't Know		CFL7

CFL7. Did any of the CFL bulbs provided during the Energy Review burnout or stop working?

1	Yes		CFL7A
3	No		CFL9
88	Refused		CFL9
99	Don't Know		CFL9

CFL7A. How many burned out or stopped working? (Ask for best guess if necessary)

#	Number		CFL9
88	Refused		CFL9
99	Don't Know		CFL9

CFL9. Were any of the CFL bulbs provided during the Energy Review removed for other reasons? (IF NEEDED: reasons other than the bulb burned out or stopped working.)

1	Yes		CFL9A
3	No		CFL11
88	Refused		CFL11
99	Don't Know		CFL11

CFL9A. How many were removed?

#	Number		CFL9B
88	Refused		CFL9B
99	Don't Know		CFL9B

CFL9B. Why where these lamps removed?

1	Quality of light provided		CFL11
2	Aesthetics of lamp in fixture		CFL11
77	Other (SPECIFY)		CFL11
88	Refused		CFL11
99	Don't Know		CFL11

ASK IF CFL9=1 or CFL7=1, ELSE SKIP TO CFL13

CFL11. When the CFL bulbs that were installed during the Home Energy Review burned out or were removed, what type of bulbs did you replace them with? (SELECT ALL THAT APPLY)

1	Incandescent		CFL13
2	Compact Fluorescent (CFL)		CFL13
3	Other Fluorescent		CFL13
4	Halogen		CFL13
5	Other (Specify)		CFL13
88	Refused		CFL13
99	Don't Know		CFL13

CFL13. In the time since the Home Energy Review, have you purchased any *additional* CFLs for your home? (IF NEEDED: …CFL bulbs that were *not* installed during the Home Energy Review and were not replacing bulbs installed during the Home Energy Review.)

1	Yes		CFL13A
3	No		CFL15
88	Refused		CFL15
99	Don't Know		CFL15

CFL13A. How many additional CFLs did you purchase for your home?

#	Number		CFL13B
88	Refused		CFL13B
99	Don't Know		CFL13B

CFL13B. Did you use any discount coupons or receive a cash incentive when you purchased these additional CFLs for your home?

1	Yes		CFL13c
3	No		CFL13I
88	Refused		CFL13I
99	Don't Know		CFL13I

CFL13c. What company or organization provided these CFL coupons or cash incentives?

77	RECORD VERBATIM		CFL15
88	Refused		CFL15
99	Don't Know		CFL15

CFL13I. How influential was your experience with the CLFs that were installed during the Home Energy Review in your decision to purchase these additional CFL bulbs for your home? Would you say…

1	Very Influential	CFL15
2	Somewhat influential	CFL15
3	Not at all influential	CFL15
88	Refused	CFL15
99	Don't Know	CFL15

CFL15. Before your Home Energy Review had you ever purchased any CFLs for your home?

1	Yes	CFL20
2	No	CFL20
88	Refused	CFL20
99	Don't know	CFL20

CFL20. Before your Home Energy Review, did you have specific plans to install CFLs in your home?

1	Yes	CFL25
2	No	CFL25
88	Refused	CFL25
99	Don't know	CFL25

CFL25. If you had not received free CFLs during the Home Energy Review, which of the following three statements best describes the actions you would have taken:

1	We would not have installed CFLs in our home	C1
2	We would have installed fewer CFLs	CFL28
3	We would have installed the same number of CFL's	CFL30
88	Refused	C1
99	Don't know	C1

Ask if CFL25=2

CFL28. If you had not received free CFLs during the Home Energy Review, how many CFLs would you have purchased and installed on your own?

#	Number of CFL's bought in the absence of the program	CFL30
88	Refused	CFL30
99	Don't know	CFL30

IF CFL25 = 2 or 3

CFL30. If you had not participated in the Home Energy Review and received free CFL bulbs, when would you have bought CFLs:

1	At roughly the same time as the Home Energy Review	C1
2	Within a few months of the Home Energy Review	C1
3	Within a year of the Home Energy Review	C1
4	More than a year after the Home Energy Review	C1
88	Refused	C1
99	Don't know	C1

Equipment Changes and Spillover

Thank you for discussing the changes you made in your home through the &PROG Program. Now I would like to discuss other changes that you have made in your home that might have an effect on your energy use.

C1. **Other** than the equipment we've already discussed, have you **added any insulation or new windows** to your home since January 2003?

1	Yes	C1A
2	No	C1A
88	Refused	C1A
99	Don't know	C1A

C1A. **Other** than the equipment we've already discussed, have you installed any new heating, cooling or water heating equipment since January 2003?

1	Yes	C1B
2	No	C1B
88	Refused	C1B
99	Don't know	C1B

C1B. **Other** than the equipment we've already discussed, have you made any **major household appliance purchases, such as refrigerators, clothes washers or pool pumps?**

1	Yes	C2
2	No	C2
88	Refused	C2
99	Don't know	C2

If C1=1 then &EQUIP1="insulation or windows"
If C1A=1 then &EQUIP2="heating, cooling, or water heating"
If C1B=1 then &EQUIP3="major household appliances"

ASK if C1=1 or C1A=1 or C1B=1, ELSE SKIP TO CFLSP1

C2 You mentioned that you installed, [&EQUIP1, &EQUIP2, &EQUIP3]. What specific types of equipment did you install?

[PROMPT for "was there anything else?" after each purchase mentioned.]

1	Ceiling Insulation	SPT
2	Wall Insulation	SPT
3	Floor Insulation	SPT
4	Duct Insulation	
5	Windows	SPT
6	Refrigerator	SPT
7	Clothes washer	SPT
8	Clothes Dryer	SPT
9	Dishwasher	SPT
10	Room air conditioner	SPT
11	Central air conditioner	SPT
12	Heat Pump	SPT
13	Central Heating/ Gas Furnace	SPT
14	Central Heating/Electric	SPT
15	Electric Strip Heat	SPT
16	Water heater, gas	SPT
17	Water heater, electric	SPT
18	Evaporative cooler/swamp cooler	SPT
19	Whole house fan	SPT
77	OTHER (specify)	SPT
88	Refused	CFLSP1 **(if ONLY response)**
99	Don't know	CFLSP1 **(if ONLY response)**

For First 3 Mentions ASK SPT through SP6:

SPT. Approximately what month and year did you install &EQUIP1? (PROMPT FOR BEST GUESS)

a. (year)

1	2003	SPTb
2	2004	SPTb
3	2005	SPTb
88	Refused	SPTb
99	Don't know	SPTb

b. (month)

1	January	SP1
2	February	SP1
3	March	SP1
4	April	SP1
5	May	SP1
6	June	SP1
7	July	SP1
8	August	SP1
9	September	SP1
10	October	SP1
11	November	SP1
12	December	SP1
88	Refused	SPT2
99	Don't know	SPT2

SPT2. Can you recall the season?

1	Spring	SP1
2	Summer	SP1
3	Fall	SP1
4	Winter	SP1
88	Refused	SP1
99	Don't know	SP1

ASK IF C2 in (5 to 18), ELSE SKIP to SP3

SP1. Did this &EQUIP1 **replace** existing equipment, or was it an **addition** to the equipment used in your home?

1	Replaced existing equipment	ES1
2	An addition to existing equipment	ES1
99	DK/Refused	ES1

ASK IF EQUIP1 equal to 6,7, 8 or 9 in equipment list shown in C2, Else GO TO SP2

ES1. Was your new &EQUIP Energy Star?

1	Yes	SP3
2	No	SP3
88	Refused	SP2
99	Don't Know	SP2

ASK IF EQUIP1 equal to 10 - 18 in equipment list in C2, OR ES1 In (88, 99), ELSE GO TO WK1

SP2. Is the new &EQUIP1 high or standard efficiency?

1	High Efficiency	SP2a
2	Standard efficiency	SP2a
77	Other (Specify)	SP2a
88	Refused	HP2
99	Don't Know	HP2

SP2a. Why do you say that?

77	RECOD VERBATIM	HP2
88	Refused	HP2
99	Don't Know	HP2

ASK IF &EQUIP1=WINDOWS (5 in C2 list) ELSE SKIP TO HP2

WK1. Are the new windows you purchased Energy Star?

1	Yes	WK3
2	No	WK3
88	Refused	WK3
99	DK	WK3

WK3. Are the new windows you purchased Argon Gas filled?

1	Yes	WK5
2	No	WK5
88	Refused	WK5
99	DK	WK5

WK5. Do the new windows you purchased have Low E glass?

1	Yes	SP3
2	No	SP3
88	Refused	SP3
99	DK	SP3

ASK IF &EQUIP1=HEAT PUMP, ELSE SKIP TO SP3

HP2. Did the new Heat Pump replace an old Heat Pump, an Electric Forced Air Furnace, or something else?

1	Heat Pump		SP3
2	Electric Forced Air Furnace		SP3
3	Other		HP2a
88	Refused		SP3
99	Don't Know		SP3

HP2a. What type of system was removed and replaced with the new Heat Pump?

1	Gas Furnace		SP3
2	Electric Furnace		SP3
4	Electric Strip Heat		SP3
5	Space Heating – Electric		SP3
6	Heat Pump		SP3
7	NO NE		SP3
77	Other (Specify)		SP3
88	Refused		SP3
99	Don't Know		SP3

If HER=1 then ask SP3, Else skip to SP5

SP3. Did your Home Energy Review include a recommendation for installing a new &EQUIP1

1	Yes	SP4
2	No	SP4
99	DK/Refused	SP4

ASK IF HER=1

SP4. How influential was the Home Energy Review in your decision to purchase &EQUIP1?

1	Very Influential	CN1
2	Somewhat influential	CN1
3	Not at all influential	CN1
99	DK/Refused	CN1

ASK IF HES=1, ELSE SKIP TO CN1

SP5. How influential was your experience in the Home Energy Savings program or information provided through the program in your decision to install &EQUIP1?

1	Very Influential	CN1
2	Somewhat influential	CN1
3	Not at all influential	CN1
99	DK/Refused	CN1

ASK IF (&EQUIP1=HEAT PUMP) and (HP2=2)

CN1. How influential was your experience in the {PROGRAM} program or program materials on your decision to convert from a forced air furnace to a heat pump? Would you say…

1	Very Influential	SP6
2	Somewhat influential	SP6
3	Not at all influential	SP6
99	DK/Refused	SP6

SP6. Did you receive a cash incentive for &EQUIP1?

1	Yes0	CFLSP1
2	No	CFLSP1
88	Refused	CFLSP1
99	Don't Know	CFLSP1

IF HER=1 then SKIP to EQ1

CFLSP1. Since January 2003, have you installed any CFLs in your home?

1	Yes		CFLSP2
3	No		EQ1
88	Refused		EQ1
99	Don't Know		EQ1

CFLSP2. How many CFLs did you install?

#	Number		CFLSP5
88	Refused		CFLSP5
99	Don't Know		CFLSP5

CFLSP5. How influential was the Home Energy Savings program and information provided through the program in your decision to install these CFL's?

1	Very Influential	EQ1
2	Somewhat influential	EQ1
3	Not at all influential	EQ1
99	DK/Refused	EQ1

Home Appliance and Equipment Stock

Now I would like to discuss the equipment you have in your home…

IF HP1=1 then SKIP TO S30. IF GF1=1 or GFE1=1 then skip to EQ5

Eq1. Which of the following best describes your **primary heating system**? (READ)

1	Gas Furnace		EQ5
2	Electric Furnace		S30
3	Heat Pump		S30
4	Electric Strip Heat		S30
5	Space Heating – Electric		S30
6	NO NE		S30
77	Other (Specify)		S30
88	Refused		S30
99	Don't Know		S30

S30. Do you have natural gas service to your home?

1	Yes	Eq5
2	No	Eq11
88	Refused	Eq5
99	Don't Know	Eq5

Eq5. Do you have a **gas** or **electric** water heater?

2	Gas Water Heater		Eq7
3	Electric Water Heater		Eq7
88	Refused		Eq7
99	Don't Know		Eq7

Eq7. Do you have a **gas** or **electric** stove?

2	Gas Stove		Eq9
3	Electric Stove		Eq9
88	Refused		Eq9
99	Don't Know		Eq9

Eq9. Do you have a **gas** or **electric** clothes dryer?

1	Gas Clothes Dryer		Eq11
2	Electric Clothes Dryer		Eq11
3	No Clothes Dryer		Eq11
88	Refused		Eq11
99	Don't Know		Eq11

Ask IF HP1 ne 1, Else skip to DE1

Eq11. Does your home have air conditioning?

2	Yes		DE1
3	No		DE1
88	Refused		DE1
99	Don't Know		DE1

Home Characteristics and Demographics

Before we finish, I have just a few more questions about your household to make sure we're getting a representative sample of Oregon residents.

DE3 In what year was your home built?

#	Year		DE4
88	Refused		DE3A
99	Don't Know		DE3A

DE3A Was it built …. *[READ RANGE]*?

1	In the last 5 years (i.e., since 2000)		DE4
2	In the 1990's		DE4
3	In the 1980's		DE4
4	In the 1970's		DE4
5	In the 1960's		DE4
6	In the 1950's		DE4
7	In the 1940's		DE4
8	Before 1940		DE4
88	Refused		DE4
99	Don't Know		DE4

DE4 About how large is your home in terms of total square feet?

#	Square Feet		DE5
88	Refused		DE4A
99	Don't Know		DE4A

DE4A Is it …. *[READ RANGE]*?

1	Less than 500 square feet		DE5
2	Between 500 and 1000 square feet		DE5
3	Between 1000 and 1500 square feet		DE5
4	Between 1500 and 2000 square feet		DE5
5	Between 2000 and 2500 square feet		DE5
6	Between 2500 and 3000 square feet		DE5
7	More than 3,000 square feet		DE5
88	Refused		DE5
99	Don't Know		DE5

DE5 Did you do any **remodeling or renovation** or **additions** Since January 2003?

1	Yes		DE6
2	No		DE7
88	Refused		DE7
99	Don't Know		DE7

DE6 Has the **square footage** of your house **changed**?

1	Yes, it has increased		DE6A
2	Yes, it has decreased		DE6B
3	No Change		DET
88	Refused		DE7
99	Don't Know		DE7

DE6A. By how much did the square feet in your home **increase** as a result of the renovations? (PROMPT FOR BEST GUESS)

#	Square Foot Increase		DET
88	Refused		DET
99	Don't Know		DET

DE6B. By how much did the square feet in your home **decrease** as a result of the renovations? (PROMPT FOR BEST GUESS)

#	Square Foot Decrease		DET
88	Refused		DET
99	Don't Know		DET

DET. Approximately what **month and year** did you renovate your home? (PROMPT FOR BEST GUESS)

a. (year)

1	2003	DETb
2	2004	DETb
3	2005	DETb
88	Refused	DETb
99	Don't know	DETb

b. (month)

1	January	DE7
2	February	DE7
3	March	DE7
4	April	DE7
5	May	DE7
6	June	DE7
7	July	DE7
8	August	DE7
9	September	DE7
10	October	DE7
11	November	DE7
12	December	DE7
88	Refused	DET2
99	Don't know	DET2

DET2 Can you recall the season?

1	Spring	DE7
2	Summer	DE7
3	Fall	DE7
4	Winter	DE7
88	Refused	DE7
99	Don't know	DE7

DE7 **How many people** live in your home year-round?

#	Number of people		DE8
88	Refused		DE8
99	Don't Know		DE8

DE8 Did the **number of people** living year-round in your household **change** since January 2003?

1	Yes, the number of people increased (Specify by how many)		DEP
2	Yes, the number of people decreased (Specify by how many)		DEP
3	No Change		DE9
88	Refused		DE9
99	Don't Know		DE9

DEP. Approximately what **month** and **year** did the number of people in your home change? (PROMPT FOR BEST GUESS)

a. (year)

1	2003	DEPb
2	2004	DEPb
3	2005	DEPb
88	Refused	DEPb
99	Don't know	DEPb

b. (month)

1	January	DE9
2	February	DE9
3	March	DE9
4	April	DE9
5	May	DE9
6	June	DE9
7	July	DE9
8	August	DE9
9	September	DE9
10	October	DE9
11	November	DE9
12	December	DE9
88	Refused	DEP2
99	Don't know	DEP2

DEP2 Can you recall the **season**?

1	Spring	DE9
2	Summer	DE9
3	Fall	DE9
4	Winter	DE9
88	Refused	DE9
99	Don't know	DE9

Dynamic Substitution table for DE9

DE7 Response	**Low Annual Income**	**Near Low Annual Income**
1	$18,802	$25,069
2	$24,587	$32,783
3	$30,372	$40,496
4	$36,157	$48,209
5	$41,942	$55,923
6	$47,727	$63,636
7	$48,812	$65,082
8	$49,897	$66,529
9	$50,982	$67,976
10	$52,067	$69,422

ASK IF DE7 NOT IN (88, 99)

DE9 Which of the following best represents your annual household income in 2004, before taxes? Is it: *[READ, USE DYNAMIC SUBSTUTION DATA AND DE7 RESPONSE]*

1	Less than [Low Annual Income] per year		gender
2	[Low Annual Income] to [Near Low Annual Income]		gender
3	[Near Low Annual Income] or More		gender
88	Refused		gender
99	Don't Know		gender

Gender. RECORD RESPONDENT **GENDER**

1	Male		End
2	Female		End

END- Thank you for taking the time to complete this important survey! Have a great day/night!

APPENDIX B
NONPARTICIPANT SURVEY

ENERGY TRUST OF OREGON
SINGLE FAMILY RESIDENTIAL
NONPARTICIPANT SURVEY
RANDOM DIGIT DIAL, PROCESS, NET-TO-GROSS AND DISCRETE CHOICE

NEED 200 PROCESS = 1 COMPLETES
NEED 800 PROCESS = 0 COMPLETES

YELLOW HIGHLIGHT IS ONLY ASKED FOR PROCESS = 1

Participation and Measure Verification

Intro. Hello, this is <INTERVIEWER NAME> calling from Quantum Consulting on behalf of the Energy Trust of Oregon. This is not a sales call. Who would be the best person to talk to about decisions affecting your energy using equipment such as heating, cooling and lighting?

[IF NEEDED] The Energy Trust of Oregon would like to better understand how residential customers like you think about and manage their energy consumption. Your input is very important to the Energy Trust.

S15. Do you **own** your home or **rent?**

1	Own		S20
2	Rent		S20
88	Refused		S20
99	Don't Know		S20

S20. What **type of home** do you live in**?**

1	Single Family Detached		S25
2	Townhome, condominium		S25
3	Other (Multifamily, apartment, Mobile/Manufactured Home)		T&T
88	Refused		T&T
99	Don't Know		T&T

IF S15 = 2,88,99 OR S20 = 3,88,99 THEN T&T

S25. Have you lived at your current residence since **January 2004**?

1	Yes		S30
2	No		T&T
88	Refused		T&T
99	Don't Know		T&T

S30. Do you have natural gas service to your home?

1	Yes	S40
2	No	S50
88	Refused	S50
99	Don't Know	S50

S40. What is the name of your Gas Utility provider?

1	Northwest Natural Gas	S50
2	Other (SPECIFY)	S50
88	Refused	S50
99	Don't Know	S50

S50. What is the name of your Electric Utility provider?

1	PacifiCorp	PA1
2	PGE (Portland General Electric)	PA1
3	Other (SPECIFY)	PA1
88	Refused	PA1
99	Don't Know	PA1

IF S40 =1 OR S50= (1 or 2) CONTINUE, else T&T

Program Awareness

PA1. Have you heard of the Energy Trust of Oregon?

1	Yes	PA3
2	No	PA10
88	Refused	PA10
99	Don't Know	PA10

ASK IF PROCESS = 1

PA3. If YES, what have you heard? (do not read)

1	Offers energy efficiency programs for residential customers	PA5
2	Offers cash incentives available for installing energy efficient measures	PA5
3	Provides CFLs	PA5
4	Provides home energy analysis / assessment and recommendations	PA5
77	Other (SPECIFY)	PA5
88	Refused	PA5
99	Don't Know	PA5

ASK IF PROCESS = 1

PA5. Where did you first learn about the Energy Trust of Oregon?

1	Participating in the Home Energy Saving Program	T&T
2	Contractor/Trade ally	PA7
3	Utility newsletter	PA7
4	Utility bill insert	PA7
5	Newspaper ad	PA7
6	Word-of-mouth from friend	PA7
7	Television, radio	PA7
8	Magazine or trade journal	PA7
9	Manufacturer information/suggestion	PA7
10	Salesperson/in the store	PA7
11	Energy Trust website	PA7
12	Utility website	PA7
13	Customer Service Representative	PA7
14	Trade Show/Event	PA7
77	Other [SPECIFY]	PA7
88	Refused	PA7
99	Don't know	PA7

ASK IF PROCESS = 1

PA7. Are you aware of any specific programs or services offered by the Energy Trust of Oregon available for homeowners such as yourself?

1	Yes	PA9
2	No	PA10
88	Refused	PA10
99	Don't Know	PA10

ASK IF PROCESS = 1

PA9. What programs are you aware of? (do not read)

1	Home Energy Savings Program	S60
2	Home Energy Review program	PA10
3	Rebate/Cash Incentives programs	S60
4	Free CFL	PA10
5	SHOW Program (State Home Oil Weatherization Program)	PA10
6	Home Energy Analyzer	PA10
7	Special Financing available through contractors	PA10
8	Solar Hot Water	PA10
9	Solar electric	PA10
77	Other (SPECIFY)	PA10
88	Refused	PA10
99	Don't Know	PA10

IF PROCESS =1 then ASK IF PA9 not in (1,3)
IF PROCESS=0 then ALWAYS ASK

PA10. Have you heard of the H*ome Energy Savings* program offered by the Energy Trust of Oregon, which provides cash incentives for installing energy efficiency upgrades in your home?

1	Yes	S60
2	No	P8A
88	Refused	P8A
99	Don't Know	P8A

ASK IF PA9 in (1,3) or PA10=1

S60. Have you participated in the Energy Trust of Oregon's Home Energy Savings program since January 2003 ….

1	Yes	T&T
2	No	PA11
88	Refused	PA11
99	Don't Know	PA11

PA11. What measures are cash incentives available for?

1	Ceiling/Attic Insulation	PA13
2	Floor Insulation	PA13
3	Wall Insulation	PA13
4	Windows	PA13
5	Water Heaters	PA13
6	Duct Insulation	PA13
7	Duct Sealing	PA13
8	Heat Pump Installation	PA13
9	Air Sealing	PA13
10	Gas Furnace	PA13
11	Direct Vent Gas Heater	PA13
77	Other [SPECIFY]	PA13
88	Refused	PA13
99	Don't know	PA13

ASK IF PROCESS = 1

PA13. Do you know what the requirements are to be eligible for these cash incentives?

1	Yes	PART1
2	No – not aware	PART1
88	Refused	PART1
99	Don't Know	PART1

ASK IF PROCESS = 1

PART1. How did you first learn about financial incentives available from the **Home Energy Savings** Program? [ACCEPT MULTIPLES][DO NOT READ]

1	Participating in the Home Energy Review audit	T&T
2	Contractor/Trade ally	P8A
3	Utility newsletter	P8A
4	Utility bill insert	P8A
5	Newspaper ad	P8A
6	Word-of-mouth from friend	P8A
7	Television, radio	P8A
8	Magazine or trade journal	P8A
9	Manufacturer information/suggestion	P8A
10	Salesperson/in the store	P8A
11	Energy Trust website	P8A
12	Utility website	P8A
13	Customer Service Representative	P8A
14	Trade Show/Event	P8A
77	Other [SPECIFY]	P8A
88	Refused	P8A
99	Don't know	P8A

ASK ALL

P8A. Are you aware of Oregon tax credits available for the purchase and installation of certain energy saving measures?

1	Yes	P8C
2	No	PA15
88	Refused	PA15
99	Don't know	PA15

ASK IF PA8=1

P8C. Where did you hear about the Oregon tax credits? [DO NOT READ, SELECT ALL THAT APPLY]

1	Energy Trust Website	P8B
2	Contractor	P8B
3	Utility	P8B
4	Newspaper or magazine	P8B
5	Retail sales representative	P8B
6	Manufacturer	P8B
7	Friend/family (word-of-mouth)	P8B
8	Northwest Energy Efficiency Alliance (NEEA)	P8B
9	Office of Sustainable Development (OSD)	P8B
88	Refused	P8B
99	Don't know	P8B

ASK IF PROCESS = 1

P8B. What measures are tax credits available for?

1	Ceiling/Attic Insulation	P8C
2	Floor Insulation	P8C
3	Wall Insulation	P8C
4	Windows	P8C
5	Water Heaters	P8C
6	Duct Insulation	P8C
7	Duct Sealing	P8C
8	Heat Pump Installation	P8C
9	Air Sealing	P8C
10	Gas Furnace	P8C
11	Direct Vent Gas Heater	P8C
77	Other [SPECIFY]	P8C
88	Refused	P8C
99	Don't know	P8C

IF PA9 = 2, then skip to S70

PA15. Have you heard of the H*ome Energy Review* program, where an energy auditor comes to your home to identify potential energy saving investments and upgrades?

1	Yes	S70
2	No	PA16
88	Refused	PA16
99	Don't Know	PA16

ASK IF PA9=2 or PA15=1

S70. Have you participated in the Energy Trust of Oregon's Home Energy Review program since January 2003?….

1	Yes	T&T
2	No	PA16
88	Refused	PA16
99	Don't Know	PA16

ASK IF PROCESS = 1

PA16. How would you go about finding more information on the programs offered by the Energy Trust of Oregon for homeowners?

1	Call Utility	PART5a
2	Call Energy Trust of Oregon (ETO)	PART5a
3	Call a contractor	PART5a
4	Call a retailer	PART5a
5	Call a friend	PART5a
6	Utility Website	PART5a
7	Energy Trust Website	PART5a
8	Other Website/Internet Search	PART5a
77	Other (specify)	PART5a
88	Refused	PART5a
99	Don't know	PART5a

ASK IF PROCESS = 1

PART5a. Are you aware that information is available online about Energy Trust programs?

1	Yes	PA17
2	No	PA17
88	Refused	PA17
99	Don't know	PA17

IF PA1 = 1 or PA10 = 1 or PA15=1 THEN ASK

PA17. Have you ever called ETO information line to inquire about residential programs?

1	Yes	PA19
2	No	A1
88	Refused	A1
99	Don't know	A1

ASK IF PROCESS = 1

PA19. Using 1 to 5 scale, where 1 means EXTREMELY DISSATISFIED and 5 means EXTREMELY SATISFIED, how satisfied were you with the quality and completeness of information provided on how to participate in Energy Trust Programs

1 - 5	Rating	A1
88	Refused	A1
99	Don't know	A1

General EE Knowledge and Awareness

ASK IF PROCESS = 1

I'd like to ask you some questions about your knowledge of energy efficiency.

A1. Overall, how would you rate your knowledge of the ways you could save energy in your home ? On a scale of 1 to 5, with 1 meaning "you are not at all knowledgeable" and 5 meaning "you are extremely knowledgeable," how knowledgeable are you about ways to save energy in your home?

#	Rating from 1 to 5	ES1
88	Refused	ES1
99	Don't Know	ES1

ASK IF PROCESS = 1

ES1. Have you ever heard of Energy Star?

1	Yes	ES2
2	No	GE1
88	Refused	GE1
99	Don't Know	GE1

ASK IF PROCESS = 1

ES2. Is Energy Star a brand that would influence your buying decision?

1	Very Influential	
2	Somewhat Influential	
3	Not at all influential	
4	Yes	GE1
5	No	
88	Refused	GE1
99	Don't Know	GE1

ASK IF PROCESS = 1

GE1. Where would you go to seek information about energy efficiency?

1	Call Utility	GFC1
2	Call Energy Trust of Oregon (ETO)	GFC1
3	Call a contractor	GFC1
4	Call a retailer	GFC1
5	Call a friend	GFC1
6	Utility Website	GFC1
7	Energy Trust Website	GFC1
8	Other Website/Internet Search	GFC1
77	Other (specify)	GFC1
88	Refused	GFC1
99	Don't know	GFC1

Gas Furnace Adoption Battery

Next I'd like to discuss any other changes you may have made in your home over the past few years that could affect your home's energy consumption.

GSC1. Have you **purchased a new gas furnace for your home since** January 2004?

1	Yes	GSP2
2	No	WC1
88	Refused	WC1
99	Don't know	WC1

GSP2. Is the new gas furnace high or standard efficiency?

1	High Efficiency	GSP2a
2	Standard efficiency	GSP2a
77	Other (Specify)	GSP2a
88	Refused	GSP2b
99	Don't Know	GSP2b

GSP2a. Why do you say that?

77	RECOD VERBATIM	GSP2b
88	Refused	GSP2b
99	Don't Know	GSP2b

GSP2b. What is the energy efficiency rating of your new Gas Furnace?

77	Record Verbatim	GSP2c
88	Refused	GSP2c
99	Don't Know	GSP2c

Ask if GSP2 ne 2
GSP2c. Did you have to pay extra for your Gas Furnace to get a high efficiency unit?

1	Yes	GSP3
2	No	GSP3
88	Refused	GSP3
99	Don't Know	GSP3

If PA1=1 or PA10=1 or PA15=1 then ask
GSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient gas furnace? Would you say…

1	Very Influential	GF09
2	Somewhat influential	GF09
3	Not at all influential	GF09
99	DK/Refused	GF09

GF09. Before you began shopping for a new Gas Furnace, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Gas Furnace?

1	Yes, was aware of differences before shopping	ECM1
2	No, was not aware of differences before shopping	ECM1
88	Refused	ECM1
99	Don't know	ECM1

ECM1. Does your new Gas Furnace have an Electrically Commutated Motor, also known as an ECM Blower?

1	Yes	ECM3
2	No	GF3
88	Refused	GF3
99	Don't Know	GF3

ECM3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase a gas furnace with an ECM blower? Would you say…

1	Very Influential	GF10
2	Somewhat influential	GF10
3	Not at all influential	GF10
99	DK/Refused	GF10

ASK IF ECM1=1

GF10. Before you began shopping for a new Gas Furnace, were you aware of the benefits of an ECM Blower?

1	Yes	GF3
2	No	GF3
88	Refused	GF3
99	Don't know	GF3

GF3. How old was the system that was replaced by the new Gas Furnace?

#	Number of Years	GF2a
88	Refused	GF3a
99	Don't Know	GF3a

GF3A. Was it…?

1	<5 years old		GF2a
2	5 - 10 years old		GF2a
3	10 - 15 years old		GF2a
4	15 - 20 years old		GF2a
5	>20 years old		GF2a
88	Refused		GF2a
99	Don't Know		GF2a

GF2a. What type of heating system was removed and replaced with the new Gas Furnace?

1	Gas Furnace	GF5
2	Electric forced air furnace	GF5
3	Electric Heat Pump	GF5
4	Electric Space Heater	GF5
5	None. Did not have heater before	GF5
77	Other [SPECIFY]:_____	GF5
88	Refused	GF5
99	Don't Know	GF5

GF5. Could your old heating system have been **fixed**, or was it **beyond repair**?

1	Could have been fixed		GF6
2	Was beyond repair		ING3
88	Refused		GF6
99	Don't Know		GF6

GF6. What was your **main reason** for installing your new Gas Furnace?

1	Previous system really old	ING3
2	Previous system was broken/emergency replacement	ING3
3	Save energy	ING3
4	Remodeling home	ING3
5	Did not have air conditioner/heater before	ING3
6	Increased Comfort	ING3
77	Other [SPECIFY]:_____	ING3
88	Refused	ING3
99	Don't Know	ING3

ING3. Did you hire a contractor to install your new Gas Furnace?

1	Yes	CG6
2	No	GSP6
88	Refused	GSP6
99	Don't Know	GSP6

CG6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CG9
2	No	CG9
88	Refused	CG9
99	Don't Know	CG9

CG9. Did your contractor contact you first regarding installing a Gas Furnace in your home?

1	Yes	GFC1
2	No	GFC1
88	Refused	GFC1
99	Don't Know	GFC1

ASK IF PA10=1 or PA9 in (1,3)

GFC1. Did the contractor that installed your Gas Furnace inform you of the Home Energy Savings cash incentive program?

1	Yes	GFC2
2	No	GFC2
88	Refused	GFC2
99	Don't Know	GFC2

GFC2. How influential was your contractor in your decision to purchase an energy efficient Gas Furnace? Would you say your contractor was:

1	Very influential	GSP6
2	Somewhat influential	GSP6
3	Not at all influential	GSP6
99	DK/Refused	GSP6

GSP6. Did you receive a cash incentives for your new gas furnace?

1	Yes	GSP20
2	No	GFTX
88	Refused	GFTX
99	Don't Know	GFTX

GSP20. From which company, institution or program did you receive the cash incentives?

77	Verbatim	GFTX
88	Refused	GFTX
99	Don't Know	GFTX

ASK IF P8A=1, Else skip to WC1

GFTX. Did you take advantage of the Oregon Tax Credit for the Gas Furnace you installed? (IF respondent states they haven't paid taxes yet, "Do you plan to take advantage of the Oregon Tax Credit?)

1	Yes, Applied for Tax Credit (or plan to apply)	GFTXI
2	No, Did not Apply for Tax Credit (or don't plan to apply)	WC1
88	Refused	WC1
99	Don't know	WC1

GFTXI. How likely is it that you would have purchased the same exact Gas Furnace were you not eligible to receive a Tax Credit from the State of Oregon?

1	Very likely	WC1
2	Somewhat likely	WC1
3	Not at all likely	WC1
99	DK/Refused	WC1

Windows Adoption Battery

WC1. Have you **purchased and installed new windows for your home since** January 2004?

1	Yes	WK1
2	No	HC1
88	Refused	HC1
99	Don't know	HC1

WK1. Are the new windows you purchased Energy Star?

1	Yes	WK3
2	No	WK3
88	Refused	WK3
99	DK	WK3

WK3. Are the new windows you purchased Argon Gas filled?

1	Yes	WK5
2	No	WK5
88	Refused	WK5
99	DK	WK5

WK5. Do the new windows you purchased have Low E glass?

1	Yes	WSP3
2	No	WSP3
88	Refused	WSP3
99	DK	WSP3

ASK IF PA1=1 OR PA10=1=1 OR PA15=1

WSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to install energy efficient Windows? Would you say…

1	Very Influential	WIN5
2	Somewhat influential	WIN5
3	Not at all influential	WIN5
99	DK/Refused	WIN5

WIN5. Before purchasing new Windows, did you have primarily single pane or dual pane windows?

1	Single pane	WIN6
2	Dual pane	WIN6
77	Other [SPECIFY]: _____	WIN6
88	Refused	WIN6
99	Don't Know	WIN6

WIN6. Thinking about your new windows, how energy efficient are they relative to the old ones? Would you say your new windows are… (READ)

1	About as energy efficient as the old ones	WIN7
2	Slightly more energy efficient than the old ones	WIN7
3	Significantly more energy efficient than the old ones	WIN7
4	The most energy efficient ones available	WIN7
77	Other [SPECIFY]: _____	WIN7
88	Refused	WIN7
99	Don't Know	WIN7

WIN7. What was your main reason for installing new windows?
[ACCEPT MULTIPLES]

1	Windows really old	INW3
2	Windows were broken/emergency replacement	INW3
3	Save energy	INW3
4	Remodeling home	INW3
5	Reduce noise	INW3
6	Moisture buildup in window	INW3
7	Better looking/Design	INW3
8	UV light blocking/Reduces fading	INW3
9	Less drafty/less heat gain in summer/Better sealing	INW3
10	Better quality	INW3
11	Increased Comfort	INW3
77	Other [SPECIFY]:_____	INW3
88	Refused	INW3
99	Don't Know	INW3

INW3. Did you hire a contractor to install your new windows?

1	Yes	CW6
2	No	WSP6
88	Refused	WSP6
99	Don't Know	WSP6

CW6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CW9
2	No	CW9
88	Refused	CW9
99	Don't Know	CW9

CW9. Did your contractor contact you first regarding installing **windows** in your home?

1	Yes	CW11
2	No	CW11
88	Refused	CW11
99	Don't Know	CW11

ASK IF PA9 IN (1,3) OR PA10=1

CW11. Did the contractor that installed your windows inform you of the Home Energy Savings cash incentive program?

1	Yes	CW13
2	No	CW13
88	Refused	CW13
99	Don't Know	CW13

ASK If WK1=1

CW13.How influential was your contractor in your decision to purchase Energy Star windows? Would you say your contractor was:

1	Very Influential	WSP6
2	Somewhat influential	WSP6
3	Not at all influential	WSP6
99	DK/Refused	WSP6

WSP6. Did you receive a cash incentive for your new windows?

1	Yes	WSP20
2	No	WTX
88	Refused	WTX
99	Don't Know	WTX

WSP20. From which company, institution or program did you receive the cash incentives?

77	Verbatim	WTX
88	Refused	WTX
99	Don't Know	WTX

WTX. Did you take advantage of the Oregon Tax Credit for the Windows that you installed? (IF respondent states they haven't paid taxes yet, "Do you plan to take advantage of the Oregon Tax Credit?)

1	Yes, Applied for Tax Credit (or plan to apply)	WTXI
2	No, Did not Apply for Tax Credit (or don't plan to apply)	HC1
88	Refused	HC1
99	Don't know	HC1

WTXI. How likely is it that you would have purchased energy-efficient windows had you not been eligible to receive a Tax Credit from the State of Oregon? Would you say…

1	Very likely	HC1
2	Somewhat likely	HC1
3	Not at all likely	HC1
99	DK/Refused	HC1

Heat Pump Adoption Battery

HC1. Have you **purchased a new Heat Pump for your home since** January 2004?

1	Yes	HSP2
2	No	IC1
88	Refused	IC1
99	Don't know	IC1

HSP2. Is the new Heat Pump high or standard efficiency?

1	High Efficiency	HSP2A
2	Standard efficiency	HSP2A
77	Other (Specify)	HSP2A
88	Refused	HSP2B
99	Don't Know	HSP2B

HSP2a. Why do you say that?

77	RECOD VERBATIM	HSP2B
88	Refused	HSP2B
99	Don't Know	HSP2B

HSP2b. What is the energy efficiency rating of your new Heat Pump?

77	Record Verbatim	HSP2c
88	Refused	HSP2c
99	Don't Know	HSP2c

Ask if HSP2 ne 2
HSP2c. Did you have to pay extra for your Heat Pump to get a high efficiency unit?

1	Yes	HSP3
2	No	HSP3
88	Refused	HSP3
99	Don't Know	HSP3

If PA1=1 or PA10=1 or PA15=1 then ask
HSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient heat pump? Would you say…

1	Very Influential	HP2
2	Somewhat influential	HP2
3	Not at all influential	HP2
99	DK/Refused	HP2

HP2. Did the new Heat Pump replace an old Heat Pump, an Electric Forced Air Furnace, or something else?

1	Heat Pump		HP3
2	Electric Forced Air Furnace		HP3N
3	Other		HP2A
88	Refused		HP2A
99	Don't Know		HP2A

HP2a. What type of system was removed and replaced with the new Heat Pump?

1	Gas Furnace		HP3N
2	Electric Furnace		HP3N
4	Electric Strip Heat		HP3N
5	Space Heating – Electric		HP3N
6	Heat Pump		HP3N
7	NO NE		HP3N
77	Other (Specify)		HP3N
88	Refused		HP3N
99	Don't Know		HP3N

IF (PA1=1 or PA10=1 or PA15=1) and (HP2=2 OR HP2A=2)

HP3N. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to convert from a forced air furnace to a heat pump? Would you say…

1	Very Influential	HP3
2	Somewhat influential	HP3
3	Not at all influential	HP3
99	DK/Refused	HP3

If replaced system was not "NONE"

HP3. How old was the system that was replaced when you installed the new heat pump?

#	Number of Years	HP4
88	Refused	HP3A
99	Don't Know	HP3A

HP3a. Was it…?

1	<5 years old		HP4
2	5 - 10 years old		HP4
3	10 – 15 years old		HP4
4	15 – 20 years old		HP4
5	>20 years old		HP4
88	Refused		HP4
99	Don't Know		HP4

HP4. Could your old system have been fixed, or was it beyond repair?

1	Could have been fixed		HP5
2	Was beyond repair		HP10
88	Refused		HP5
99	Don't Know		HP5

HP5. What was your main reason for installing a new Heat Pump?

1	Previous system really old	HP10
2	Previous system was broken/emergency replacement	HP10
3	Save energy	HP10
4	Remodeling home	HP10
5	Did not have air conditioner/heater before	HP10
6	Increased Comfort	HP10
77	Other [SPECIFY]:_____	HP10
88	Refused	HP10
99	Don't Know	HP10

HP10. Before you began shopping for a new Heat Pump, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Heat Pump?

1	Yes	INH3
2	No	INH3
88	Refused	INH3
99	Don't know	INH3

INH3. Did a contractor install your new Heat Pump?

1	Yes	CH6
2	No	HSP6
88	Refused	HSP6
99	Don't Know	HSP6

CH6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	CHP9
2	No	CHP9
88	Refused	CHP9
99	Don't Know	CHP9

CHP9. Did your contractor contact you first regarding installing a new **heat pump** in your home?

1	Yes	HPC1
2	No	HPC1
88	Refused	HPC1
99	Don't Know	HPC1

ASK IF PA10=1 or PA9 in (1,3)

HPC1. Did the contractor that installed your new Heat Pump tell you about the Home Energy Savings cash incentive program?

1	Yes	HPC2
2	No	HPC2
88	Refused	HPC2
99	Don't know	HPC2

HPC2. How influential was your contractor in your decision to purchase an energy efficient Heat Pump? Would you say your contractor was…

1	Very Influential	HSP6
2	Somewhat influential	HSP6
3	Not at all influential	HSP6
99	DK/Refused	HSP6

HSP6. Did you receive a cash incentives for installing your new Heat Pump?

1	Yes	HSP20
2	No	HPTX
88	Refused	HPTX
99	Don't Know	HPTX

HSP20. From which company, institution or program did you receive the cash incentives?

77	Verbatim	HPTX
88	Refused	HPTX
99	Don't Know	HPTX

ASK IF P8A=1

HPTX. Did you take advantage of the Oregon Tax Credit for the Heat Pump you installed? ? (IF respondent states they haven't paid taxes yet, "Do you plan to take advantage of the Oregon Tax Credit?)

1	Yes, Applied for Tax Credit (or plan to apply)	HPTXI
2	No, Did not Apply for Tax Credit (or don't plan to apply)	IC1
88	Refused	IC1
99	Don't know	IC1

HPTXI. How likely is it that you would have purchased the same exact Heat Pump had you not been eligible to receive a Tax Credit from the State of Oregon? Would you say…

1	Very likely	IC1
2	Somewhat likely	IC1
3	Not at all likely	IC1
99	DK/Refused	IC1

Insulation

IC1. Have you **added any insulation** to your home since January 2004?

1	Yes	IT1
2	No	CIA
88	Refused	CIA
99	Don't know	CIA

IT1. Which of the following types of insulation did you install in your home… (READ and SELECT ALL THAT APPLY)

1	Ceiling Insulation	ISP3
2	Wall Insulation	ISP3
3	Floor Insulation	ISP3
4	Duct Insulation	ISP3
88	Refused	ISP3
99	Don't know	ISP3

If PA1=1 or PA10=1 or PA15=1 then ask

ISp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to install new insulation? Would you say…

1	Very Influential	PRT3
2	Somewhat influential	PRT3
3	Not at all influential	PRT3
99	DK/Refused	PRT3

PRT3. What was the primary reason you installed Insulation?

1	To save energy	INS3
2	Available cash incentive	INS3
3	To improve comfort	INS3
4	To improve health	INS3
77	Other [SPECIFY]	INS3
88	Refused	INS3
99	Don't know	INS3

INS3. Did you hire a contractor to install your new Insulation?

1	Yes	INC6
2	No	ISP6
88	Refused	ISP6
99	Don't Know	ISP6

INC6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?

1	Yes	INC9
2	No	INC9
88	Refused	INC9
99	Don't Know	INC9

INC9. Did your contractor contact you first regarding installing Insulation in your home?

1	Yes	INC13
2	No	INC13
88	Refused	INC13
99	Don't Know	INC13

ASK IF PA10=1 or PA9 in (1,3)

INC13. Did the contractor that installed your Insulation inform you of the Home Energy Savings cash incentive program?

1	Yes	INC15
2	No	INC15
88	Refused	INC15
99	Don't Know	INC15

INC15. How influential was your contractor in your decision to install Insulation? Would you say your contractor was:

1	Very influential	ISP6
2	Somewhat influential	ISP6
3	Not at all influential	ISP6
99	DK/Refused	ISP6

ISP6. Did you receive a cash incentive for your insulation?

1	Yes	ISP20
2	No	ITX
88	Refused	ITX
99	Don't Know	ITX

ISP20. From which company, institution or program did you receive the cash incentives?

77	Verbatim	ITX
88	Refused	ITX
99	Don't Know	ITX

ASK IF P8A=1

ITX. Did you take advantage of the Oregon Tax Credit for the Insulation you installed? (IF respondent states they haven't paid taxes yet, "Do you plan to take advantage of the Oregon Tax Credit?)

1	Yes, Applied for Tax Credit (or plan to)	ITXI
2	No, Did not Apply for Tax Credit (or don't plan to)	C1A
88	Refused	C1A
99	Don't know	C1A

ITXI. How likely is it that you would have installed Insulation had you not been eligible to receive a Tax Credit from the State of Oregon? Would you say…

1	Very likely	C1A
2	Somewhat likely	C1A
3	Not at all likely	C1A
88	Refused	C1A
99	Don't know	C1A

Other Equipment Changes and Spillover

Next I'd like to discuss any other changes you may have made in your home over the past few years that could affect your home's energy consumption.

C1A. Have you installed any **new heating, cooling** or **water heating** equipment since January 2004 that we have not already discussed?

1	Yes	C1B
2	No	C1B
88	Refused	C1B
99	Don't know	C1B

ASK if C1=1 or C1A=1, ELSE SKIP TO CFLSP1

C2. What specific types of new heating, cooling or water heating equipment did you install? [PROMPT for "was there anything else?" after each purchase mentioned.]

1	Room air conditioner	SP1
2	Central air conditioner (VERIFY NOT HEAT PUMP)	SP1
3	Central Heating/Electric	SP1
4	Electric Strip Heat	SP1
5	Water heater, gas	SP1
6	Water heater, electric	SP1
7	Evaporative cooler/swamp cooler	SP1
8	Whole house fan	SP1
77	OTHER (specify)	SP1
88	Refused	CFLSP1 **(if ONLY response)**
99	Don't know	CFLSP1 **(if ONLY response)**

For First 2 Mentions ASK SP1 through SP20:

ASK IF EQUIP1 –NE "WHOLE HOUSE FAN" in equipment list in C2, else Skip to SPILL3

SP2. Is the new &EQUIP1 high or standard efficiency?

1	High Efficiency	SP2a
2	Standard efficiency	SP2a
77	Other (Specify)	SP2a
88	Refused	SPILL3
99	Don't Know	SPILL3

SP2a. Why do you say that?

77	RECOD VERBATIM	SPILL3
88	Refused	SPILL3
99	Don't Know	SPILL3

If PA1=1 or PA10=1 or PA15=1 then ask

Spill3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient &EQUIP1? Would you say…

1	Very Influential	SP6
2	Somewhat influential	SP6
3	Not at all influential	SP6
99	DK/Refused	SP6

SP6. Did you receive a cash incentives for &EQUIP1?

1	Yes	SP20
2	No	CFLSP1
88	Refused	CFLSP1
99	Don't Know	CFLSP1

SP20. From which company, institution or program did you receive the cash incentives?

77	Verbatim	CFLSP1
88	Refused	CFLSP1
99	Don't Know	CFLSP1

END EQUIPMENT ADOPTION LOOP

CFL Adoption Battery

CFLSP1. Since January 2004, have you installed any CFLs in your home?

1	Yes		CFLSP2
3	No		EQ25
88	Refused		EQ25
99	Don't Know		EQ25

CFLSP2. How many CFLs did you install?

#	Number		CFLSP6
88	Refused		CFLSP6
99	Don't Know		CFLSP6

If PA1=1 or PA10=1 or PA15=1 then ask

Cflsp6. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on you decision to purchase CFLs? Would you say…

1	Very Influential	EQ25
2	Somewhat influential	EQ25
3	Not at all influential	EQ25
99	DK/Refused	EQ25

Home Appliance and Equipment Stock

ASK ALL

Now I would like to discuss the equipment you have in your home…

SKIP TO EQ3 IF INSTALLED
HEAT PUMP (HC1=1) or
GAS FURNACE (GFC1=1)
OR CENTRAL HEATING/ELECTRIC (C2=???)
OR STRIP HEAT (C2=???)
SKIP TO EQ1 IF S30=2

EQ25. Do you have gas heating or electric heating in your home?

1	Gas Heating		EQ3
2	Electric Heating		EQ1
77	Other (specify)		EQ1
88	Refused		EQ1
99	Don't Know		EQ1

Eq1. Which of the following best describes your **primary heating system**? (READ)

1	Electric Furnace		EQ3
2	Heat Pump		EQ3
3	Electric Strip Heat		EQ3
4	Space Heating – Electric		EQ3
5	NO NE		EQ3
77	Other (Specify)		EQ3
88	Refused		EQ3
99	Don't Know		EQ3

EQ3. How old is your current heating system?

#	Number of Years	EQ11
88	Refused	EQ3A
99	Don't Know	EQ3A

EQ3A. Is it…?

1	<5 years old		EQ11
2	5 - 10 years old		EQ11
3	10 - 15 years old		EQ11
4	15 - 20 years old		EQ11
5	>20 years old		EQ11
88	Refused		EQ11
99	Don't Know		EQ11

SKIP TO AC3 IF INSTALLED
HEAT PUMP (HC1=1)
OR CENTRAL AIR CONDITIONING (C2=???) or
OR ROOM AC (C2 = ??)
OR EVAPORATIVE COOLER (C2=??)
OR if EQ1 = 2

Eq11. Does your home have air conditioning?

1	Yes		AC1
2	No		DE3
88	Refused		DE3
99	Don't Know		DE3

AC1. What type of air conditioning system do you have?

1	Central Air Conditioning (Split or Packaged System- Verify NOT HEAT PUMP)		AC3
2	Heat Pump		AC3
3	Evaporative Cooler		AC3
4	Room Air Conditioner		AC3
88	Refused		AC3
99	Don't Know		AC3

AC3. How old is your current air conditioning system?

#	Number of Years	DE3
88	Refused	AC3A
99	Don't Know	AC3A

AC3A. Is it…?

1	<5 years old		DE3
2	5 - 10 years old		DE3
3	10 - 15 years old		DE3
4	15 - 20 years old		DE3
5	>20 years old		DE3
88	Refused		DE3
99	Don't Know		DE3

Home Characteristics and Demographics

Before we finish, I have just a few more questions about your household to make sure we're getting a representative sample of Oregon residents.

DE3 In what year was your home built?

#	Year		DE4
88	Refused		DE3A
99	Don't Know		DE3A

DE3A Was it built …. *[READ RANGE]*?

1	In the last 5 years (i.e., since 2000)		DE4
2	In the 1990's		DE4
3	In the 1980's		DE4
4	In the 1970's		DE4
5	In the 1960's		DE4
6	In the 1950's		DE4
7	In the 1940's		DE4
8	Before 1940		DE4
88	Refused		DE4
99	Don't Know		DE4

DE4 About how large is your home in terms of total square feet?

#	Square Feet		DE5
88	Refused		DE4A
99	Don't Know		DE4A

DE4A Is it …. *[READ RANGE]*?

1	Less than 500 square feet		DE5
2	Between 500 and 1000 square feet		DE5
3	Between 1000 and 1500 square feet		DE5
4	Between 1500 and 2000 square feet		DE5
5	Between 2000 and 2500 square feet		DE5
6	Between 2500 and 3000 square feet		DE5
7	More than 3,000 square feet		DE5
88	Refused		DE5
99	Don't Know		DE5

DE5 Have you done any **remodeling or renovation** or **additions** Since January 2004?

1	Yes		DE6
2	No		INP1
88	Refused		INP1
99	Don't Know		INP1

DE6 Has the **square footage** of your house **changed**?

1	Yes, it has increased		DE6A
2	Yes, it has decreased		DE6B
3	No Change		INP1
88	Refused		INP1
99	Don't Know		INP1

DE6A. By how much did the square feet in your home **increase** as a result of the renovations? (PROMPT FOR BEST GUESS)

#	Square Foot Increase		INP1
88	Refused		INP1
99	Don't Know		INP1

DE6B. By how much did the square feet in your home **decrease** as a result of the renovations? (PROMPT FOR BEST GUESS)

#	Square Foot Decrease		INP1
88	Refused		INP1
99	Don't Know		INP1

INP1. Which of the following types of insulation does your home have?… (READ, SELECT ALL THAT APPLY)

1	Ceiling Insulation	WNP1
2	Duct Insulation	WNP1
3	Wall Insulation	WNP1
4	Floor Insulation	WNP1
88	Refused	WNP1
99	Don't know	WNP1

WNP1. Are the windows in your home primarily single pane or dual pane?

1	Single pane	WNP2
2	Dual pane	WNP2
77	Other [SPECIFY]: _____	WNP2
88	Refused	WNP2
99	Don't Know	WNP2

WNP2. Thinking about all the windows in your home, would you say **most** of them are…

1	Less than 5 years old	DE7
2	Between 5 and 10 years old	DE7
3	Between 10 and 20 years old	DE7
4	More than 20 years old	DE7
88	Refused	DE7
99	Don't know	DE7

DE7 **How many people** live in your home year-round?

#	Number of people		DE8
88	Refused99		DE8
99	Don't Know		DE8

DE8 Did the **number of people** living year-round in your household **change** since January 2004?

1	Yes, the number of people increased (Specify by how many)		DE9
2	Yes, the number of people decreased (Specify by how many)		DE9
3	No Change		DE9
88	Refused		DE9
99	Don't Know		DE9

Dynamic Substitution table for DE9

DE7 Response	Low Annual Income	Near Low Annual Income
1	$18,802	$25,069
2	$24,587	$32,783
3	$30,372	$40,496
4	$36,157	$48,209
5	$41,942	$55,923
6	$47,727	$63,636
7	$48,812	$65,082
8	$49,897	$66,529
9	$50,982	$67,976
10	$52,067	$69,422

ASK IF DE7 NOT IN (88, 99)

DE9 Which of the following best represents your annual household income in 2004, before taxes? Is it: *[READ, USE DYNAMIC SUBSTUTION DATA AND DE7 RESPONSE]*

1	Less than [Low Annual Income] per year		gender
2	[Low Annual Income] to [Near Low Annual Income]		gender
3	[Near Low Annual Income] or More		gender
88	Refused		gender
99	Don't Know		gender

Gender. RECORD RESPONDENT **GENDER**

1	Male		End
2	Female		End

END- Thank you for taking the time to complete this important survey! Have a great day/night!

APPENDIX C
VENDOR SURVEY

ENERGY TRUST OF OREGON
HOME ENERGY SAVINGS PROGRAM
SINGLE FAMILY VENDOR SURVEY
WINDOWS, INSULATION, FURNACE and HEAT PUMP
Net-to-Gross Analysis Questions

S1. Hello, my name is _____ and I am calling from Quantum Consulting. May I speak with (READ CONTACT NAME)?

IF CONTACT IS NOT AVAILABLE, ASK FOR BEST TIME TO CALL BACK.

CALL BACK DATE/TIME: _____

IF NO CONTACT NAME PROVIDED, ASK TO SPEAK WITH PERSON WHO KNOWS THE MOST ABOUT THE COMPANY'S WORK INSTALLING INSULATION, WINDOWS, FURNACES AND, OR HEAT PUMPS THROUGH THE HOME ENERGY SAVINGS PROGRAM. (IF NEEDED: THE HOME ENERGY SAVINGS PROGRAM IS RUN BY THE ENERGY TRUST OF OREGON AND PROVIDES REBATES FOR INSTALLING ENERGY EFFICIENT MEASURES SUCH AS INSULATION, WINDOWS, FURNACES AND HEAT PUMPS.)

This study is being conducted on behalf of the Energy Trust of Oregon.

We are conducting a study on energy efficient equipment for residential homes and we'd like to interview you concerning your contracting experience with high efficiency equipment and energy conservation measures. We estimate the interview will take about ten minutes. All responses you provide will be confidential.

P5. Are you familiar with the Home Energy Savings Program run by the Energy Trust of Oregon, where customers can receive cash rebates for installing energy efficient measures in their homes?

1	Yes		P20
2	No		T&T
88	Refused		T&T
99	Don't Know		T&T

P20. Our records indicate that your company installed (Insulation, Efficient Windows, Heat Pumps, Gas Furnaces) for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?

1	Insulation		F1
2	Efficient Windows		F1
3	Gas Furnace		F1
4	Heat Pump		F1
88	Refused		F1
99	Don't Know		F1

IF P20 cannot verify any measures than T&T

FIRMOGRAPHICS AND BUSINESS PROFILE

Next, I'd like to ask a little about your company

F1. Within the residential sector, roughly what percent of your company's business is in single-family homes, multi-family buildings and manufactured homes? (PROMPT FOR BEST GUESSS NOTE: SHOULD ADD TO 100 PERCENT)

F1A	Percent Single Family Homes		F5
F1B	Percent Multi-Family Dwellings		F5
F1C	Percent Manufactured Homes		F5
88	Refused		F5
99	Don't Know		F5

F5. Within the residential sector, what percent of your company's business is in existing homes versus new construction? (NOTE: SHOULD ADD TO 100 PERCENT)

F5A	Percent Existing Homes		F10
F5B	Percent New Construction		F10
88	Refused		F10
99	Don't Know		F10

F10. Approximately how many employees work for your company at this location?

#	Number of Employees		F15
88	Refused		F15
99	Don't Know		F15

F15. How many years has your company been in business?

#	Number of Years		F20
88	Refused		F20
99	Don't Know		F20

F20. How would you describe your own position?

1	Proprietor/CEO	F25
2	Director of Sales	F25
3	Manager	F25
4	Contractor	F25
5	Engineer	F25
6	Designer	F25
77	Other (SPECIFY)	F25
88	Refused	F25
99	Don't Know	F25

F25. Which of the following best describes your company's 2004 annual revenue at this location…(READ)

1	Less than $200,000		M5
2	$200,000 to $1 million		M5
3	$1 - $5 million		M5
4	Over $5 million		M5
88	Refused		M5
99	Don't Know		M5

For the remainder of this survey we would like to discuss the work you have done over the past few years in existing single family homes.

MARKETING

M5. Are you on the Home Energy Savings List of Trade Ally Contractors with the Energy Trust of Oregon?

1	Yes		M7
2	No		M35
88	Refused		M35
99	Don't Know		M35

M7. In which year did you first become part of the Home Energy Savings Trade Ally network with the Energy Trust of Oregon?

1	2003	M10
2	2004	M10
3	2005	M10
77	Other (SPECIFY)	M10
88	Refused	M10
99	Don't know	M10

M10. Do you think being on this List of Trade Ally Contractors has increased your sales of energy efficient equipment to owners of existing single family homes?

1	Yes		M15
2	No		M11
88	Refused		M20
99	Don't Know		M20

ASK IF M10=2

M11. Has being on the List of Trade Ally Contractors decreased your sales of energy efficient equipment to owners of existing single-family homes?

1	Yes		M12
2	No		M20
88	Refused		M20
99	Don't Know		M20

ASK IF M11=1

M12. Why do think this is the case?

77	RECORD VERBATIM		M20
88	Refused		M20
99	Don't Know		M20

ASK IF M10=1

M15. By how much has being on this list increased your sales to owners of existing homes? Would you say it has increased your business…

1	Significantly		M20
2	Somewhat		M20
3	Marginally		M20
88	Refused		M20
99	Don't Know		M20

M20. Next, we'd like to talk to you about your customers that have received rebates through the Home Energy Savings program. I'm going to refer to them as "HES customers" in the following question sequences.

1	Continue		M30

ASK IF M5=1

M30. Which of the following best describes how many of your HES customers found your name on the List of Trade Ally Contractors? Would you say…

1	Most of your HES customers found you through the Trade Ally List	M35
2	Some of your HES customers,	M35
3	Or, only a few of your HES customers	M35
88	Refused	M35
99	Don't Know	M35

M35. Which of the following best describes how many of your HES customers were already aware of the HES rebate when they first began discussing their project with you? Would you say…

1	Most of your HES customers		M40
2	Some of your HES customers		M40
3	Only a few of your HES customers		M40
88	Refused		M40
99	Don't Know		M40

M40. Which of the following best describes how many of your HES **customers became aware of the HES program and rebate only after you informed them?**

1	Most of your HES customers		M45
2	Some of your HES customers		M45
3	Only a few of your HES customers		M45
88	Refused		M45
99	Don't Know		M45

As you most likely already know, the Oregon Department of Energy offers tax credits for many of the same energy saving measures that the Home Energy Savings program offers rebates for. For the next set of questions, please consider these tax credits, along with the cash rebates offered through the Home Energy Savings Program. For this next set of questions, and throughout this survey I will refer to these two components together as the "Oregon

Energy Efficiency Incentive Offers", or sometimes just "Incentive Offers."

M50. Does your company promote energy saving measures more often now than before the Incentive Offers were available?

1	Yes		M80
2	No		M80
88	Refused		M80
99	Don't Know		M80

M55. Does your company actively promote the Incentive Offers as part of its regular marketing activities?

1	Yes		M80
2	No		M80
88	Refused		M80
99	Don't Know		M80

M60. Has your company participated in the CO-OP marketing offered by the Energy Trust of Oregon, where the Energy Trust helps pay for marketing that promotes the Home Energy Savings Program?

1	Yes		M65
2	No		M80
88	Refused		M80
99	Don't Know		M80

ASK IF M60 = YES, ELSE SKIP TO M80

M65. How useful to your business was your company's participation in CO-OP marketing? Would you say…

1	Very Useful		M70
2	Somewhat Useful		M70
3	Marginally Useful		M70
4	Not At All Useful		M70
88	Refused		M75
99	Don't Know		M75

M70. Why do you say that?

77	RECORD VERBATIM		M75
88	Refused		M75
99	Don't Know		M75

M75. Do you plan on participating in CO-OP marketing opportunities again in the future?

1	Yes		M90
2	No		M75
88	Refused		M90
99	Don't Know		M90

ASK IF M75=NO, ELSE SKIP TO M90

M75a. Why not?

77	RECORD VERBATIM		M90
88	Refused		M90
99	Don't Know		M90

M80. Why has your company not chosen to participate in the CO-OP marketing offered by the Energy Trust?

77	RECORD VERBATIM		M85
88	Refused		M85
99	Don't Know		M85

M85. What could the Energy Trust change about the program that would lead your company to participate in the CO-OP marketing program?

77	RECORD VERBATIM		M90
88	Refused		M90
99	Don't Know		M90

ASK IF P20 NOT EQUAL TO 1 ONLY, ELSE SKIP TO M55

M90. How often do you mention the Oregon Energy Efficiency Incentive Offers to encourage customers considering program qualifying measures to select higher efficiency alternatives? Would you say…

1	Often		M95
2	Sometimes		M95
3	Rarely		M95
4	Never		M100
88	Refused		M100
99	Don't Know		M100

M95. How effective are the Incentive offers in encouraging customers to select higher efficiency alternatives? Would you say…

1	Very effective		M100
2	Somewhat effective		M100
3	Not at all effective		M100
88	Refused		M100
99	Don't Know		M100

M100. How often do you suggest or recommend to customers already making a program qualifying purchase that they install additional measures that qualify for Incentive Offers? Would you say…

1	Often		M105
2	Sometimes		M105
3	Rarely		M105
4	Never		M110
88	Refused		M110
99	Don't Know		M110

M105. How effective are the incentive offers in encouraging customers to install additional energy saving measures? Would you say…

1	Very effective		M110
2	Somewhat effective		M110
3	Not at all effective		M110
88	Refused		M110
99	Don't Know		M110

M110. Which program has a greater influence on customers' decisions regarding installations of energy saving measures? Would you say …

1	The Home Energy Savings Program		IN5
2	The Oregon Tax Credit		IN5
3	Both Programs are Equally Important		IN5
4	Neither are Important		IN5
88	Refused		IN5
99	Don't Know		IN5

INSULATION

ASK IF P20 =1, ELSE SKIP TO WN5

Now, I'd like to ask you a few questions about the insulation work you've done in existing single family homes.

IN5. Over the past year, what percent of your company's revenue at this location came from insulation jobs in existing single family homes?

%	Percent		IN10
88	Refused		IN10
99	Don't Know		IN10

IN10. Roughly how many insulation jobs did your company complete in existing single family homes over the past year?

#	Number		IN15
88	Refused		IN15
99	Don't Know		IN15

IN15. Approximately what percent of the jobs your company completed over the past year involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct

%	Percent		IN20
88	Refused		IN20
99	Don't Know		IN20

IN20. Our records show your company completed &NUMJOBS insulation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?

1	Yes		IN25
2	No		IN20a
88	Refused		IN20a
99	Don't Know		IN20a

IN20a. How many insulation jobs would you say your company completed over the past year that were rebated through the Home Energy Savings Program?

#	Number		IN30
88	Refused		IN30
99	Don't Know		IN30

IN30. Thinking back a few years, approximately how many insulation jobs did your company complete in existing single family homes during 2003?

#	Number		IN35
88	Refused		IN35
99	Don't Know		IN35

IN35. Approximately what percent of the jobs completed in 2003 involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct

%	Percent		IN40
88	Refused		IN40
99	Don't Know		IN40

IN40. How many insulation jobs do you expect to do in 2006 in existing single family homes?

#	Number		IN45
88	Refused		IN45
99	Don't Know		IN45

IN45. Roughly what percent of these 2006 jobs do you expect to be rebated through the Home Energy Savings program?

%	Percent		IN50
88	Refused		IN50
99	Don't Know		IN50

IN50. What percent of your year 2006 jobs do you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct?

%	Percent		IN55
88	Refused		IN55
99	Don't Know		IN55

IN55. If there were no Home Energy Savings program how many insulation jobs would you expect to do in 2006 in existing single family homes?

#	Number		IN60
88	Refused		IN60
99	Don't Know		IN60

IN60. What percent of these jobs would you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct

#	Number		IN65
88	Refused		IN65
99	Don't Know		IN65

These next questions are about the ways both customers and contractors may be responding to the Home Energy Savings program…

IN65. The Home Energy Savings program offers incentives for Efficient Windows if they are installed in conjunction with another program qualifying measure, such as insulation. Have

you received any referrals from other contractors to complete insulation jobs so that customers would be eligible for Efficient Windows rebates?

1	Yes		IN70
2	No		IN75
88	Refused		IN75
99	Don't Know		IN75

IN70. Roughly what percent of the insulation jobs you completed in existing single-family homes over the past year were a result of this type of referral?

%	Percent		IN75
88	Refused		IN75
99	Don't Know		IN75

IN75. Have you referred or recommended to any of your insulation customers that they consider installing other measures, such as windows, in conjunction with insulation to qualify for greater program rebates and save energy?

1	Yes		IN80
2	No		IN85
88	Refused		IN85
99	Don't Know		IN85

IN80. Roughly what percent of your insulation customers follow your recommendation and go on to install other measures and take advantage of additional program rebates?

%	Percent		IN85
88	Refused		IN85
99	Don't Know		IN85

IN85. Considering all aspects of the Home Energy Savings Program including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Home Energy Savings Program has been in increasing your company's insulation business in existing single family homes? Would you say…

1	Very Effective		IN90
2	Somewhat Effective		IN90
3	Not at all Effective		IN90
88	Refused		IN90
99	Don't Know		IN90

IN90 Thinking only about insulation customers that went on to receive a Home Energy Savings rebate, which of following best describes the degree of influence the Home Energy Savings program had on customers' decisions to install insulation? Would you say… (SINGLE CHOICE)

1	Most customers were Very Influenced by the program	IN95
2	Most were Somewhat Influenced	IN95
3	Most were Not At All Influenced	IN95
88	Refused	IN95
99	Don't Know	IN95

IN95. Again, for those customers that received a Home Energy Savings rebate—*if the rebate had not been available*, which of the following best describes what most of your company's customers would have installed…

1	Most would have installed the exact same Insulation Anyway	IN100
2	Most would have installed less insulation, or installed the same amount but in fewer areas	IN100
4	Most would have elected not to install insulation	IN100
88	Refused	IN100
99	Don't Know	IN100

IN100. For which of the following types of insulation has the Home Energy Savings program been most successful with respect to increasing your business in existing single family homes? (READ, SELECT ALL THAT APPLY)

1	Ceiling/Attic Insulation	IN105
2	Wall Insulation	IN105
3	Floor Insulation	IN105
4	Duct Insulation	IN105
5	None (Don't READ)	IN105
88	Refused	IN105
99	Don't Know	IN105

IN105. As you probably know, Duct Insulation qualifies for both a Home Energy Savings rebate and an Oregon Tax Credit, while Ceiling, Wall and Floor insulation qualify only for the Home Energy Savings rebate. Which program is more influential in customers' decision to install Duct Insulation, would you say…

1	The Home Energy Savings Rebate is more Influential than the Tax Credit	WN5
2	The Tax Credit is more Influential than the Home Energy Savings Rebate	WN5
3	Both programs are equally Influential	WN5
4	Neither program is Influential	WN5
88	Refused	WN5
99	Don't Know	WN5

WINDOWS

ASK IF P20 =2, ELSE SKIP TO GF5

Next I'd like to talk with you about your company's window installation work done in existing single family homes.

WN5. Over the past year, approximately what percent of your company's revenue at this location came from window installation jobs in existing single-family homes?

%	Percent		WN10
88	Refused		WN10
99	Don't Know		WN10

WN10. Roughly how many window installation jobs did your company complete in existing single-family homes over the past year?

#	Number		WN15
88	Refused		WN15
99	Don't Know		WN15

WN15. Our records indicate your company completed &NUMJOBS Window installation jobs over the past year that were rebated through the Home Energy Savings program, is that approximately correct?

1	Yes		WN20
2	No		WN15a
88	Refused		WN15a
99	Don't Know		WN15a

ASK IF WN15 in (2, 88, 99)
WN15a. Approximately how many window installation jobs did your company complete over the past year that were rebated through the Home Energy Savings program?

1	Yes		WN20
2	No		WN20
88	Refused		WN20
99	Don't Know		WN20

WN20. Thinking back to 2003, how many window installation jobs did your company complete during 2003?

#	Number		WN25
88	Refused		WN25
99	Don't Know		WN25

WN25. Thinking back to 2003, what percent of your company's window installations in existing single family homes had a U value of .35 or lower?

%	Percent		WN30
88	Refused		WN30
99	Don't Know		WN30

WN30. …and how many had a U-value of .32 or better?

%	Percent		WN35
88	Refused		WN35
99	Don't Know		WN35

WN35. Over the past year, approximately what percent of your company's window installations in existing single family homes had a U value of .35 or lower? (PROMPT FOR BEST GUESS)

%	Percent		WN40
88	Refused		WN40
99	Don't Know		WN40

WN40…and how many would you say had a U-Value of .32 or lower? (PROMPT FOR BEST GUESS)

%	Percent		WN45
88	Refused		WN45
99	Don't Know		WN45

WN45. Looking forward to 2006, about how many window installation jobs in existing single

family homes do you expect to complete in 2006?

%	Percent		WN50
88	Refused		WN50
99	Don't Know		WN50

WN50. Looking forward to 2006, about what percent of your company's window installations in existing single family homes do you expect will have a U value of .35 or lower?

%	Percent		WN55
88	Refused		WN55
99	Don't Know		WN55

WN55…and what percent would you guess will have a U-Value of .32 or lower?

%	Percent		WN60
88	Refused		WN60
99	Don't Know		WN60

WN60. Roughly what percent of your company's 2006 window installation jobs in existing single family homes do you expect to be rebated through the Home Energy Savings Program?

%	Percent		WN65
88	Refused		WN65
99	Don't Know		WN65

I'd like to note again that the term "Oregon Energy Efficiency Incentive Offers" or "Incentive Offers" refers to the Home Energy Savings program and the Oregon Tax Credits together.

WN55. If the Incentive Offers were discontinued today, how many window installation jobs in existing single family homes would you expect to complete in 2006?

%	Percent		WN70
88	Refused		WN70
99	Don't Know		WN70

WN70. If the Incentive Offers were discontinued today, about what percent of these 2006 window installation jobs do you expect would have a U value of .35 or lower?

%	Percent		WN75
88	Refused		WN75
99	Don't Know		WN75

WN75…If the Incentive Offers were discontinued, what percent of these 2006 jobs would you expect to have a U Value of .32 or lower?

%	Percent		WN80
88	Refused		WN80
99	Don't Know		WN80

WN80. Have you recommended to any of your windows customers that they consider installing other energy saving measure so that they could receive the Home Energy Savings Efficient Windows rebate and potentially other Incentive Offers?

1	Yes		WN85
2	No		WN95
88	Refused		WN95
99	Don't Know		WN95

WN85. How often do you make this recommendation? Would you say…

1	Often		WN90
2	Sometimes		WN90
3	Rarely		WN90
4	Never		WN90
88	Refused		WN90
99	Don't Know		WN90

WN90. Which measures do you typically recommend customers install in order to qualify for the Home Energy Savings Efficiency Window rebate?

1	Insulation		WN95
2	Water Heater		WN95
3	Gas Furnace		WN95
4	Heat Pump		WN95
77	Other (SPECIFY)		WN95
88	Refused		WN95
99	Don't Know		WN95

WN95. What percent of your rebated windows customers choose to install additional measures primarily to take advantage of the Incentive Offers?

%	Percent		WN100
88	Refused		WN100
99	Don't Know		WN100

WN100. Have you received referrals from other contractors to complete window installation jobs for customers already installing other measures that qualify for Incentive Offers, because they would be eligible for Efficient Windows rebates?

1	Yes		WN105
2	No		WN110
88	Refused		WN110
99	Don't Know		WN110

WN105. In general, approximately what percent of your rebated window installations result from this type of referral?

%	Percent		WN110
88	Refused		WN110
99	Don't Know		WN110

Next, I'd like to discuss stocking and inventory trends in the residential windows business…
WN110. Are residential windows with a U-value of .32 or lower difficult to find?

1	Yes		WN115
2	No		WN115
88	Refused		WN115
99	Don't Know		WN115

WN115. Are they more or less difficult to find now than a year ago?

1	They are more difficult to find		WN120
2	They are less difficult to find		WN120
3	No Change		WN125
88	Refused		WN125
99	Don't Know		WN125

WN120. To what do you attribute this change in availability?

77	RECORD VERBATIM		WN125
88	Refused		WN125
99	Don't Know		WN125

ASK IF WN110 =1

WN125. If windows with a U Value of .32 or lower were easy to get, what percent of your 2006 window sales would you expect to be windows with a U Value of .32 or lower?

%	Percent		WN130
88	Refused		WN130
99	Don't Know		WN130

WN130. Has the efficiency of windows you keep in stock changed notably over the past couple of years?

1	Yes		WN135
2	No		WN150
88	Refused		WN150
99	Don't Know		WN150

ASK IF WN105=1, ELSE SKIP TO WN125

WN135. Do you stock more or fewer windows with U values of .35 or lower compared to a couple years ago?

1	Stock more now		WN140
2	Stock less now		WN140
3	No Change		WN140
88	Refused		WN140
99	Don't Know		WN140

WN140. Do you stock more or fewer windows with U values of .32 or lower compared to a couple years ago?

1	Stock more now		WN145
2	Stock less now		WN145
3	No Change		WN145
88	Refused		WN145
99	Don't Know		WN145

ASK IF WN135 in (1,2) OR WN140 in (1,2)

WN145. How influential has the Home Energy Savings program been on these changes in the efficiency of the windows you are stocking? Would you say…

1	Very Influential		WN146
2	Somewhat Influential		WN146
4	Not at all Influential		WN146
88	Refused		WN146
99	Don't Know		WN146

WN146. How have the prices for windows with U-Values of .32 *or lower* changed over the past year? Would you say …

1	They have gone up by more than 10 percent		WN150
2	They have declined by more than 10 percent, or		WN150
3	They have not changed by 10 percent over the past year		WN150
88	Refused		WN150
99	Don't Know		WN150

The next few questions are about how customers perceive the Oregon Energy Efficiency Incentive Offers and how important the Incentive Offers are in their decision to install energy saving measures….

WN150. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Incentive Offers have been in increasing your company's sales of high efficiency windows? Would you say they have been…

1	Very Influential		WN155
2	Somewhat Influential		WN155
3	Not at all Influential		WN155
88	Refused		WN155
99	Don't Know		WN155

WN155. Which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install high efficiency windows? Would you say… (SINGLE CHOICE. IF NEEDED: 'High Efficiency' windows refers to windows with a U-Value of .35 or lower.)

1	Most customers were Very Influenced by the program		WN160
2	Most were Somewhat Influenced		WN160
3	Most were Not At All Influenced		WN160
88	Refused		WN160
99	Don't Know		WN160

WN160. For those customers that received Incentive Offers—*if the Incentive Offers had not been available*, which of the following best describes what most of those customers would have installed… (IF NEEDED: 'Standard Efficiency' windows refers to windows with a U-Value greater than .35.)

1	Most would have installed the exact same windows anyway	GF5
3	Most would have installed Standard Efficiency windows	GF5
4	Most would have elected not to install windows	GF5
88	Refused	GF5
99	Don't Know	GF5

GAS FURNACE

ASK IF P20 =3, ELSE SKIP TO HP5

Next, I'd like to discuss your company's residential gas furnace sales and installations in existing single family homes.

GF5. Over the past year, what percent of your company's revenue at this location came from gas furnace installations in existing single-family homes?

%	Percent		GF10
88	Refused		GF10
99	Don't Know		GF10

GF10. Approximately how many Gas Furnace installations in existing single-family homes did your company complete over the past year?

#	Number		GF15
88	Refused		GF15
99	Don't Know		GF15

GF15. Roughly what percent of your company's gas furnace installations in existing single family homes over the past year had an AFUE rating of .9 or higher?

%	Percent		GF20
88	Refused		GF20
99	Don't Know		GF20

GF20…and what percent would you say had an AFUE rating of .9 or higher *and* an Electrically Commutated Motor, or "ECM"?

%	Percent		GF25
88	Refused		GF25
99	Don't Know		GF25

GF25. Our records show your company completed &NUMJOBS gas furnace installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?

1	Yes		GF35
2	No		GF25a
88	Refused		GF25a
99	Don't Know		GF25a

GF25a. Approximately how many gas furnace installation jobs did your company complete over the past year that were rebated through the Home Energy Savings?

#	Number		GF35
88	Refused		GF35
99	Don't Know		GF35

GF35. Thinking back to 2003, approximately how many gas furnace installations in existing single family homes did your company install in 2003?

#	Number		GF40
88	Refused		GF40
99	Don't Know		GF40

GF40. Thinking back to 2003, roughly what percent of your company's gas furnace installations in existing single family homes had a an AFUE rating of .9 or higher?

%	Percent		GF45
88	Refused		GF45
99	Don't Know		GF45

GF45. …and what percent would you guess had an AFUE rating of .9 or higher *and* an ECM?

%	Percent		GF50
88	Refused		GF50
99	Don't Know		GF50

GF50. Looking forward to 2006, about how many gas furnace installations in existing single family homes do you expect to complete?

#	Number		GF55
88	Refused		GF55
99	Don't Know		GF55

GF55. In 2006, approximately what percent of your company's gas furnace installations in existing single family homes do you expect will have an AFUE rating of .9 or higher?

%	Percent		GF60
88	Refused		GF60
99	Don't Know		GF60

GF60. …and about what percent do you expect will have an AFUE rating of .9 or higher *and* an ECM?

%	Percent		GF61
88	Refused		GF61
99	Don't Know		GF61

As you may already know, Northwest Natural Gas Company offers an additional cash incentive to customers during the Spring and Fall of $300 toward a furnace with an AFUE of .9 or higher. For this next sequence of Gas Furnace questions, please consider the Home Energy Savings program, the Oregon Tax Credit and the Northwest Natural rebate ALL to be part of the "Oregon Energy Efficiency Incentive Programs" or sometimes, "Incentive Offers".

GF61. Roughly what percent of your 2006 gas furnace installations in existing single family homes do you expect will be rebated through the Incentive Offers.

%	Percent		GF65
88	Refused		GF65
99	Don't Know		GF65

GF65. If the Incentive Offers were discontinued today how many gas furnace installations in existing single family homes would you expect to make in 2006?

#	Number		GF70
88	Refused		GF70
99	Don't Know		GF70

GF70. If the Incentive Offers were discontinued today, what percent of these 2006 gas furnace installations would you expect to have an AFUE rating of .9 or higher?

%	Percent		GF75
88	Refused		GF75
99	Don't Know		GF75

GF75. …and, if the Incentive Offers were discontinued, what percent of these 2006 gas furnace installations would you expect to have an AFUE of .9 or higher *and* an ECM?

%	Percent		GF80
88	Refused		GF80
99	Don't Know		GF80

GF80. Have you referred or recommended to any of your gas furnace customers that they install other measures qualifying for Incentive Offers in order to take advantage of additional rebates and save energy?

1	Yes		GF85
2	No		GF86
88	Refused		GF86
99	Don't Know		GF86

GF85. How often do customers go ahead and install additional measure to take advantage of greater Incentive Offers? Would you say…

1	Often		GF86
2	Sometimes		GF86
3	Rarely		GF86
4	Never		GF86
88	Refused		GF86
99	Don't Know		GF86

These next questions are about trends in the industry and in your company's stocking practices and inventory…

GF86. How have the prices for gas furnaces with an AFUE rating of *.90 or higher* changed over the past year? Would you say …

1	They have gone up by more than 10 percent		GF87
2	They have declined by more than 10 percent, or		GF87
3	They have not changed by 10 percent over the past year		GF87
88	Refused		GF87
99	Don't Know		GF87

GF87. Are gas furnaces with an AFUE rating of .95 or higher difficult to find?

1	Yes		GF88
2	No		GF90
88	Refused		GF90

99	Don't Know		GF90

ASK IF GF87 =1, ELSE SKIP TO GF90
GF88. How do you foresee the availability of gas furnaces with an AFUE of .95 or higher changing over the next couple years? Would you say…

1	There will probably become much easier to find		GF90
2	There will become harder to find		GF90
3	There will be little or no change in availability		GF90
88	Refused		GF90
99	Don't Know		GF90

GF90. Has the typical AFUE rating of the gas furnaces you keep in stock changed notably over the past couple of years?

1	Yes		GF95
2	No		GF115
88	Refused		GF115
99	Don't Know		GF115

ASK IF GF90 =1, ELSE SKIP TO GF115
GF95. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher?

1	More units with AFUE of .9 or higher		GF100
2	Fewer units with AFUE of .9 or higher		GF100
3	No change		GF100
88	Refused		GF100
99	Don't Know		GF100

GF100. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher *and* an ECM?

1	More units with AFUE of .9 or higher and an ECM		GF105
2	Fewer units with AFUE of .9 or higher		GF105
3	No change		GF105
88	Refused		GF105
99	Don't Know		GF105

ASK IF GF95 in (1,2) OR GF100 in (1,2)
GF105. How influential have the Incentive Offers been on this change in the efficiency of the furnaces you are stocking? Would you say…

1	Very Influential		GF110
2	Somewhat Influential		GF110
3	Not at all Influential		GF115
88	Refused		GF115
99	Don't Know		GF115

ASK IF GF105 is not in (4, 88, 99)
GF110. Which of the three Incentive Offers had the most influence on these changes in your company's stocking practices? Would you say…

1	The Home Energy Savings program		GF115
2	The Oregon Tax Credit		GF115
3	The Northwest Natural cash incentive, or		GF115
4	All three have been equally influential		GF115
5	None are influential (DO NOT READ)		GF115
88	Refused		GF115
99	Don't Know		GF115

The next few questions are about how customers perceive the Oregon Energy Efficiency Incentive Offers and how the Offers might affect customers' gas furnace selections…

GF115. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think these incentive offers have been in increasing sales of gas furnaces with AFUE of .90 or greater? Would you say…

1	Very Influential		GF120
2	Somewhat Influential		GF120
3	Not at all Influential		GF120
88	Refused		GF120
99	Don't Know		GF120

GF120. Consider customers that received Incentive Offers, which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install gas furnaces with AFUE of .90 or greater? Would you say… (SINGLE CHOICE)

1	Most customers were Very Influenced by the Incentive Offers	GF125
2	Most were Somewhat Influenced	GF125
3	Most were Not At All Influenced	GF125
88	Refused	GF125
99	Don't Know	GF125

GF125. Again, for those customers that received Incentive Offers—*if the Incentive Offers had not been available,,* which of the following best describes what most of your company's customers would have installed…

1	Most would have selected the exact same gas furnace	GF130
2	Most would have selected a furnace with a marginally lower AFUE rating	GF130
3	Most would have selected a Standard Efficiency gas furnace	GF130
4	Most would have elected not to install a gas furnace at all	GF130
88	Refused	GF130
99	Don't Know	GF130

GF130. Which of the three Incentive Offers has the most influence on a customer's decision to purchase a gas furnace with an AFUE of .90 or greater? Would you say…

1	The Home Energy Savings program		HP5
2	The Tax Credit		HP5
	The Northwest Natural cash incentive, or		HP5
3	All three are equally influential		HP5
4	None are influential (DO NOT READ)		HP5
88	Refused		HP5
99	Don't Know		HP5

HEAT PUMP

ASK IF P20 =4, ELSE SKIP TO O10

Next, I'd like to discuss your company's residential Heat Pump installation work done in existing single family homes.

HP5. Over the past year, what percent of your company's revenue at this location came from heat pump installations in existing single-family homes?

%	Percent		HP10
88	Refused		HP10
99	Don't Know		HP10

HP10. Approximately how many Heat Pump installations in existing single-family homes did your company complete over the past year?

#	Number		HP15
88	Refused		HP15
99	Don't Know		HP15

HP15. Approximately what percent of these heat pump installations were conversions from forced air furnace to heat pump?

%	Percent		HP20
88	Refused		HP20
99	Don't Know		HP20

HP20. And approximately what percent of your company's heat pump installations in existing single family homes over the past year had a Heating Season Performance Factor (HSPF) of 8.5 or higher?

%	Percent		HP21
88	Refused		HP21
99	Don't Know		HP21

HP21…and what percent would you say had a HSPF of 8.1 or higher?

%	Percent		HP25
88	Refused		HP25
99	Don't Know		HP25

HP25. Our records show your company completed &NUMJOBS heat pump installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?

1	Yes		HP30
2	No		HP25a
88	Refused		HP25a
99	Don't Know		HP25a

HP25a. Approximately how many heat pump installation jobs did your company complete over the past year that were rebated through the Home Energy Savings ?

#	Number		HP30
88	Refused		HP30
99	Don't Know		HP30

HP30. Thinking back to 2003, approximately how many Heat Pump installations in existing single-family homes did your company complete during 2003?

#	Number		HP35
88	Refused		HP35
99	Don't Know		HP35

HP35. Roughly what percent of these heat pump installations in year 2003 were conversions from forced air furnace to heat pump?

%	Percent		HP40
88	Refused		HP40
99	Don't Know		HP40

HP40. And about what percent of the year 2003 heat pump installations had a Heating Season Performance Factor (HSPF) of 8.5 or higher?

%	Percent		HP41
88	Refused		HP41
99	Don't Know		HP41

HP41…and about what percent would you say had a HSPF of 8.1 or higher?

%	Percent		HP45
88	Refused		HP45
99	Don't Know		HP45

HP45. Looking forward to 2006, approximately how many Heat Pump installations in existing single-family homes do you expect to complete?

#	Number		HP50
88	Refused		HP50
99	Don't Know		HP50

HP50. And, if you had to guess, roughly what percent of these 2006 heat pump installations do you expect to be conversions from forced air furnace to heat pump?

%	Percent		HP55
88	Refused		HP55

99	Don't Know		HP55

HP55. And approximately what percent of your expected 2006 heat pump installations do you guess will have a Heating Season Performance Factor (HSPF) of 8.5 or higher?

%	Percent		HP56
88	Refused		HP56
99	Don't Know		HP56

HP56. …and what percent would you guess will have a HSPF of 8.1 or higher?

%	Percent		HP60
88	Refused		HP60
99	Don't Know		HP60

I'd like to note again that the term "Oregon Energy Efficiency Incentive Offers" or "Incentive Offers" refers to the Home Energy Savings program and the Oregon Tax Credits together.

HP60. About what percent of these 2006 heat pump installations to you expect will be rebated through the Incentive Offers?

%	Percent		HP65
88	Refused		HP65
99	Don't Know		HP65

HP65. If the Incentive Offers were discontinued today, about how many heat pump installations in existing single family homes would you expect to complete in 2006?

#	Number		HP70
88	Refused		HP70
99	Don't Know		HP70

HP70. If the Incentive Offers were discontinued what percent of your 2006 heat pump installations would you expect would have an HSPF of 8.5 or higher?

%	Percent		HP71
88	Refused		HP71
99	Don't Know		HP71

HP71. …and roughly what percent would you expect to have an HSPF of 8.1 or higher?

%	Percent		HP75
88	Refused		HP75
99	Don't Know		HP75

HP75. And, if the Incentive Offers were discontinued, roughly what percent of your 2006 heat pump installations would you expect to be conversions from forced air furnace to heat pump?

%	Percent		HP80
88	Refused		HP80
99	Don't Know		HP80

This next set of questions is about trends in your company's stocking practices and

inventory…

HP80. Has the number of heat pumps you keep in stock changed notably over the past couple of years?

1	Yes		HP85
2	No		HP105
88	Refused		HP105
99	Don't Know		HP105

ASK IF HP80=1, ELSE SKIP TO HP105
HP85. Are you stocking more or fewer heat pumps relative to a couple years ago?

1	Stocking More Heat Pumps		HP90
2	Stocking Fewer Heat Pumps		HP90
88	Refused		HP90
99	Don't Know		HP90

HP90. Has the typical HSPF rating of the heat pumps you keep in stock changed notably over the past couple of years?

1	Yes		HP95
2	No		HP95
88	Refused		HP95

HP95. Do you stock more or fewer units with an HSPF of 8.5 or higher compared to a couple years ago?

1	Stocking More Heat Pumps with HSPF over 8.5		HP100
2	Stocking Fewer Heat Pumps with HSPF over 8.5		HP100
88	Refused		HP100
99	Don't Know		HP100

HP100. How influential have the Incentive Offers been on these change in your company's heat pump stocking practices? Would you say…

1	Very Influential		HP101
2	Somewhat Influential		HP101
3	Not at all Influential		HP101
88	Refused		HP101
99	Don't Know		HP101

HP101. How have the prices for heat pumps with an HSPF rating of 8.5 *or higher* changed over the past year? Would you say …

1	They have gone up by more than 10 percent		HP105
2	They have declined by more than 10 percent, or		HP105
3	They have not changed by 10 percent over the past year		HP105
88	Refused		HP105
99	Don't Know		HP105

Next, I'd like to ask you about how the Home Energy Savings and Oregon Tax Credit programs may influence the recommendations you make to customers and how influential these Incentive Offers are on customers decisions regarding installing energy saving measures.

HP105. How often do you suggest to your heat pump customers that they install other measures qualifying for the Incentive Offers in order to take advantage of additional rebates and save energy? Would you say…

1	Often		HP110
2	Sometimes		HP110
3	Rarely		HP110
4	Never		HP115
88	Refused		HP115
99	Don't Know		HP115

HP110. How often do customers take this advice and install additional measure to take advantage of greater Incentive Offers? Would you say…

1	Often		HP115
2	Sometimes		HP115
3	Rarely		HP115
4	Never		HP115
88	Refused		HP115
99	Don't Know		HP115

HP115. How often do you use the Incentive Offers as a sales tool to encourage interested customers to convert from a forced air furnace to a heat pump? Would you say…

1	Often		HP120
2	Sometimes		HP120
3	Rarely		HP120
4	Never		HP120
88	Refused		HP120
99	Don't Know		HP120

HP120. How influential are the Incentive Offers in encouraging customers to convert from a forced air furnace to a heat pump? Would you say…

1	Very Influential		HP125
2	Somewhat Influential		HP125
3	Not at all Influential		HP125
88	Refused		HP125
99	Don't Know		HP125

HP125. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think the Incentive Offers have been in increasing sales of high efficiency heat pumps in existing single family homes? Would you say …

1	Very Influential		HP130
2	Somewhat Influential		HP130
3	Not at all Influential		HP130
88	Refused		HP130
99	Don't Know		HP130

HP130. Considering only customers that received a Home Energy Savings rebate and possibly a tax credit, which of following best describes the degree of influence these Incentive Offers had on your customers' selection of a high efficiency Heat Pump? Would you say…(SINGLE CHOICE)

1	Most customers were Very Influenced by the Incentive Offers	HP135
2	Most were Somewhat Influenced	HP135
3	Most were Not At All Influenced	HP135
88	Refused	HP135
99	Don't Know	HP135

HP135. Again, for those customers that received Incentive Offers—*if the Incentive Offers had not been available,* which of the following best describes what most of your company's customers would have installed…

1	Most would have selected the exact same heat pump	HP140
2	Most would have selected a heat pump with marginally lower efficiency ratings	HP140
3	Most would have selected a Standard Efficiency heat pump	HP140
4	Most would have elected to install a different heating and cooling system	HP140
88	Refused	HP140
99	Don't Know	HP140

HP140. In general, which Incentive Offer would you say is more important to customers in their decision to install a high efficiency heat pump…

1	The Home Energy Savings Program is more important to customers than the Tax Credit	O10
2	The Tax Credit is more important than the Home Energy Savings program	O10
3	Both programs are equally important	O10
4	Neither program is important	O10
88	Refused	O10
99	Don't Know	O10

OVERALL INFLUENCE

ASK IF P20 IN (2,3,4) ELSE SKIP TO O30 (just would like to know how these questions were developed??

O10. Please consider the factors that influence customers to purchase select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…

O10a	Saving Money on Energy Bills	End.
O10b	Saving Energy for the Environment	End.
O10c	Improving Comfort in the Home	End.
O10d	Improving Health through a better Home Environment	End.
O10e	Receiving the Oregon Energy Efficiency Incentive Offers	End.
O10f	The installation contractors (Your) recommendation	End.
O10g	Endorsement by the Energy Trust of Oregon	End.
88	Refused	End.
99	Don't Know	End.

ASK IF P20=1 ONLY
O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…

O10a	Saving Money on Energy Bills	End.
O10b	Saving Energy for the Environment	End.
O10c	Improving Comfort in the Home	End.
O10d	Improving Health through a better Home Environment	End.
O10e	Receiving the Oregon Energy Efficiency Incentive Offers	End.
O10f	The installation contractors (Your) recommendation	End.
O10g	Endorsement by the Energy Trust of Oregon	End.
88	Refused	End.
99	Don't Know	End.

End. Those are all the questions I have for you today. On behalf of the Energy Trust of Oregon I thank you very much for your time and help with this important survey.

APPENDIX D
PARTICIPANT TABLES

PARTICIPANT SURVEY

S2. Just to check did your household participate in the Home Energy Savings Program in &Year? This is a program that provides cash incentives for installing one or more energy-efficient products covered under the program.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes- participated	100%	0%	100%	100%	100%	100%
N	1287	0	755	175	149	396

Aud1. Our records show that you received a Home Energy Review, where an energy consultant visited your home and provided a list of potential energy efficiency improvements and also installed &NUM CFL bulbs. Is that correct?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes Correct	99%	99%	100%	100%	100%	100%
Installed CFLs but not that number	1%	1%	0%	0%	0%	0%
N	189	189	55	18	2	13

AUD2. How many CFL's were installed during the Home Energy Review?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
0	100%	100%	0%	0%	0%	0%
N	1	1	0	0	0	0

S10. Have you lived at your current residence since January 2003?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	100%	100%
N	1477	189	810	193	151	410

S20. What type of home do you live in?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Single Family Detached	97%	96%	97%	97%	96%	98%
Townhome or condominium	3%	4%	3%	3%	4%	2%
N	1477	189	810	193	151	410

S25. Do you own your home or rent?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
OWN	100%	100%	100%	100%	100%	100%
N	1477	189	810	193	151	410

Duct1. Have you installed … Duct Insulation	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	98%	90%	98%	98%	100%	100%
No	1%	4%	1%	2%	0%	0%
DON'T KNOW	0%	6%	0%	0%	0%	0%
N	209	20	209	51	3	9

Ceil1. Have you installed … Ceiling or Attic Insulation	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	100%	100%
N	498	38	498	98	6	24

Floor1. Have you installed … Floor Insulation	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	97%	95%	97%	94%	100%	96%
No	3%	2%	3%	6%	0%	4%
DON'T KNOW	0%	3%	0%	0%	0%	0%
N	334	34	334	74	3	14

Wall1. Have you installed … Wall Insulation	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	0%	100%
No	0%	0%	0%	0%	0%	0%
N	237	13	237	52	0	8

Win1. Have you installed … Energy Star Windows	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	99%	100%	99%	99%	100%	100%
No	1%	0%	1%	1%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	193	18	153	193	2	14

HP1. Have you installed … Heat Pump	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	100%	100%
N	151	2	9	2	151	5

GF1. Have you installed … Gas Furnace	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	0%	100%
N	191	4	10	3	0	191

GFE1. Have you installed … Gas Furnace with Blower	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	100%	100%	100%	100%	100%
N	220	9	22	11	5	220

SATISFACTION WITH ETO

ETO1. Rate your satisfaction with… The Energy Trust's courtesy on the phone.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	0%	0%	1%	0%	0%	0%
3	2%	3%	2%	3%	5%	1%
4	11%	16%	13%	10%	13%	7%
5 EXTREMELY SATISFACTORY	54%	68%	64%	73%	49%	42%
NOT APPLICABLE, (No Contact/Paperwork/Re	28%	3%	19%	12%	28%	46%
REFUSED	1%	0%	0%	1%	2%	1%
DON'T KNOW	5%	10%	2%	1%	3%	3%
N	592	90	384	103	61	124

ETO1a. Can you describe the factors leading to your lack of satisfaction?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N	0	0	0	0	0	0

ETO2. Rate your satisfaction with…The Energy Trust's helpfulness on the phone.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELEY UNSATISFACTORY	0%	0%	0%	1%	0%	0%
2	1%	3%	1%	0%	2%	0%
3	4%	6%	4%	2%	0%	2%
4	15%	15%	19%	18%	23%	12%
5 EXTREMELY SATISFACTORY	66%	62%	69%	75%	62%	68%
NOT APPLICABLE, (No Contact/Paperwork/Re	4%	0%	3%	3%	5%	9%
REFUSED	1%	0%	1%	1%	2%	2%
DON'T KNOW	8%	14%	4%	1%	5%	6%
N	460	86	317	91	45	73

ETO2a. Can you describe the factors leading to your lack of satisfaction?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Vague Intstructions	100%	0%	100%	100%	0%	0%
N	3	0	3	1	0	0

ETO3. Rate your satisfaction with…The Energy Trust's knowledge of program services.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELEY UNSATISFACTORY	1%	0%	1%	1%	0%	1%
2	1%	2%	1%	1%	3%	0%
3	9%	21%	3%	6%	5%	4%
4	8%	4%	15%	13%	19%	6%
5 EXTREMELY SATISFACTORY	48%	68%	56%	67%	40%	32%
NOT APPLICABLE, (No Contact/Paperwork/Re	30%	0%	20%	10%	28%	51%
REFUSED	0%	0%	0%	1%	0%	0%
DON'T KNOW	4%	3%	3%	1%	5%	5%
N	592	90	384	103	61	124

ETO3a. Can you describe the factors leading to your lack of satisfaction?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Lack of Information	97%	100%	100%	100%	50%	0%
RECORD VERBATIM	3%	0%	0%	0%	50%	0%
N	10	1	7	2	2	0

ETO4. Rate your satisfaction with…The ease of your transactions (paperwork / payments).	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELEY UNSATISFACTORY	0%	0%	0%	1%	2%	0%
2	2%	3%	1%	3%	3%	1%
3	8%	10%	6%	10%	5%	7%
4	11%	6%	21%	25%	21%	10%
5 EXTREMELY SATISFACTORY	54%	47%	61%	54%	51%	55%
NOT APPLICABLE, (No Contact/Paperwork/Re	23%	31%	8%	5%	15%	24%
REFUSED	0%	0%	0%	1%	0%	0%
DON'T KNOW	3%	3%	2%	2%	2%	3%
N	592	90	384	103	61	124

ETO4a. Can you describe the factors leading to your lack of satisfaction?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Hassle	100%	100%	100%	100%	100%	100%
N	10	2	5	4	3	1

ETO5. Rate your satisfaction with…Your satisfaction with any issue that needed resolution.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELEY UNSATISFACTORY	0%	0%	0%	0%	3%	0%
2	1%	2%	0%	1%	0%	0%
3	3%	7%	2%	6%	5%	1%
4	6%	10%	10%	11%	10%	4%
5 EXTREMELY SATISFACTORY	29%	31%	34%	36%	29%	26%
NOT APPLICABLE, (No Contact/Paperwork/Re	56%	41%	52%	45%	52%	67%
REFUSED	0%	0%	0%	1%	0%	0%
DON'T KNOW	3%	7%	1%	1%	0%	2%
N	592	90	384	103	61	124

ETO5a. Can you describe the factors leading to your lack of satisfaction?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Rebate Confusion	100%	100%	100%	0%	100%	0%
N	4	1	2	0	1	0

PROGRAM SATISFACTION AND PROGRAM AWARENESS

SAT1a. Rate your satisfaction with…Scheduling Process.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	1%	1%	3%	0%	0%	0%
3	6%	6%	2%	9%	0%	19%
4	27%	27%	18%	9%	0%	19%
5 EXTREMELY SATISFIED	61%	61%	78%	82%	100%	44%
6 Not applicable	0%	0%	0%	0%	0%	0%
DON'T KNOW	5%	5%	0%	0%	0%	19%
N	90	90	41	10	2	7

SAT1b. Rate your satisfaction with…Promptness of the Energy Auditor.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	0%	0%	3%	0%	0%	0%
3	0%	0%	2%	9%	0%	0%
4	14%	14%	7%	9%	0%	19%
5 EXTREMELY SATISFIED	75%	75%	86%	82%	100%	63%
6 Not applicable	2%	2%	0%	0%	0%	0%
DON'T KNOW	9%	9%	2%	0%	0%	19%
N	90	90	41	10	2	7

SAT1c. Rate your satisfaction with…Length of time required for the Audit.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	5%	5%	0%	0%	0%	0%
3	8%	8%	0%	0%	0%	19%
4	19%	19%	2%	9%	50%	37%
5 EXTREMELY SATISFIED	62%	62%	94%	82%	50%	44%
DON'T KNOW	6%	6%	4%	9%	0%	0%
N	90	90	41	10	2	7

SAT1d. Rate your satisfaction with…Quality and completeness of recommendations provided at the completion of the Audit.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	13%	13%	0%	0%	0%	19%
3	18%	18%	7%	0%	0%	0%
4	14%	14%	27%	18%	100%	37%
5 EXTREMELY SATISFIED	54%	54%	62%	64%	0%	44%
DON'T KNOW	0%	0%	3%	18%	0%	0%
N	90	90	41	10	2	7

SAT1e. Rate your satisfaction with…Information provided on how to find more information on saving energy.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	5%	5%	0%	0%	0%	0%
2	10%	10%	3%	0%	50%	0%
3	16%	16%	13%	0%	0%	19%
4	13%	13%	26%	18%	50%	45%
5 EXTREMELY SATISFIED	43%	43%	40%	55%	0%	37%
6 Not applicable	3%	3%	10%	9%	0%	0%
DON'T KNOW	9%	9%	9%	18%	0%	0%
N	90	90	41	10	2	7

SAT1f. Rate your satisfaction with…Quality and completeness of information provided on how to participate in Energy Trust Programs.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	5%	5%	0%	0%	0%	0%
2	7%	7%	0%	0%	0%	0%
3	13%	13%	5%	0%	50%	19%
4	21%	21%	29%	27%	50%	19%
5 EXTREMELY SATISFIED	48%	48%	55%	55%	0%	44%
6 Not applicable	1%	1%	0%	0%	0%	19%
DON'T KNOW	4%	4%	11%	18%	0%	0%
N	90	90	41	10	2	7

MEF1. How did you first learn about the Home Energy Review program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Participating in the Home Energy Saving	1%	1%	3%	14%	0%	28%
Contractor/Trade ally	1%	1%	9%	9%	0%	7%
Utility newsletter / Publication	0%	0%	4%	9%	0%	0%
Utility bill insert	29%	29%	17%	18%	0%	0%
Newspaper ad	7%	7%	0%	0%	0%	0%
Word of mouth from friend	12%	12%	21%	0%	50%	0%
Television or radio	4%	4%	4%	9%	0%	19%
Magazine or trade journal	1%	1%	3%	0%	0%	19%
Participation in previous years	0%	0%	0%	0%	0%	0%
Manufacturer information/suggestion	0%	0%	0%	0%	0%	0%
Salesperson/in the store	1%	1%	0%	0%	50%	0%
Energy Trust website	4%	4%	9%	9%	0%	19%
Utility website	5%	5%	0%	0%	0%	0%
Customer Service Representative	11%	11%	11%	14%	0%	28%
Trade Show/Event	11%	11%	0%	0%	0%	19%
Other - RECORD	12%	12%	12%	9%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	14%	14%	12%	9%	0%	19%
N	90	90	41	10	2	7

MEF2. What was the primary reason that you requested a Home Energy Review?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Save Energy	22%	22%	29%	0%	50%	45%
Improve comfort -House was too cold/too	15%	15%	25%	32%	0%	28%
Peace of mind	3%	3%	0%	0%	0%	0%
Get free CFLs	0%	0%	3%	0%	0%	0%
Save money on energy bills	38%	38%	22%	18%	0%	0%
Find out about available incentives	7%	7%	18%	50%	0%	9%
Replacing other equipment	0%	0%	0%	0%	0%	19%
Monetary	3%	3%	3%	0%	0%	0%
Information/Directional	11%	11%	0%	0%	50%	0%
N	87	87	40	10	2	7

MEF5. As a result of the Home Energy Review, is the likelihood that you will install measures that qualify for a cash incentive under the Home Energy Savings program greater than, less than, or about the same as before?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Greater than before	51%	51%	71%	73%	0%	63%
Less than before	3%	3%	0%	0%	0%	0%
About the same as before	38%	38%	24%	27%	100%	37%
DON'T KNOW	8%	8%	5%	0%	0%	0%
N	90	90	41	10	2	7

SAT2a. Rate your satisfaction with…Quality and completeness of information provided by the Energy Trust about energy savings opportunities?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	0%	0%	1%	1%	0%	0%
2	0%	0%	1%	1%	0%	0%
3	8%	11%	7%	10%	14%	7%
4	22%	26%	23%	25%	22%	22%
5 EXTREMELY SATISFIED	48%	61%	55%	52%	45%	46%
6 Not applicable	17%	1%	10%	7%	17%	21%
DON'T KNOW	3%	0%	3%	4%	2%	4%
N	549	47	384	103	61	124

SAT2c. Rate your satisfaction with…Quality and completeness of information provided to you about financial incentives available from the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	0%	0%	0%	0%	2%	0%
2	0%	2%	1%	0%	0%	0%
3	4%	14%	6%	7%	5%	3%
4	16%	31%	19%	15%	17%	15%
5 EXTREMELY SATISFIED	69%	46%	64%	74%	73%	71%
6 Not applicable	6%	4%	4%	2%	3%	7%
REFUSED	0%	2%	0%	1%	0%	0%
DON'T KNOW	4%	0%	5%	1%	0%	4%
N	549	47	384	103	61	124

SAT2d. Rate your satisfaction with…Performance of the measures that you installed under this program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	1%	0%	0%	0%	0%	1%
2	1%	0%	1%	2%	3%	1%
3	5%	3%	5%	7%	13%	5%
4	13%	25%	17%	22%	17%	11%
5 EXTREMELY SATISFIED	66%	62%	70%	61%	56%	64%
6 Not applicable	11%	6%	6%	6%	10%	14%
REFUSED	0%	2%	0%	1%	0%	0%
DON'T KNOW	3%	2%	1%	1%	0%	4%
N	549	47	384	103	61	124

SAT2e. Rate your satisfaction with…Ease of applying for financial incentives from the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
3	11%	25%	7%	0%	0%	12%
4	15%	51%	13%	65%	0%	15%
5 EXTREMELY SATISFIED	53%	25%	71%	35%	0%	49%
6 Not applicable	11%	0%	9%	0%	0%	12%
DON'T KNOW	10%	0%	0%	0%	0%	12%
N	22	3	13	3	0	10

SAT2f. Rate your satisfaction with…Turnaround time in receiving your financial incentive?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	1%	2%	0%	1%	2%	2%
2	2%	0%	3%	6%	5%	2%
3	9%	8%	7%	11%	13%	9%
4	18%	28%	21%	19%	22%	17%
5 EXTREMELY SATISFIED	56%	48%	59%	59%	53%	55%
6 Not applicable	7%	4%	5%	2%	5%	9%
REFUSED	0%	2%	0%	1%	0%	0%
DON'T KNOW	5%	8%	4%	0%	0%	6%
N	549	47	384	103	61	124

PART1. How did you first learn about financial incentives available from the Home Energy Savings Program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Participating in the Home Energy Saving	2%	13%	3%	7%	2%	2%
Contractor/Trade ally	47%	24%	41%	35%	47%	50%
Utility newsletter / Publication	4%	2%	3%	3%	0%	5%
Utility bill insert	18%	18%	17%	17%	4%	19%
Newspaper ad	2%	0%	3%	8%	5%	2%
Word of mouth from friend	9%	14%	15%	15%	7%	6%
Television or radio	3%	4%	3%	6%	3%	2%
Magazine or trade journal	0%	2%	1%	0%	2%	0%
Participation in previous years	1%	0%	1%	0%	0%	1%
Manufacturer information/suggestion	1%	2%	1%	0%	0%	2%
Salesperson/in the store	10%	1%	2%	7%	10%	14%
Energy Trust website	3%	4%	3%	7%	7%	2%
Utility website	2%	0%	2%	1%	2%	2%
Customer Service Representative	3%	9%	4%	6%	9%	2%
Trade Show/Event	1%	2%	1%	2%	2%	0%
Previous Experience/Knowledge	1%	0%	2%	0%	2%	0%
Tax Related	1%	2%	1%	0%	2%	1%
Energy Audit	0%	4%	1%	0%	0%	0%
Utility Other	0%	0%	0%	0%	2%	0%
Other Website	1%	0%	1%	0%	0%	1%
Other - RECORD	0%	2%	1%	1%	3%	0%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	3%	7%	3%	4%	5%	3%
N	549	47	384	103	61	124

CONF1. How confident are you that the measures you installed through the program are saving energy? Would you say you are…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very confident measures save energy	72%	59%	72%	80%	71%	72%
Somewhat confident	21%	30%	21%	17%	24%	21%
Not at all Confident	1%	4%	2%	2%	3%	0%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	6%	4%	5%	1%	2%	6%
N	549	47	384	103	61	124

EFF1. As a result of participating in the program, have you seen any savings on your monthly ELECTRIC bill?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	39%	29%	46%	52%	66%	44%
No	35%	40%	14%	20%	9%	38%
Too Soon To Tell	20%	23%	32%	21%	22%	14%
REFUSED	0%	0%	1%	0%	0%	0%
DON'T KNOW	6%	8%	7%	7%	3%	4%
N	285	90	127	37	61	78

EFF2. Are the savings on your monthly ELECTRIC bill higher, lower or about the same as you expected?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Higher	24%	37%	24%	22%	11%	16%
Lower	26%	22%	24%	27%	29%	29%
Same	40%	33%	44%	40%	55%	43%
Energy use went down, but cost went up	2%	0%	0%	4%	0%	4%
Too soon to tell	2%	0%	0%	0%	0%	4%
DON'T KNOW	6%	9%	8%	6%	5%	4%
N	134	28	60	20	41	34

EFF3. As a result of participating in the program, have you seen any savings on your monthly GAS bill?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	56%	34%	51%	57%	85%	59%
No	13%	31%	12%	12%	15%	14%
Too Soon To Tell	23%	22%	26%	24%	0%	21%
REFUSED	0%	3%	0%	0%	0%	0%
DON'T KNOW	8%	10%	11%	7%	0%	6%
N	414	36	300	79	3	124

EFF4. Are the savings on your monthly GAS bill higher, lower or about the same as you expected?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Higher	20%	21%	23%	23%	50%	18%
Lower	23%	37%	20%	23%	0%	24%
Same	49%	43%	49%	40%	50%	48%
Energy use went down, but cost went up	0%	0%	0%	4%	0%	0%
No expectations	1%	0%	2%	3%	0%	0%
To soon to tell	1%	0%	0%	0%	0%	2%
DON'T KNOW	7%	0%	6%	8%	0%	8%
N	218	12	151	46	2	73

GENERAL EE KNOWLEDGE AND AWARENESS

A1. Overall, how would you rate your knowledge of the ways you could save energy in your home ?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL KNOWLEDGEABLE	3%	2%	1%	0%	0%	5%
2	2%	0%	4%	3%	3%	3%
3	26%	19%	27%	20%	22%	30%
4	38%	38%	41%	50%	51%	38%
5 EXTREMELY KNOWLEDGEABLE	29%	40%	27%	28%	24%	24%
REFUSED	1%	0%	0%	0%	0%	1%
N	592	90	384	103	61	124

A3. I will name three benefits of energy efficient measures and I'd like you to rate each one on a 5 point scale where 1 means not at all important and 5 means extremely important…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	1%	2%	1%	0%	0%	0%
2	1%	0%	2%	0%	0%	1%
3	8%	6%	8%	9%	15%	9%
4	27%	25%	24%	20%	27%	30%
5 EXTREMELEY IMPORTANT	62%	66%	66%	72%	58%	58%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	1%	0%	1%	0%	0%	1%
N	592	90	384	103	61	124

A3. I will name three benefits of energy efficient measures and I'd like you to rate each one on a 5 point scale where 1 means not at all important and 5 means extremely important…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	1%	0%	2%	3%	0%	2%
2	3%	8%	2%	4%	2%	1%
3	7%	6%	8%	10%	10%	7%
4	24%	23%	20%	20%	27%	27%
5 EXTREMELEY IMPORTANT	62%	60%	66%	61%	61%	61%
REFUSED	1%	0%	0%	1%	0%	1%
DON'T KNOW	1%	2%	1%	1%	0%	1%
N	592	90	384	103	61	124

A3. I will name three benefits of energy efficient measures and I'd like you to rate each one on a 5 point scale where 1 means not at all important and 5 means extremely important…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	0%	0%	0%	1%	0%	0%
2	1%	2%	0%	0%	0%	0%
3	5%	5%	3%	5%	7%	6%
4	14%	10%	17%	19%	18%	16%
5 EXTREMELEY IMPORTANT	79%	82%	79%	74%	74%	77%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	0%	0%	1%	0%	2%	0%
N	592	90	384	103	61	124

PART5a. Are you aware that information is available online about Energy Trust programs?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	62%	58%	63%	73%	57%	64%
No	38%	42%	36%	26%	43%	35%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	0%	0%	0%	1%	0%	0%
N	592	90	384	103	61	124

PART6. What energy saving measures are you aware of that the Energy Trust will provide financial incentives for?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Ceiling/Attic Insulation	36%	53%	62%	71%	16%	16%
Floor Insulation	29%	39%	50%	55%	13%	16%
Wall Insulation	30%	35%	49%	52%	9%	19%
Windows	38%	51%	56%	83%	16%	24%
Water Heaters	13%	11%	12%	18%	14%	13%
Duct Insulation	15%	25%	24%	26%	8%	5%
Duct Sealing	5%	8%	7%	6%	0%	1%
Heat Pump Installation	4%	3%	4%	7%	55%	2%
Air Sealing	3%	3%	3%	6%	0%	4%
Gas Furnace	32%	19%	26%	41%	14%	44%
Direct Vent Gas Heater	1%	0%	2%	5%	0%	1%
CFLs	4%	8%	6%	2%	3%	1%
Solar	2%	3%	3%	2%	0%	0%
Appliances	12%	8%	12%	10%	16%	13%
HVAC	3%	0%	2%	1%	5%	5%
Pipe Insulation	1%	3%	1%	0%	0%	0%
Doors	1%	3%	2%	0%	1%	0%
Fireplace Insert	1%	0%	0%	1%	0%	2%
Gas Stove	1%	0%	0%	0%	0%	1%
Weather Stripping	0%	0%	1%	0%	0%	0%
OTHER measures - RECORD	2%	5%	2%	3%	7%	0%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	22%	19%	9%	7%	20%	30%
N	592	90	384	103	61	124

P8A. Are you aware of Oregon tax credits available for the purchase and installation of certain energy saving measures?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	86%	85%	76%	74%	86%	90%
No	13%	13%	22%	23%	14%	9%
REFUSED	0%	0%	0%	0%	0%	1%
DON'T KNOW	1%	1%	2%	3%	0%	1%
N	1477	189	810	193	151	410

P8B. Where did you hear about the Oregon tax credits?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Energy Trust Website	6%	7%	7%	11%	2%	5%
Contractor	29%	14%	28%	29%	42%	35%
Utility	16%	17%	18%	17%	10%	15%
Newspaper or magazine	10%	9%	6%	6%	5%	11%
Retail sales representative	18%	12%	13%	11%	25%	21%
Manufacturer	2%	1%	1%	1%	1%	2%
Friend/family (word of mouth)	7%	11%	9%	10%	4%	5%
Oregon Department of Energy WEBSITE	2%	4%	3%	4%	3%	1%
Tax Preparer/tax software	4%	3%	6%	4%	8%	3%
Prior Knowledge	2%	0%	1%	1%	2%	3%
ETO Other	3%	9%	3%	6%	2%	0%
TV / Radio	3%	6%	2%	2%	2%	2%
Workshop / Trade Faire	2%	5%	1%	1%	0%	1%
Other Website	0%	0%	1%	2%	1%	0%
Many / All	0%	0%	0%	0%	0%	0%
OTHER SOURCE - RECORD	1%	1%	1%	2%	2%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	9%	11%	10%	8%	3%	8%
N	1204	162	616	146	130	370

INSULATION

INS3. Did you hire a contractor to install your new Insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	88%	91%	88%	85%	55%	97%
No	12%	7%	12%	14%	45%	3%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	1%	0%	0%
N	808	55	808	151	9	31

INC4. Please rate your satisfaction with your insulation contractor	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	2%	0%	2%	0%	0%	6%
2	3%	3%	3%	3%	0%	6%
3	10%	3%	10%	11%	0%	8%
4	32%	50%	32%	29%	0%	39%
5 EXTREMELY SATISFIED	53%	44%	53%	58%	100%	40%
DON'T KNOW	1%	0%	1%	0%	0%	0%
N	342	37	342	76	4	15

INC5. Why do you say that?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Poor Workmanship	71%	100%	71%	58%	0%	100%
Not Professional	29%	0%	29%	42%	0%	0%
N	14	1	14	2	0	2

SAT2BI. how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	4%	9%	4%	4%	0%	0%
2	4%	6%	4%	3%	0%	0%
3	12%	6%	12%	5%	15%	6%
4	27%	40%	27%	32%	0%	32%
5 EXTREMELY SATISFIED	47%	37%	47%	41%	85%	55%
6 Not applicable	5%	2%	5%	9%	0%	6%
REFUSED	1%	0%	1%	3%	0%	0%
DON'T KNOW	2%	0%	2%	1%	0%	0%
N	342	37	342	76	4	15

INC6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	39%	84%	39%	43%	47%	42%
No	51%	11%	51%	46%	53%	53%
REFUSED	0%	0%	0%	1%	0%	0%
DON'T KNOW	9%	4%	9%	10%	0%	5%
N	702	50	702	128	5	29

INC7. How important was this list in selecting a contractor?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	1%	3%	1%	0%	0%	0%
2	2%	3%	2%	0%	0%	0%
3	4%	7%	4%	11%	0%	24%
4	24%	20%	24%	29%	0%	0%
5 EXTREMELY IMPORTANT	66%	66%	66%	57%	100%	76%
DON'T KNOW	2%	0%	2%	3%	0%	0%
N	142	33	142	35	2	5

INC9. Did your contractor contact you first regarding installing insulation in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
YES-Contractor called us first	3%	0%	3%	2%	0%	0%
NO-We called contractor first	95%	100%	95%	97%	100%	96%
REFUSED	0%	0%	0%	2%	0%	0%
DON'T KNOW	3%	0%	3%	0%	0%	4%
N	411	8	411	68	2	18

INC13. Did your contractor inform you of the Home Energy Savings cash incentive program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	71%	0%	71%	100%	0%	0%
No	19%	0%	19%	0%	0%	0%
DON'T KNOW	10%	0%	10%	0%	0%	0%
N	10	0	10	1	0	0

INC15. How influential was your contractor in your decision to install insulation? Would you say your contractor was:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	21%	30%	21%	28%	35%	9%
Somewhat influential	21%	13%	21%	21%	12%	9%
Not at all influential	57%	57%	57%	50%	53%	80%
REFUSED	1%	0%	1%	1%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	2%
N	702	50	702	128	5	29

INC17. Did the contractor that installed your insulation recommend other energy saving measures for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	24%	41%	24%	16%	31%	6%
No	73%	59%	73%	82%	69%	94%
DON'T KNOW	3%	0%	3%	1%	0%	0%
N	342	37	342	76	4	15

INC17a. What measures did the contractor recommend?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
More/Other Insulation	42%	58%	42%	32%	50%	100%
Windows	31%	12%	31%	46%	50%	0%
RECORD MEASURES	18%	19%	18%	15%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	6%	12%	6%	6%	0%	0%
N	82	16	82	15	2	1

PRT3. What was the primary reason you installed Insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
To save energy	29%	27%	29%	28%	26%	16%
Available cash incentive	1%	3%	1%	6%	0%	2%
To improve comfort	33%	45%	33%	29%	26%	37%
To improve health	1%	0%	1%	1%	0%	0%
To save on my utility bill	24%	19%	24%	24%	35%	44%
Remodeled	3%	0%	3%	6%	0%	0%
Suggested	1%	0%	1%	0%	0%	0%
Old House/Insulation	6%	4%	6%	6%	13%	0%
Insulation Damaged/Animals	1%	0%	1%	1%	0%	0%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	1%	0%	0%
N	797	54	797	149	9	30

IN10. Did you become aware of the cash incentive before or after you decided to install insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Before	43%	48%	43%	45%	68%	42%
After	35%	21%	35%	37%	0%	48%
Same Time	17%	24%	17%	16%	26%	10%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	4%	6%	4%	2%	6%	0%
N	808	55	808	151	9	31

IN15. Which of the following THREE statements best describes the actions you would have taken had the cash incentive NOT existed:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would not have installed insulation	6%	8%	6%	13%	0%	4%
We would have installed insulation anywa	91%	86%	91%	86%	94%	96%
REFUSED	0%	2%	0%	0%	0%	0%
DON'T KNOW	2%	4%	2%	1%	6%	0%
N	808	55	808	151	9	31

IN25. If the cash incentive was not available, when would you have installed insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Within a year	46%	39%	46%	34%	0%	17%
More than a year	48%	61%	48%	50%	100%	83%
DON'T KNOW	7%	0%	7%	16%	0%	0%
N	185	19	185	35	2	6

IN25. How many years would you have waited before installing insulation if the cash incentive had not existed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	9%	0%	9%	5%	0%	8%
2	50%	61%	50%	45%	33%	84%
3	22%	22%	22%	21%	0%	0%
4	1%	0%	1%	0%	0%	0%
5	4%	8%	4%	11%	67%	8%
13	1%	0%	1%	7%	0%	0%
Refused	1%	10%	1%	0%	0%	0%
Don't know	11%	0%	11%	11%	0%	0%
N	87	12	87	18	2	4

IN20. If the program did not exist would you have installed insulation in all of these areas, or just some of these areas?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
In ALL of these Areas	67%	66%	67%	58%	80%	48%
In Some of these areas	30%	21%	30%	40%	20%	52%
REFUSED	0%	3%	0%	0%	0%	0%
DON'T KNOW	2%	9%	2%	2%	0%	0%
N	328	35	328	66	3	15

IN20A. Would you have installed &Ceiling insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	67%	55%	67%	64%	0%	100%
No	30%	45%	30%	32%	0%	0%
REFUSED	1%	0%	1%	0%	0%	0%
DON'T KNOW	2%	0%	2%	4%	0%	0%
N	75	5	75	20	0	4

IN20B. Would you have installed Duct Insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	17%	48%	17%	33%	0%	12%
No	78%	52%	78%	62%	100%	88%
DON'T KNOW	5%	0%	5%	5%	0%	0%
N	50	4	50	15	1	3

IN20C. Would you have installed Floor Insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	58%	44%	58%	48%	100%	91%
No	38%	56%	38%	47%	0%	9%
REFUSED	2%	0%	2%	0%	0%	0%
DON'T KNOW	2%	0%	2%	4%	0%	0%
N	67	8	67	18	1	3

IN20D. Would you have installed Wall Insulation?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	65%	100%	65%	61%	0%	0%
No	30%	0%	30%	39%	0%	100%
REFUSED	3%	0%	3%	0%	0%	0%
DON'T KNOW	3%	0%	3%	0%	0%	0%
N	43	1	43	16	0	1

IN30. How influential was the cash incentive in your decision to install insulation? Would you say the cash incentive was…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	32%	41%	32%	36%	19%	31%
Somewhat influential	40%	33%	40%	32%	39%	44%
Not at all Influential	28%	22%	28%	31%	26%	25%
REFUSED	0%	4%	0%	0%	0%	0%
DON'T KNOW	1%	0%	1%	0%	16%	0%
N	808	55	808	151	9	31

INTX. Did you take advantage of the Oregon Tax Credit for the insulation you installed through the program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	61%	65%	61%	65%	36%	93%
No	30%	24%	30%	27%	45%	7%
DON'T KNOW	9%	10%	9%	7%	18%	0%
N	616	50	616	111	7	30

INTXa. Why didn't you take advantage of the Oregon Tax Credit for the insulation you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Not Aware	51%	29%	51%	54%	60%	100%
Did not qualify / Not Elgible	20%	11%	20%	15%	40%	0%
Hassle	8%	11%	8%	8%	0%	0%
Too early in year	10%	18%	10%	22%	0%	0%
Does not pay taxes	2%	9%	2%	0%	0%	0%
DON'T KNOW	10%	22%	10%	0%	0%	0%
N	159	10	159	23	3	3

INTXI. How likely is it that you would have installed the same amount of insulation had you not received a Tax Credit from the State of Oregon? Would you say …	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very likely	61%	55%	61%	62%	75%	63%
Somewhat likely OR	24%	34%	24%	22%	25%	23%
Not at all likely	12%	8%	12%	13%	0%	12%
REFUSED	0%	3%	0%	0%	0%	0%
DON'T KNOW	3%	0%	3%	3%	0%	3%
N	373	33	373	73	3	26

HEAT PUMP

INH3. Did a contractor install your new Heat Pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	97%	100%	100%	100%	97%	100%
No	3%	0%	0%	0%	3%	0%
N	151	2	9	2	151	5

CH4. Please rate your satisfaction with your contractor	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	2%	0%	0%	0%	2%	0%
3	9%	0%	0%	0%	9%	43%
4	22%	50%	30%	100%	22%	0%
5 EXTREMELY SATISFIED	68%	50%	70%	0%	68%	57%
N	60	2	8	2	60	3

CH5. Why do you say that?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Poor workmanship	100%	0%	0%	0%	100%	0%
N	1	0	0	0	1	0

SAT2BH. how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	4%	0%	0%	0%	4%	0%
2	1%	50%	0%	0%	1%	0%
3	17%	0%	7%	0%	17%	57%
4	32%	0%	37%	71%	32%	43%
5 EXTREMELY SATISFIED	41%	50%	56%	29%	41%	0%
6 Not applicable	5%	0%	0%	0%	5%	0%
N	60	2	8	2	60	3

CH6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	25%	0%	13%	29%	25%	23%
No	72%	50%	87%	71%	72%	54%
DON'T KNOW	3%	50%	0%	0%	3%	23%
N	147	2	9	2	147	5

CH7. How important was this list in selecting a contractor?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
3	7%	0%	0%	0%	7%	0%
4	28%	0%	0%	0%	28%	100%
5 EXTREMELY IMPORTANT	65%	0%	100%	100%	65%	0%
N	16	0	2	1	16	1

CHP9. Did your contractor contact you first regarding installing a new heat pump in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
YES-Contractor called us first	1%	0%	0%	0%	1%	0%
NO-We called contractor first	97%	100%	100%	100%	97%	100%
DON'T KNOW	2%	0%	0%	0%	2%	0%
N	110	2	7	1	110	4

HPC1. Did the contractor that installed your new Heat Pump tell you about the Home Energy Savings cash incentive program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	100%	0%	0%	0%	100%	0%
N	1	0	0	0	1	0

HPC2. How influential was your contractor in your decision to purchase an energy efficient Heat Pump? Would you say your contractor was…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	40%	50%	19%	0%	40%	46%
Somewhat influential	35%	0%	39%	100%	35%	31%
Not at all Influential	24%	50%	42%	0%	24%	23%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	147	2	9	2	147	5

HPC17. Did the contractor that installed your heat pump recommend other energy saving measures for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	13%	0%	22%	0%	13%	43%
No	84%	100%	78%	100%	84%	57%
DON'T KNOW	4%	0%	0%	0%	4%	0%
N	60	2	8	2	60	3

HPC17a. What measures did the contractor recommend?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Insulation	29%	.	100%	.	29%	0%
Windows	14%	.	0%	.	14%	0%
Ducts	43%	.	0%	.	43%	100%
RECORD VERBATIM	0%	.	0%	.	0%	0%
REFUSED	0%	.	0%	.	0%	0%
DON'T KNOW	14%	.	0%	.	14%	0%
N	8	0	2	0	8	1

HP2. Did the new Heat Pump that was installed through the program replace an old Heat Pump, an Electric Forced Air Furnace, or something else?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Old Heat Pump	50%	100%	32%	71%	50%	8%
Electric Forced Air Furnace	19%	0%	42%	29%	19%	23%
Something else	26%	0%	26%	0%	26%	69%
Didn't replace anything	5%	0%	0%	0%	5%	0%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	151	2	9	2	151	5

HP2a. What type of system was removed and replaced with the new Heat Pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Gas Furnace	17%	0%	50%	0%	17%	100%
Electric Forced air Furnace	6%	0%	0%	0%	6%	0%
Electric Strip Heat	6%	0%	0%	0%	6%	0%
Space Heating-Electric	3%	0%	0%	0%	3%	0%
Heat Pump	2%	0%	50%	0%	2%	0%
None	6%	0%	0%	0%	6%	0%
Electric Gas Mix	3%	0%	0%	0%	3%	0%
Oil Furnace	6%	0%	0%	0%	6%	0%
Baseboard Heat	9%	0%	0%	0%	9%	0%
Forced Air	9%	0%	0%	0%	9%	0%
Ceiling Heat	17%	0%	0%	0%	17%	0%
Wood /Propane Stove	6%	0%	0%	0%	6%	0%
Gas - other	6%	0%	0%	0%	6%	0%
Other - SPECIFY	6%	0%	0%	0%	6%	0%
N	35	0	2	0	35	2

HP3. How old was the system that was replaced when you installed the new heat pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	1%	0%	0%	0%	1%	0%
2	1%	0%	0%	0%	1%	0%
4	1%	0%	0%	0%	1%	0%
5	1%	0%	0%	0%	1%	0%
8	1%	0%	0%	0%	1%	0%
9	1%	0%	0%	0%	1%	0%
10	5%	0%	6%	0%	5%	31%
11	1%	0%	0%	0%	1%	0%
12	7%	0%	0%	0%	7%	0%
13	1%	0%	0%	0%	1%	0%
14	1%	0%	0%	0%	1%	0%
15	11%	0%	29%	0%	11%	0%
16	1%	0%	0%	0%	1%	0%
17	1%	0%	0%	0%	1%	0%
18	4%	0%	0%	0%	4%	0%
20	13%	100%	13%	0%	13%	0%
21	2%	0%	6%	0%	2%	0%
22	1%	0%	0%	0%	1%	23%
23	3%	0%	0%	0%	3%	0%
24	2%	0%	0%	0%	2%	0%
25	6%	0%	6%	29%	6%	0%
26	4%	0%	0%	0%	4%	0%
27	1%	0%	0%	0%	1%	23%
28	3%	0%	0%	0%	3%	0%
29	1%	0%	0%	0%	1%	0%
30	13%	0%	26%	71%	13%	0%
31	1%	0%	0%	0%	1%	0%
32	1%	0%	0%	0%	1%	23%
33	1%	0%	0%	0%	1%	0%
34	1%	0%	0%	0%	1%	0%
40	1%	0%	0%	0%	1%	0%
42	1%	0%	0%	0%	1%	0%
44	1%	0%	0%	0%	1%	0%
49	1%	0%	0%	0%	1%	0%
50	1%	0%	13%	0%	1%	0%
Don't know	5%	0%	0%	0%	5%	0%
N	142	2	9	2	142	5

HP3a. Was it…?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
5 to 10 years old	14%	0%	0%	0%	14%	0%
10 to 15 years old	14%	0%	0%	0%	14%	0%
15 to 20 years old	14%	0%	0%	0%	14%	0%
Over 20 years old	14%	0%	0%	0%	14%	0%
DON'T KNOW	43%	0%	0%	0%	43%	0%
N	7	0	0	0	7	0

HP4. Could your old system have been fixed, or was it beyond repair?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Could have been fixed	15%	0%	6%	0%	15%	31%
Was beyond repair	26%	50%	26%	0%	26%	23%
It was still in working order	58%	50%	68%	100%	58%	46%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	142	2	9	2	142	5

HP5. What was your main reason for installing a new Heat Pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Previous system really old	26%	0%	29%	0%	26%	60%
Previous system was broken/emergency rep	12%	0%	12%	0%	12%	10%
Save energy	23%	100%	0%	71%	23%	30%
Remodeling home	4%	0%	0%	0%	4%	0%
Did not have air conditioner/heater befo	15%	0%	0%	0%	15%	0%
Increased Comfort	12%	0%	24%	0%	12%	0%
Save Money	5%	0%	35%	29%	5%	0%
OTHER - SPECIFY	3%	0%	0%	0%	3%	0%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	106	1	5	2	106	4

HP10. Before you began shopping for a new Heat Pump, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Heat Pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	64%	50%	52%	71%	64%	31%
No	35%	50%	48%	29%	35%	69%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	151	2	9	2	151	5

HP20. Did you become aware of the cash incentive before or after you made the decision to purchase a high efficiency heat pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Before	31%	50%	48%	100%	31%	31%
After	33%	50%	26%	0%	33%	0%
While shopping for heat pump	34%	0%	13%	0%	34%	69%
DON'T KNOW	3%	0%	13%	0%	3%	0%
N	151	2	9	2	151	5

FA1. How influential was the program in your decision to convert from a forced air furnace to a heat pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	28%	0%	31%	100%	28%	0%
Somewhat influential	30%	0%	0%	0%	30%	100%
Not at all Influential	39%	0%	69%	0%	39%	0%
DON'T KNOW	4%	0%	0%	0%	4%	0%
N	29	0	4	1	29	1

FA3. How likely is it that you would have converted from a forced air furnace to a heat pump if the cash incentive did not exist?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Extremely likely you would have converte	46%	0%	31%	0%	46%	0%
Somewhat likely or	32%	0%	69%	100%	32%	100%
Not at all likely	22%	0%	0%	0%	22%	0%
N	29	0	4	1	29	1

HP30F. Which of the following four statements best describes the actions you would have taken had the cash incentive NOT existed:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would NOT have bought anything	13%	0%	0%	0%	13%	0%
We would have bought a new forced air fu	7%	0%	0%	0%	7%	100%
We would have bought a STANDARD efficien	21%	0%	0%	0%	21%	0%
We would have bought an ENERGY EFFICIENT	46%	0%	44%	100%	46%	0%
DON'T KNOW	13%	0%	56%	0%	13%	0%
N	16	0	3	1	16	1

HP30. Which of the following three statements best describes the actions you would have taken had the cash incentive NOT existed:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
a STANDARD efficiency Heat Pump or	2%	0%	0%	0%	2%	0%
an ENERGY EFFICIENT Heat Pump	84%	100%	82%	100%	84%	70%
We would not have bought a Heat Pump	5%	0%	18%	0%	5%	0%
REFUSED	2%	0%	0%	0%	2%	0%
DON'T KNOW	6%	0%	0%	0%	6%	30%
N	128	2	6	1	128	4

HP32. If the cash incentive had not existed, would you have bought the SAME Heat Pump that you purchased through the program, or would you have selected a Heat Pump that was less expensive and less efficient, although still an energy efficient unit?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
The same Heat Pump	84%	50%	100%	100%	84%	100%
Less expensive/Less efficient unit	13%	50%	0%	0%	13%	0%
DON'T KNOW	3%	0%	0%	0%	3%	0%
N	116	2	7	2	116	3

HP35. If the cash incentive was not available, would you have bought the energy efficient Heat Pump…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
At the same time you did	90%	50%	91%	29%	90%	100%
Within a year or	7%	50%	0%	0%	7%	0%
More than a year later	2%	0%	9%	71%	2%	0%
DON'T KNOW	1%	0%	0%	0%	1%	0%
N	116	2	7	2	116	3

HP40. How many years would you have waited before buying an energy efficient Heat Pump if the cash incentive had not existed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	40%	0%	0%	100%	40%	0%
4	16%	0%	100%	0%	16%	0%
15	43%	0%	0%	0%	43%	0%
N	3	0	1	1	3	0

HP45. How influential was the cash incentive in your decision to purchase an energy efficient Heat Pump? Would you say the cash incentive was…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	21%	0%	32%	0%	21%	0%
Somewhat influential	47%	100%	42%	100%	47%	100%
Not at all Influential	29%	0%	26%	0%	29%	0%
DON'T KNOW	2%	0%	0%	0%	2%	0%
N	151	2	9	2	151	5

HPTX. Did you take advantage of the Oregon Tax Credit for the Heat Pump you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	76%	0%	45%	100%	76%	100%
No	18%	0%	55%	0%	18%	0%
DON'T KNOW	6%	0%	0%	0%	6%	0%
N	130	0	7	2	130	5

HPTXa. Why didn't you take advantage of the Oregon Tax Credit for the heat pump you purchased?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Did not qualify/Not Elgible	38%	0%	100%	0%	38%	0%
Hassle	5%	0%	0%	0%	5%	0%
Too early in year	31%	0%	0%	0%	31%	0%
RECORD VERBATIM	15%	0%	0%	0%	15%	0%
DON'T KNOW	10%	0%	0%	0%	10%	0%
N	20	0	2	0	20	0

HPTXI. How likely is it that you would have purchased the same exact Heat Pump had you not received a Tax Credit from the State of Oregon? Would you say…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very likely	53%	0%	100%	29%	53%	54%
Somewhat likely OR	36%	0%	0%	71%	36%	23%
Not at all likely	7%	0%	0%	0%	7%	23%
DON'T KNOW	3%	0%	0%	0%	3%	0%
N	99	0	4	2	99	5

GAS FURNACE/GAS FURNACE WITH ECM BLOWER

ECM1. Does your new Gas Furnace have an Electrically Commutated Motor, also known as an ECM Blower?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	38%	39%	43%	40%	23%	38%
No	3%	9%	2%	0%	0%	3%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	58%	52%	55%	60%	77%	58%
N	410	13	32	14	5	410

ING3. Did you hire a contractor to install your new Gas Furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	93%	100%	96%	91%	100%	93%
No	7%	0%	4%	9%	0%	7%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	1%	0%	0%	0%	0%	1%
N	410	13	32	14	5	410

CG4. Please rate your satisfaction with your contractor on 1-5 scale	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	1%	0%	0%	0%	0%	1%
2	3%	0%	0%	0%	0%	3%
3	7%	0%	6%	0%	43%	7%
4	21%	37%	19%	29%	0%	21%
5 EXTREMELY SATISFIED	68%	44%	75%	71%	57%	68%
6 Not applicable	0%	19%	0%	0%	0%	0%
N	117	7	17	7	3	117

CG5. Why do you say that?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Poor workmanship	100%	0%	0%	0%	0%	100%
N	3	0	0	0	0	3

SAT2BG. how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	2%	0%	0%	0%	0%	2%
2	2%	0%	0%	11%	0%	2%
3	14%	0%	6%	0%	43%	14%
4	21%	0%	8%	8%	15%	21%
5 EXTREMELY SATISFIED	56%	81%	79%	52%	43%	56%
6 Not applicable	3%	19%	8%	29%	0%	3%
DON'T KNOW	2%	0%	0%	0%	0%	2%
N	117	7	17	7	3	117

CG6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	21%	34%	32%	38%	23%	21%
No	69%	48%	63%	51%	54%	69%
DON'T KNOW	10%	18%	5%	11%	23%	10%
N	382	13	30	13	5	382

CG7. How important was this list in selecting a contractor?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	6%	0%	0%	0%	0%	6%
2	6%	0%	0%	0%	0%	6%
3	0%	0%	0%	23%	0%	0%
4	46%	0%	0%	41%	0%	46%
5 EXTREMELY IMPORTANT	42%	100%	100%	36%	100%	42%
N	23	2	2	4	1	23

CG9. Did your contractor contact you first regarding installing a Gas Furnace in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
YES-Contractor called us first	5%	13%	0%	0%	0%	5%
NO-We called contractor first	93%	87%	97%	100%	100%	93%
DON'T KNOW	2%	0%	3%	0%	0%	2%
N	297	8	23	7	4	297

GFC1. Did the contractor that installed your Gas Furnace inform you of the Home Energy Savings cash incentive program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	86%	100%	0%	0%	0%	86%
No	14%	0%	0%	0%	0%	14%
N	15	1	0	0	0	15

GFC2. How influential was your contractor in your decision to purchase an energy efficient Gas Furnace? Would you say your contractor was:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	33%	22%	41%	22%	23%	33%
Somewhat influential	32%	39%	42%	29%	77%	32%
Not at all influential	34%	39%	15%	49%	0%	34%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	2%	0%	2%	0%	0%	2%
N	382	13	30	13	5	382

GFC17. Did the contractor that installed your gas furnace recommend other energy saving measures for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	14%	19%	0%	11%	43%	14%
No	82%	81%	88%	89%	57%	82%
DON'T KNOW	3%	0%	12%	0%	0%	3%
N	117	7	17	7	3	117

GFC17a. What measures did the contractor recommend?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
AC	30%	0%	.	0%	0%	30%
Insulation	22%	0%	.	0%	0%	22%
Water Heater	8%	0%	.	100%	0%	8%
Windows	9%	100%	.	0%	0%	9%
Duct work	23%	0%	.	0%	100%	23%
RECORD VERBATIM	7%	0%	.	0%	0%	7%
REFUSED	0%	0%	.	0%	0%	0%
DON'T KNOW	0%	0%	.	0%	0%	0%
N	16	1	0	1	1	16

GF2. Did the new Gas Furnace that was installed through the program replace an old gas furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	92%	91%	93%	90%	100%	92%
No	8%	9%	5%	10%	0%	8%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	2%	0%	0%	0%
N	410	13	32	14	5	410

GF2a. What type of heating system was removed and replaced with the new Gas Furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Gas Furnace SHOULD NOT USE	5%	0%	0%	0%	0%	5%
Electric Forced air furnace	7%	0%	0%	0%	0%	7%
Electric Heat Pump	4%	0%	0%	0%	0%	4%
Electric Space Heater	4%	0%	0%	0%	0%	4%
None...didn't have heater before	11%	0%	0%	0%	0%	11%
Oil System	59%	100%	57%	100%	0%	59%
Addition	7%	0%	0%	0%	0%	7%
Electric Strip Heat	4%	0%	0%	0%	0%	4%
Wood Furnace	0%	0%	43%	0%	0%	0%
N	32	1	2	1	0	32

GF3. How old was the system that was replaced by the new Gas Furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
5	2%	0%	0%	0%	0%	2%
6	0%	0%	0%	0%	0%	0%
7	0%	0%	0%	0%	0%	0%
8	1%	0%	2%	0%	0%	1%
9	0%	0%	0%	0%	0%	0%
10	6%	0%	3%	0%	31%	6%
12	4%	9%	0%	0%	0%	4%
13	2%	0%	0%	0%	0%	2%
14	2%	9%	0%	0%	0%	2%
15	6%	0%	4%	0%	0%	6%
16	1%	0%	0%	6%	0%	1%
17	3%	4%	2%	19%	0%	3%
18	4%	0%	18%	0%	0%	4%
19	1%	0%	0%	0%	0%	1%
20	14%	9%	12%	6%	0%	14%
21	1%	0%	0%	0%	0%	1%
22	1%	0%	0%	0%	23%	1%
23	1%	0%	0%	0%	0%	1%
24	1%	0%	2%	0%	0%	1%
25	8%	35%	22%	6%	0%	8%
26	1%	4%	2%	9%	0%	1%
27	1%	0%	3%	10%	23%	1%
28	1%	9%	0%	5%	0%	1%
29	0%	0%	0%	0%	0%	0%
30	11%	9%	5%	16%	0%	11%
31	0%	0%	0%	0%	0%	0%
32	1%	0%	0%	0%	23%	1%
33	1%	3%	4%	9%	0%	1%
34	0%	0%	0%	0%	0%	0%
35	3%	0%	0%	0%	0%	3%
36	1%	0%	4%	0%	0%	1%
38	1%	0%	2%	0%	0%	1%
40	4%	0%	4%	0%	0%	4%
41	0%	0%	0%	0%	0%	0%
43	0%	0%	0%	0%	0%	0%
45	1%	0%	0%	0%	0%	1%
46	0%	0%	0%	0%	0%	0%
47	0%	0%	0%	0%	0%	0%
50	3%	9%	2%	0%	0%	3%
51	0%	0%	0%	0%	0%	0%
55	0%	0%	3%	10%	0%	0%
60	1%	0%	0%	0%	0%	1%
61	0%	0%	0%	0%	0%	0%
70	0%	0%	0%	0%	0%	0%
80	1%	0%	0%	0%	0%	1%
Refused	1%	0%	0%	0%	0%	1%
90	1%	0%	0%	0%	0%	1%
95	0%	0%	0%	0%	0%	0%
Don't know	9%	0%	4%	6%	0%	9%
N	407	13	32	14	5	407

GF3A. Was it…?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
10 to 15 years old	10%	0%	50%	0%	0%	10%
15 to 20 years old	13%	0%	50%	0%	0%	13%
Over 20 years old	44%	0%	0%	100%	0%	44%
REFUSED	6%	0%	0%	0%	0%	6%
DON'T KNOW	28%	0%	0%	0%	0%	28%
N	36	0	2	1	0	36

GF5. Could your old heating system have been fixed, or was it beyond repair?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Could have been fixed	26%	26%	9%	11%	8%	26%
Was beyond repair	32%	30%	23%	23%	0%	32%
Was still in working order	41%	44%	68%	65%	92%	41%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	1%	0%	0%	0%	0%	1%
N	407	13	32	14	5	407

GF6. What was your main reason for installing your new Gas Furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Previous system really old	19%	25%	5%	7%	23%	19%
Previous system broken/Emergency replace	10%	0%	3%	0%	8%	10%
Save Energy	49%	50%	51%	47%	69%	49%
Remodeling home	2%	0%	0%	7%	0%	2%
Did not have air conditioner/heater befo	5%	25%	27%	0%	0%	5%
Increased Comfort	6%	0%	3%	12%	0%	6%
Save Money	7%	0%	0%	0%	0%	7%
Prefer Gas Heat	2%	0%	10%	26%	0%	2%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	271	8	20	11	5	271

GF09. Before you began shopping for a new Gas Furnace, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Gas Furnace?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes- aware of difference	71%	66%	77%	52%	54%	71%
No-not aware of differeces	29%	34%	20%	38%	46%	29%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	3%	10%	0%	0%
N	410	13	32	14	5	410

GF10. Before you began shopping for a new Gas Furnace, were you aware of the benefits of an ECM Blower?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	38%	50%	53%	18%	0%	38%
No	60%	50%	47%	82%	100%	60%
DON'T KNOW	1%	0%	0%	0%	0%	1%
N	93	4	8	4	1	93

GF20. Did you become aware of the cash incentive before or after you decided to purchase an energy efficient Gas Furnace that qualified for the cash incentive?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Before	47%	43%	49%	55%	54%	47%
After	32%	26%	16%	26%	0%	32%
While shopping	17%	22%	31%	19%	46%	17%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	4%	9%	4%	0%	0%	4%
N	410	13	32	14	5	410

GF30. Which of the following four statements best describes the actions you would have taken had the cash incentive NOT existed:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would not have bought a Gas Furnace	5%	0%	6%	0%	0%	5%
We would have bought a Standard Efficien	7%	0%	14%	32%	0%	7%
We would have bought an energy efficient	84%	100%	80%	68%	0%	84%
DON'T KNOW	4%	0%	0%	0%	100%	4%
N	93	4	8	4	1	93

GF31. Which of the following three statements best describes the actions you would have taken had the cash incentive NOT existed:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would not have bought a Gas Furnace	3%	0%	0%	7%	0%	3%
We would have bought a standard efficien	7%	0%	12%	0%	0%	7%
We would have bought an energy efficient	86%	100%	84%	93%	100%	86%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	3%	0%	3%	0%	0%	3%
N	317	9	24	10	4	317

GF32. If the cash incentive had not existed, would you have bought the SAME Gas Furnace that you purchased through the program, or would you have selected a Gas Furnace that was less expensive and less efficient, although still an energy efficient unit?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would have bought the SAME gas furnac	74%	88%	46%	81%	40%	74%
We would have bought a less expensive/le	19%	9%	51%	7%	60%	19%
DON'T KNOW	7%	3%	2%	12%	0%	7%
N	350	13	24	12	4	350

GF40. If the cash incentive was not available, when would you have bought the energy efficient Gas Furnace:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
At the same time you did	86%	82%	87%	76%	100%	86%
Within a year or	7%	9%	10%	17%	0%	7%
More than a year later	4%	9%	3%	0%	0%	4%
DON'T KNOW	3%	0%	0%	7%	0%	3%
N	350	13	24	12	4	350

GF45. How many years would you have waited before buying an energy efficient Gas Furnace if the cash incentive had not existed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	12%	100%	0%	0%	0%	12%
2	28%	0%	100%	0%	0%	28%
3	9%	0%	0%	0%	0%	9%
5	3%	0%	0%	0%	0%	3%
10	9%	0%	0%	0%	0%	9%
20	9%	0%	0%	0%	0%	9%
Don't know	30%	0%	0%	0%	0%	30%
N	14	1	1	0	0	14

GF50. How influential was the cash incentive in your decision to purchase an energy efficient Gas Furnace? Would you say the cash incentive was:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	20%	9%	33%	15%	23%	20%
Somewhat influential	48%	56%	43%	65%	77%	48%
Not at all influential	31%	35%	24%	20%	0%	31%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	1%	0%	0%	0%	0%	1%
N	410	13	32	14	5	410

GFTX. Did you take advantage of the Oregon Tax Credit for the Gas Furnace you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes APPLIED for tax credit	87%	73%	93%	90%	100%	87%
No DID NOT apply for tax credit	10%	5%	5%	10%	0%	10%
DON'T KNOW	3%	21%	2%	0%	0%	3%
N	370	11	30	13	5	370

GFTXa. Why didn't you take advantage of the Oregon Tax Credit for the gas furnace you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Not Aware	17%	0%	0%	0%	0%	17%
Did Not Qualify	38%	100%	100%	100%	0%	38%
Hassle	7%	0%	0%	0%	0%	7%
Too early in the year	31%	0%	0%	0%	0%	31%
DON'T KNOW	7%	0%	0%	0%	0%	7%
N	32	1	2	1	0	32

GFTXI. How likely is it that you would have purchased the same exact Gas Furnace had you not received a Tax Credit from the State of Oregon?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very likely	60%	56%	40%	56%	54%	60%
Somewhat likely OR	30%	44%	37%	39%	46%	30%
Not at all likely	9%	0%	23%	6%	0%	9%
DON'T KNOW	1%	0%	0%	0%	0%	1%
N	324	8	27	12	5	324

WINDOWS

INW3. Did you hire a contractor to install your new windows?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	89%	100%	89%	89%	100%	84%
No	11%	0%	11%	11%	0%	16%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	191	18	151	191	2	14

CW4. Please rate your satisfaction with your contractor on 1-5 scale.	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	1%	0%	1%	1%	0%	0%
2	1%	0%	0%	1%	0%	0%
3	7%	9%	8%	7%	0%	0%
4	20%	18%	20%	20%	0%	12%
5 EXTREMELY SATISFIED	71%	73%	71%	71%	100%	88%
N	89	10	79	89	2	6

CW5. Why do you say that?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Poor workmanship	100%	0%	100%	100%	0%	0%
N	2	0	1	2	0	0

SAT2BW. how satisfied are you with the quality and completeness of information provided by your contractor about energy savings opportunities?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 EXTREMELY DISSATISFIED	7%	9%	6%	7%	0%	0%
2	4%	0%	3%	4%	0%	0%
3	10%	0%	10%	10%	0%	0%
4	20%	9%	22%	20%	0%	19%
5 EXTREMELY SATISFIED	45%	73%	45%	45%	100%	50%
6 Not applicable	13%	9%	11%	13%	0%	31%
REFUSED	1%	0%	1%	1%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	89	10	79	89	2	6

CW6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	27%	59%	28%	27%	29%	52%
No	67%	41%	66%	67%	71%	36%
DON'T KNOW	6%	0%	7%	6%	0%	12%
N	169	18	135	169	2	12

CW7. How important was this list in selecting a contractor?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1 NOT AT ALL IMPORTANT	5%	0%	6%	5%	0%	0%
3	4%	0%	0%	4%	0%	18%
4	18%	0%	19%	18%	0%	0%
5 EXTREMELY IMPORTANT	71%	100%	75%	71%	100%	82%
DON'T KNOW	3%	0%	0%	3%	0%	0%
N	24	5	22	24	1	4

CW9. Did your contractor contact you first regarding installing windows in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
YES-Contractor called us first	8%	25%	8%	8%	0%	14%
NO-We called contractor first	91%	75%	91%	91%	100%	86%
REFUSED	1%	0%	1%	1%	0%	0%
N	120	8	95	120	1	6

CW11. Did the contractor that installed your windows inform you of the Home Energy Savings cash incentive program?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	33%	50%	41%	33%	0%	0%
No	67%	50%	59%	67%	0%	100%
N	10	2	8	10	0	1

CW13. How influential was your contractor in your decision to purchase program qualifying windows? Would you say your contractor was:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	29%	10%	31%	29%	29%	24%
Somewhat influential	29%	36%	27%	29%	0%	40%
Not at all Influential	40%	53%	40%	40%	71%	36%
DON'T KNOW	2%	0%	2%	2%	0%	0%
N	169	18	135	169	2	12

CW17. Did the contractor that installed your windows recommend other energy saving measures for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	22%	9%	21%	22%	0%	12%
No	76%	91%	77%	76%	100%	88%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	89	10	79	89	2	6

CW17a. What measures did the contractor recommend?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Various Insulation	49%	0%	40%	49%	.	100%
Weather Stripping	17%	100%	14%	17%	.	0%
RECORD MEASUREMENTS	35%	0%	40%	35%	.	0%
REFUSED	0%	0%	0%	0%	.	0%
DON'T KNOW	4%	0%	5%	4%	.	0%
N	19	1	16	19	0	1

WIN5. Before purchasing energy efficient windows through the program, did you have single pane or dual pane windows?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Single pane	63%	51%	65%	63%	71%	68%
Dual Pane	32%	44%	29%	32%	29%	32%
BOTH Single and Dual	4%	5%	5%	4%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	187	18	148	187	2	13

WIN6. Thinking about your new windows that were purchased through the program, how energy efficient are they relative to the old ones?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
About as energy efficient as the old one	1%	0%	1%	1%	0%	0%
Slightly more energy efficient than the	3%	5%	4%	3%	0%	9%
Significantly more energy efficient than	57%	71%	56%	57%	71%	51%
The most energy efficient ones available	37%	16%	37%	37%	29%	32%
DON'T KNOW	2%	8%	2%	2%	0%	9%
N	191	18	151	191	2	14

WIN7. What was your main reason for replacing your windows?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Windows really old	24%	27%	24%	24%	71%	10%
WIndows were broken/emergency replacemen	9%	5%	9%	9%	71%	9%
Save energy	47%	48%	46%	47%	29%	41%
Remodeling home	4%	0%	4%	4%	0%	10%
Reduce noise	3%	0%	4%	3%	0%	0%
Moisture buildup in window	16%	29%	15%	16%	29%	25%
Better looking /Design	10%	21%	9%	10%	0%	23%
UV light blocking/Reduces fading	0%	0%	1%	0%	0%	0%
Less drafty/less heat gain or loss/bette	16%	13%	16%	16%	0%	13%
Better quality	6%	4%	5%	6%	0%	6%
Increased quality	1%	0%	1%	1%	0%	0%
Increased comfort	10%	8%	10%	10%	0%	20%
Save Money run	1%	0%	1%	1%	0%	0%
OTHER - Specify	1%	0%	1%	1%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	191	18	151	191	2	14

WK1. Are the windows you purchased through the program Energy Star?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	86%	66%	87%	86%	100%	91%
No	3%	5%	3%	3%	0%	0%
DON'T KNOW	12%	29%	11%	12%	0%	9%
N	191	18	151	191	2	14

WK3. Are the windows you purchased through the program Argon Gas filled?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	82%	84%	83%	82%	100%	85%
No	4%	0%	4%	4%	0%	0%
DON'T KNOW	14%	16%	13%	14%	0%	15%
N	191	18	151	191	2	14

WK5. Do the windows you purchased through the program have Low E glass?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	84%	70%	84%	84%	100%	100%
No	2%	10%	3%	2%	0%	0%
DON'T KNOW	13%	20%	13%	13%	0%	0%
N	191	18	151	191	2	14

WIN20. Did you become aware of the cash incentive before or after you decided to purchase windows that qualified for the cash incentive?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Before	45%	47%	44%	45%	29%	44%
After	36%	35%	38%	36%	71%	36%
At the same time we were shopping for wi	17%	18%	17%	17%	0%	20%
DON'T KNOW	2%	0%	1%	2%	0%	0%
N	191	18	151	191	2	14

WIN30. If the program did not exist, would you still have purchased new windows?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	91%	84%	90%	91%	100%	100%
No	7%	16%	8%	7%	0%	0%
DON'T KNOW	2%	0%	1%	2%	0%	0%
N	191	18	151	191	2	14

WIN30a. If the program did not exist, would you have bought Energy Star Windows anyway?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	85%	80%	85%	85%	100%	94%
No	8%	10%	7%	8%	0%	6%
DON'T KNOW	8%	10%	8%	8%	0%	0%
N	148	9	117	148	2	13

WIN30b. If the program did not exist, would you have bought Argon Gas filled windows anyway?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	78%	79%	78%	78%	100%	82%
No	13%	21%	13%	13%	0%	18%
DON'T KNOW	9%	0%	10%	9%	0%	0%
N	143	12	112	143	2	12

WIN30c. If the program did not exist would you have bought Low E Glass anyway?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	85%	83%	83%	85%	100%	85%
No	9%	9%	10%	9%	0%	15%
DON'T KNOW	6%	9%	7%	6%	0%	0%
N	145	10	113	145	2	14

WIN33. Thinking about the efficiency of the old windows that were replaced through the program…if the program did not exist would you have bought windows that were…(READ)	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
About as energy efficient as the old one	2%	10%	1%	2%	0%	0%
Slightly more energy efficient than the	12%	6%	13%	12%	0%	0%
Significantly more energy efficient than	47%	84%	47%	47%	71%	53%
The most energy efficient windows availa	37%	0%	36%	37%	29%	47%
DON'T KNOW	2%	0%	3%	2%	0%	0%
N	172	14	135	172	2	14

WIN35. If the cash incentive was not available, when would you have bought new windows…(READ)	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
At the same time I did	75%	60%	74%	75%	100%	84%
Within a year	15%	15%	16%	15%	0%	16%
More than a year later	9%	18%	9%	9%	0%	0%
DON'T KNOW	0%	6%	1%	0%	0%	0%
N	174	15	136	174	2	14

WIN40. How many years would you have waited before buying new windows if the cash incentive had not existed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	48%	67%	36%	48%	0%	0%
3	15%	0%	19%	15%	0%	0%
4	7%	0%	9%	7%	0%	0%
5	12%	0%	15%	12%	0%	0%
10	7%	0%	9%	7%	0%	0%
Don't know	10%	33%	12%	10%	0%	0%
N	17	3	14	17	0	0

WIN45. How influential was the cash incentive in your decision to purchase Energy Star windows? Would you say the cash incentive was…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	32%	44%	34%	32%	0%	15%
Somewhat influential	31%	40%	30%	31%	100%	32%
Not at all Influential	36%	16%	35%	36%	0%	53%
REFUSED	1%	0%	1%	1%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	191	18	151	191	2	14

WTX. Did you take advantage of the Oregon Tax Credit for the Windows that you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	62%	55%	61%	62%	100%	62%
No	27%	24%	27%	27%	0%	29%
DON'T KNOW	11%	21%	12%	11%	0%	10%
N	145	16	110	145	2	13

WTXa. Why didn't you take advantage of the Oregon Tax Credit for the Windows you installed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Not Aware	60%	67%	56%	60%	0%	78%
Did not Qualify/Not Elgible	18%	33%	19%	18%	0%	22%
Hassle	5%	0%	7%	5%	0%	0%
Too early in year	15%	0%	15%	15%	0%	0%
DON'T KNOW	2%	0%	3%	2%	0%	0%
N	37	3	28	37	0	4

WTXI. How likely is it that you would have purchased program-qualifying energy-efficient windows had you not received a Tax Credit from the State of Oregon? Would you say…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very likely	61%	49%	62%	61%	100%	100%
Somewhat likely OR	30%	41%	28%	30%	0%	0%
Not at all likely	8%	11%	9%	8%	0%	0%
DON'T KNOW	1%	0%	1%	1%	0%	0%
N	91	9	68	91	2	8

CFL

CFL3. Did the CFLs installed during the Home Energy Review replace incandescent bulbs or older CFLs?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Incandescent	81%	81%	78%	82%	100%	66%
CFLs	4%	4%	4%	8%	0%	13%
Both	9%	9%	13%	10%	0%	18%
Did not install	4%	4%	0%	0%	0%	0%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	2%	2%	3%	0%	0%	3%
N	188	188	55	18	2	13

CFL4. Did the Home energy Review Auditor install all the bulbs that were provided by the program, or were some placed in storage?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Installed all	35%	35%	42%	57%	50%	38%
Stored Some	59%	59%	54%	43%	50%	53%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	6%	6%	2%	0%	0%	9%
N	189	189	55	18	2	13

CFL4A. How many are in storage?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	10%	10%	6%	12%	0%	17%
2	21%	21%	25%	30%	0%	0%
3	11%	11%	8%	0%	100%	0%
4	20%	20%	21%	12%	0%	50%
5	11%	11%	18%	0%	0%	0%
6	7%	7%	4%	0%	0%	0%
7	2%	2%	0%	0%	0%	0%
8	2%	2%	4%	0%	0%	0%
9	0%	0%	4%	0%	0%	17%
10	7%	7%	0%	9%	0%	0%
12	0%	0%	2%	12%	0%	0%
Don't know	9%	9%	9%	24%	0%	17%
N	110	110	29	8	1	6

CFL7. Did any of the CFL bulbs provided during the Energy Review burnout or stop working?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	30%	30%	28%	35%	50%	18%
No	63%	63%	64%	65%	50%	74%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	6%	6%	6%	0%	0%	9%
N	189	189	55	18	2	13

CFL7A. How many burned out or stopped working?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	27%	27%	34%	15%	100%	100%
2	32%	32%	17%	41%	0%	0%
3	10%	10%	25%	15%	0%	0%
4	14%	14%	12%	15%	0%	0%
5	10%	10%	7%	0%	0%	0%
9	3%	3%	0%	0%	0%	0%
12	3%	3%	5%	15%	0%	0%
N	55	55	16	7	1	2

CFL9. Were any of the CFL bulbs provided during the Energy Review removed for other reasons?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	23%	23%	16%	10%	0%	30%
No	73%	73%	78%	90%	100%	70%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	4%	4%	4%	0%	0%	0%
N	189	189	55	18	2	13

CFL9A. How many were removed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	39%	39%	23%	0%	0%	0%
2	23%	23%	23%	0%	0%	41%
3	10%	10%	21%	50%	0%	29%
4	1%	1%	21%	50%	0%	0%
5	4%	4%	0%	0%	0%	0%
6	0%	0%	13%	0%	0%	0%
8	0%	0%	0%	0%	0%	0%
10	5%	5%	0%	0%	0%	0%
12	8%	8%	0%	0%	0%	0%
Refused	4%	4%	0%	0%	0%	0%
Don't know	5%	5%	0%	0%	0%	29%
N	40	40	9	2	0	4

CFL9B. Why where these lamps removed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Quality of light provided	74%	74%	79%	50%	.	100%
Aesthetics of lamp in fixture	13%	13%	13%	0%	.	0%
Delay in turn on	9%	9%	8%	50%	.	0%
RECORD OTHER REASONS	5%	5%	0%	0%	.	0%
REFUSED	0%	0%	0%	0%	.	0%
DON'T KNOW	0%	0%	0%	0%	.	0%
N	40	40	9	2	0	4

CFL11. When the CFL bulbs that were installed during the Home Energy Review burned out or were removed, what type of bulbs did you replace them with?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Incandescent	56%	56%	66%	59%	0%	32%
CFL	43%	43%	34%	41%	100%	46%
Other Fluorescent	2%	2%	0%	0%	0%	0%
Halogen	0%	0%	0%	0%	0%	23%
OTHER - SPECIFY	5%	5%	0%	0%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	83	83	21	7	1	5

CFL13. In the time since the Home Energy Review, have you purchased any additional CFLs for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	26%	26%	24%	48%	100%	48%
No	71%	71%	71%	47%	0%	52%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	2%	2%	3%	5%	0%	0%
N	189	189	55	18	2	13

CFL13A. How many additional CFLs did you purchase for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2	24%	24%	14%	11%	0%	18%
3	14%	14%	37%	30%	0%	36%
4	24%	24%	0%	0%	50%	36%
5	15%	15%	6%	11%	0%	0%
6	8%	8%	14%	11%	50%	0%
8	0%	0%	6%	11%	0%	0%
12	8%	8%	14%	27%	0%	9%
Don't know	8%	8%	9%	0%	0%	0%
N	51	51	14	9	2	6

CFL13B. Did you use any discount coupons or receive a cash incentive when you purchased these additional CFLs for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	23%	23%	20%	38%	0%	27%
No	72%	72%	66%	51%	100%	73%
DON'T KNOW	4%	4%	14%	11%	0%	0%
N	51	51	14	9	2	6

CFL13c. What company or organization provided these CFL coupons or cash incentives?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Home Depot	32%	32%	43%	43%	.	33%
PGE	16%	16%	28%	28%	.	0%
RECORD Company name	16%	16%	28%	28%	.	0%
REFUSED	0%	0%	0%	0%	.	0%
DON'T KNOW	35%	35%	0%	0%	.	67%
N	11	11	3	3	0	2

CFL13I. How influential was your experience with the CLFs that were installed during the Home Energy Review in your decision to purchase these additional CFL bulbs for your home? Would you say…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	55%	55%	29%	22%	50%	55%
Somewhat influential	22%	22%	51%	49%	50%	45%
Not at all Influential	19%	19%	20%	30%	0%	0%
REFUSED	4%	4%	0%	0%	0%	0%
N	51	51	14	9	2	6

CFL15. Before your Home Energy Review had you ever purchased any CFLs for your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	59%	59%	67%	77%	50%	70%
No	41%	41%	31%	23%	50%	30%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	189	189	55	18	2	13

CFL20. Before your Home Energy Review, did you have specific plans to install CFLs in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	35%	35%	43%	38%	0%	39%
No	64%	64%	53%	62%	100%	61%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	1%	1%	2%	0%	0%	0%
N	189	189	55	18	2	13

CFL25. If you had not received free CFLs during the Home Energy Review, which of the following three statements best describes the actions you would have taken:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
We would not have installed CFLs in our	29%	29%	18%	10%	0%	21%
We would have installed fewer CFLs OR	43%	43%	40%	39%	100%	44%
We would have installed the same number	23%	23%	40%	51%	0%	35%
REFUSED	0%	0%	2%	0%	0%	0%
DON'T KNOW	4%	4%	0%	0%	0%	0%
N	189	189	55	18	2	13

CFL28. If you had not received free CFLs during the Home Energy Review, how many CFLs would you have purchased and installed on your own?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	7%	7%	0%	0%	0%	0%
2	17%	17%	4%	20%	0%	20%
3	19%	19%	15%	0%	0%	40%
4	15%	15%	24%	13%	50%	0%
5	8%	8%	19%	13%	50%	20%
6	10%	10%	8%	13%	0%	20%
8	0%	0%	5%	0%	0%	0%
10	3%	3%	0%	0%	0%	0%
Refused	0%	0%	0%	0%	0%	0%
Don't know	21%	21%	25%	40%	0%	0%
N	80	80	22	7	2	5

CFL30. If you had not participated in the Home Energy Review and received free CFL bulbs, when would you have bought CFLs:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
At roughly the same time as the Home Ene	16%	16%	38%	35%	0%	11%
Within a few months of the Home Energy R	39%	39%	21%	12%	0%	11%
Within a year of the Home Energy Review	26%	26%	31%	29%	100%	67%
More than a year after the Home Energy R	12%	12%	3%	25%	0%	11%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	6%	6%	8%	0%	0%	0%
N	136	136	44	16	2	10

EQUIPMENT CHANGES AND SPILLOVER

C1. Other than the equipment we've already discussed, have you added any insulation or new windows to your home since January 2003?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	33%	43%	31%	17%	26%	29%
No	65%	55%	68%	81%	74%	69%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	1%	2%	1%	1%	0%	1%
N	1477	189	810	193	151	410

C1A. Other than the equipment we've already discussed, have you installed any new heating, cooling or water heating equipment since January 2003?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	32%	21%	25%	29%	30%	38%
No	67%	78%	74%	69%	70%	60%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	1%	1%	0%	2%	0%	1%
N	1477	189	810	193	151	410

C1B. Other than the equipment we've already discussed, have you made any major household appliance purchases, such as refrigerators, clothes washers or pool pumps?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	39%	34%	39%	37%	41%	42%
No	59%	63%	60%	60%	59%	57%
REFUSED	0%	1%	0%	0%	0%	0%
DON'T KNOW	2%	3%	1%	3%	0%	1%
N	1477	189	810	193	151	410

C2 You mentioned that you installed, [&EQUIP1, &EQUIP2, &EQUIP3]. What specific types of equipment did you install?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Ceiling Insulat.	5%	8%	3%	8%	4%	4%
Wall Insulation	3%	3%	2%	4%	1%	4%
Floor Insulation	2%	5%	1%	5%	2%	0%
Duct Insulation	0%	0%	1%	3%	1%	0%
Windows	28%	42%	38%	6%	26%	20%
Refrigerator	11%	7%	13%	12%	17%	11%
Clothes Washer	13%	12%	11%	20%	9%	14%
Clothes Dryer	2%	3%	2%	3%	1%	2%
Dishwasher	8%	6%	7%	5%	6%	9%
Central Air Cond.	7%	0%	3%	3%	2%	10%
Heat Pump	1%	2%	1%	4%	0%	0%
Centl Heat/Gas Furnace	3%	5%	5%	13%	0%	1%
Centl Heat/Electric	0%	0%	0%	0%	5%	0%
Electric Strip Heat	0%	0%	0%	0%	0%	0%
Water Heater GAS	12%	4%	6%	4%	5%	17%
Water Heater ELECTRIC	2%	2%	3%	3%	14%	2%
Whole House Fan	0%	0%	0%	1%	0%	0%
Gas Stove	1%	0%	1%	0%	0%	1%
Elec Stove	0%	0%	1%	1%	1%	0%
Pellet/Wood Stove	0%	0%	0%	0%	0%	0%
Skylight	0%	0%	0%	1%	0%	0%
Gas Fireplace	1%	0%	1%	1%	0%	1%
Other Water Heater	1%	0%	0%	0%	0%	1%
Freezer	1%	2%	1%	1%	3%	0%
Stove/Range Unknown Fuel	0%	0%	0%	1%	2%	0%
Electric Other	0%	0%	0%	0%	0%	0%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	943	115	495	113	100	277

C2 You mentioned that you installed, [&EQUIP1, &EQUIP2, &EQUIP3]. What specific types of equipment did you install?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Ceiling Insulat.	2%	0%	2%	0%	0%	3%
Wall Insulation	3%	9%	1%	0%	0%	1%
Floor Insulation	2%	5%	1%	3%	0%	1%
Duct Insulation	0%	0%	1%	0%	4%	0%
Windows	2%	1%	1%	0%	4%	3%
Refrigerator	9%	10%	7%	13%	4%	9%
Clothes Washer	3%	0%	5%	5%	0%	4%
Clothes Dryer	13%	20%	9%	6%	11%	11%
Dishwasher	9%	5%	8%	8%	4%	11%
Room Air Cond.	0%	0%	0%	0%	0%	0%
Central Air Cond.	4%	0%	4%	4%	4%	6%
Heat Pump	0%	0%	0%	0%	0%	0%
Centl Heat/Gas Furnace	1%	0%	4%	0%	4%	0%
Centl Heat/Electric	0%	0%	0%	0%	0%	0%
Electric Strip Heat	0%	0%	0%	0%	0%	0%
Water Heater GAS	2%	0%	2%	9%	0%	2%
Water Heater ELECTRIC	1%	0%	3%	7%	4%	0%
EvapCooler/Swamp Cooler	0%	0%	0%	0%	0%	0%
Whole House Fan	0%	0%	0%	0%	0%	0%
Gas Stove	0%	0%	0%	0%	0%	0%
Electric Stove	0%	0%	0%	0%	0%	0%
Pellet/Wood Stove	0%	0%	0%	0%	0%	0%
Skylight	0%	0%	0%	0%	0%	0%
Gas Fireplace	0%	0%	0%	0%	0%	0%
Other Water Heater	0%	0%	0%	0%	0%	0%
Freezer	0%	0%	0%	0%	0%	0%
Attic Work	0%	0%	0%	0%	0%	0%
Stove/Range - Unknown Fuel	0%	0%	0%	0%	0%	0%
Electric Room/Space Heater	0%	0%	0%	0%	0%	0%
Gas Room/Space Heater	0%	0%	0%	0%	0%	0%
Other - Specify	0%	0%	0%	0%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	1%	0%	0%	0%	0%	3%
N	317	38	169	36	29	90

SPTYR_1. Approximately what year did you install &EQUIP1?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2003	21%	14%	20%	22%	28%	24%
2004	35%	38%	39%	37%	39%	33%
2005	37%	44%	37%	36%	30%	34%
DON'T KNOW	7%	5%	4%	5%	3%	9%
N	963	118	508	113	100	282

SPTMO_1. Approximately what month did you install &EQUIP1?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
January	8%	7%	6%	12%	2%	9%
February	3%	2%	3%	2%	7%	3%
March	5%	6%	5%	6%	1%	5%
April	6%	8%	7%	5%	2%	6%
May	7%	10%	6%	5%	8%	6%
June	5%	2%	7%	9%	7%	6%
July	9%	10%	8%	8%	8%	9%
August	9%	8%	9%	13%	7%	9%
September	9%	15%	7%	3%	9%	8%
October	7%	11%	7%	5%	7%	6%
November	3%	2%	3%	1%	2%	3%
December	2%	1%	3%	5%	3%	1%
DON'T KNOW	26%	20%	29%	25%	36%	28%
N	963	118	508	113	100	282

SPT2. Can you recall the season?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Spring	21%	14%	24%	33%	21%	21%
Summer	23%	11%	31%	24%	28%	25%
Fall	12%	19%	10%	7%	22%	11%
Winter	7%	15%	5%	12%	3%	5%
DON'T KNOW	37%	41%	30%	25%	26%	39%
N	277	28	148	28	36	81

SP1. Did this &EQUIP1 replace existing equipment, or was it an addition to the equipment used in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Replace existing equipment	91%	95%	92%	90%	92%	90%
An Addition to existing equipment	9%	5%	8%	10%	8%	10%
REFUSED	0%	0%	0%	0%	0%	0%
DON'T KNOW	0%	0%	0%	1%	0%	0%
N	808	96	434	85	85	241

ES1. Was your new &EQUIP Energy Star?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	83%	81%	79%	79%	88%	84%
No	7%	11%	7%	4%	9%	6%
DON'T KNOW	10%	8%	14%	17%	3%	10%
N	309	31	167	46	33	100

SP2. Is the new &EQUIP1 high or standard efficiency?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
High Efficiency	60%	61%	58%	69%	75%	59%
Standard Efficiency	16%	13%	20%	10%	10%	16%
DON'T KNOW	24%	26%	22%	21%	15%	25%
N	255	26	115	40	27	95

SP2a. Why do you say that?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Contractor	13%	26%	20%	20%	9%	10%
Magazine/Publication	0%	0%	1%	4%	0%	0%
Anecdotal Savings	2%	0%	6%	0%	4%	2%
Label/Lack of Label	17%	1%	22%	0%	17%	19%
Requested/Informed upon purchase	24%	22%	18%	27%	31%	25%
Researched	13%	7%	10%	19%	17%	14%
Was Told So	6%	3%	3%	7%	4%	8%
Specific Engery Rating	4%	21%	8%	17%	0%	0%
Price descrimination	8%	21%	5%	3%	4%	6%
RECORD VERBATIM	0%	0%	0%	0%	9%	0%
DON'T KNOW	12%	0%	6%	4%	4%	15%
N	178	20	81	30	23	62

WK1. Are the new windows you purchased Energy Star?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	70%	75%	70%	88%	71%	66%
No	11%	12%	5%	12%	8%	13%
REFUSED	0%	0%	1%	0%	0%	0%
DON'T KNOW	19%	13%	25%	0%	21%	21%
N	280	43	175	7	26	57

WK3. Are the new windows you purchased Argon Gas filled?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	46%	48%	36%	88%	42%	48%
No	30%	28%	32%	12%	19%	30%
DON'T KNOW	25%	24%	32%	0%	39%	22%
N	280	43	175	7	26	57

WK5. Do the new windows you purchased have Low E glass?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	74%	87%	69%	88%	61%	67%
No	5%	4%	9%	12%	0%	5%
DON'T KNOW	20%	9%	21%	0%	39%	28%
N	280	43	175	7	26	57

HP2. Did the new Heat Pump replace an old Heat Pump, an Electric Forced Air Furnace, or something else?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Heat pump	47%	92%	15%	24%	0%	0%
Electric Forced Air Furnace	7%	0%	32%	17%	0%	0%
Something Else	8%	8%	37%	0%	0%	0%
DID NOT REPLACE ANYTHING	37%	0%	15%	58%	0%	100%
N	10	2	6	5	0	1

HP2a. What type of system was removed and replaced with the new Heat Pump?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Forced Air	100%	0%	100%	0%	0%	0%
N	1	0	1	0	0	0

SP3. Did your Home Energy Review include a recommendation for installing a new &EQUIP1	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	46%	46%	33%	8%	50%	31%
No	46%	46%	64%	81%	50%	69%
DON'T KNOW	8%	8%	3%	11%	0%	0%
N	118	118	26	9	2	7

SP4. How influential was the Home Energy Review in your decision to purchase &EQUIP1?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	23%	23%	9%	0%	0%	0%
Somewhat influential	33%	33%	19%	19%	50%	16%
Not at all influential	42%	42%	72%	81%	50%	84%
DON'T KNOW	2%	2%	0%	0%	0%	0%
N	118	118	26	9	2	7

SP5. How influential was your experience in the Home Energy Savings program or information provided through the program in your decision to install &EQUIP1?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	16%	15%	14%	20%	15%	16%
Somewhat influential	19%	19%	17%	20%	23%	19%
Not at all influential	62%	55%	68%	60%	63%	61%
DON'T KNOW	3%	11%	1%	0%	0%	3%
N	881	36	508	113	100	282

CN1. How influential was your experience in the {PROGRAM} program or program materials on your decision to convert from a forced air furnace to a heat pump? Would you say…	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Not at all Influential	100%	0%	100%	100%	0%	0%
N	2	0	2	1	0	0

SP6. Did you receive a cash incentive for &EQUIP1?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	21%	23%	18%	42%	20%	20%
No	72%	72%	79%	54%	75%	71%
REFUSED	0%	0%	0%	1%	0%	0%
DON'T KNOW	7%	5%	4%	3%	5%	9%
N	963	118	508	113	100	282

CFLSP1. Since January 2003, have you installed any CFLs in your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	53%	0%	53%	57%	50%	53%
No	45%	0%	45%	41%	50%	45%
REFUSED	1%	0%	0%	0%	0%	1%
DON'T KNOW	2%	0%	2%	2%	0%	1%
N	1288	0	755	175	149	397

CFLSP2. How many CFLs did you install?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	4%	0%	2%	1%	3%	5%
2	10%	0%	4%	6%	10%	12%
3	8%	0%	8%	5%	3%	8%
4	8%	0%	9%	9%	9%	8%
5	9%	0%	11%	11%	7%	8%
6	14%	0%	17%	16%	15%	13%
7	2%	0%	2%	2%	0%	2%
8	5%	0%	4%	5%	7%	5%
9	1%	0%	2%	1%	1%	1%
10	11%	0%	12%	16%	16%	10%
11	0%	0%	0%	0%	0%	0%
12	9%	0%	9%	9%	13%	9%
13	1%	0%	1%	0%	1%	1%
15	5%	0%	5%	10%	5%	5%
16	0%	0%	0%	0%	1%	0%
18	0%	0%	1%	0%	0%	0%
20	5%	0%	6%	6%	4%	5%
21	0%	0%	0%	0%	0%	0%
24	1%	0%	0%	0%	0%	1%
25	0%	0%	0%	1%	0%	1%
30	1%	0%	2%	0%	4%	1%
34	0%	0%	0%	0%	0%	0%
35	0%	0%	0%	2%	0%	1%
40	0%	0%	0%	0%	0%	0%
43	0%	0%	0%	1%	0%	0%
50	0%	0%	0%	0%	0%	0%
Don't know	5%	0%	2%	0%	0%	6%
N	692	0	411	103	75	209

CFLSP5. How influential was the Home Energy Savings program and information provided through the program in your decision to install these CFL's?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Very Influential	28%	0%	30%	40%	31%	28%
Somewhat influential	28%	0%	24%	23%	19%	29%
Not at all Influential	41%	0%	42%	33%	49%	41%
REFUSED	1%	0%	1%	1%	0%	1%
DO NOT KNOW	2%	0%	2%	3%	1%	2%
N	692	0	411	103	75	209

HOME APPLIANCE AND EQUIPMENT STOCK

Eq1. Which of the following best describes your primary heating system? (READ)	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
A Gas Furnace	74%	72%	77%	72%	0%	0%
An Electric Furnace	10%	11%	7%	6%	0%	0%
A Heat Pump	4%	3%	6%	11%	0%	0%
Electric Strip Heat	3%	3%	3%	3%	0%	0%
Space Heating - Electric	3%	4%	1%	1%	0%	0%
You dont have a Primary Heating System	0%	0%	0%	1%	0%	0%
Other - SPECIFY	6%	6%	5%	6%	0%	0%
REFUSED	0%	0%	0%	0%	0%	0%
N	787	149	664	148	0	0

S30. Do you have natural gas service to your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	28%	29%	31%	29%	14%	0%
No	72%	70%	68%	71%	86%	0%
REFUSED	0%	0%	1%	0%	0%	0%
N	355	44	189	46	142	0

Eq5. Do you have a gas or electric water heater?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Gas water heater	81%	76%	71%	74%	62%	86%
Electric Water Heater	17%	21%	27%	25%	29%	11%
Both	1%	0%	1%	0%	9%	1%
REFUSED	0%	0%	0%	0%	0%	1%
DON'T KNOW	1%	3%	1%	1%	0%	1%
N	1026	139	594	133	24	330

Eq7. Do you have a gas or electric stove?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Gas Stove	34%	34%	31%	28%	29%	36%
Electric Stove	61%	62%	66%	69%	71%	59%
Both	4%	4%	3%	3%	0%	4%
Neither	0%	0%	0%	0%	0%	0%
REFUSED	0%	0%	0%	0%	0%	1%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	1210	158	679	159	29	410

Eq9. Do you have a gas or electric clothes dryer?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Gas Clothes Dryer	17%	16%	12%	13%	11%	18%
Electric Clothes Dryer	81%	83%	87%	87%	89%	79%
Both	0%	0%	0%	0%	0%	0%
Neither	0%	0%	1%	0%	0%	0%
REFUSED	0%	0%	0%	0%	0%	1%
DON'T KNOW	1%	1%	0%	1%	0%	1%
N	1210	158	679	159	29	410

Eq11. Does your home have air conditioning?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	45%	35%	45%	54%	0%	51%
No	54%	65%	55%	46%	0%	48%
REFUSED	1%	0%	0%	0%	0%	1%
N	1213	175	751	174	0	349

HOME CHARACTERISTICS AND DEMOGRAPHICS

DE3. In what year was your home built?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1888	0%	0%	0%	0%	0%	0%
1890	0%	1%	0%	0%	0%	0%
1894	0%	0%	0%	0%	0%	0%
1895	0%	0%	0%	0%	0%	0%
1896	0%	0%	0%	1%	0%	0%
1897	0%	0%	0%	0%	0%	0%
1898	0%	0%	0%	0%	0%	0%
1900	0%	1%	1%	1%	0%	0%
1902	0%	0%	0%	0%	0%	0%
1903	0%	0%	0%	0%	1%	0%
1904	0%	1%	0%	0%	1%	0%
1905	0%	0%	0%	0%	0%	1%
1906	1%	0%	1%	0%	0%	2%
1907	1%	1%	0%	0%	0%	1%
1908	1%	1%	1%	0%	0%	1%
1909	1%	0%	0%	0%	0%	1%
1910	1%	1%	1%	1%	0%	1%
1911	2%	1%	1%	1%	0%	2%
1912	1%	2%	1%	0%	0%	1%
1913	1%	0%	0%	1%	0%	1%
1914	0%	0%	0%	1%	0%	1%
1915	1%	1%	1%	1%	0%	1%
1916	0%	0%	1%	0%	0%	1%
1917	0%	0%	0%	0%	0%	0%
1918	0%	1%	0%	0%	0%	0%
1919	0%	0%	0%	0%	0%	0%
1920	2%	3%	1%	1%	0%	1%
1921	0%	0%	0%	1%	0%	1%
1922	1%	2%	1%	1%	0%	1%
1923	1%	0%	1%	0%	0%	1%
1924	2%	2%	1%	0%	0%	2%
1925	1%	0%	1%	0%	0%	1%
1926	1%	0%	1%	2%	1%	2%
1927	1%	0%	1%	2%	0%	1%
1928	2%	4%	0%	0%	0%	1%
1929	1%	0%	0%	0%	0%	1%
1930	1%	1%	1%	0%	0%	2%
1931	0%	0%	0%	0%	0%	0%
1932	0%	0%	0%	1%	0%	1%
1934	1%	2%	0%	0%	1%	1%
1935	0%	0%	0%	0%	0%	0%
1936	0%	0%	0%	0%	0%	0%
1937	0%	0%	0%	0%	0%	0%
1938	0%	0%	1%	0%	0%	0%
1939	0%	0%	0%	0%	0%	1%
1940	1%	0%	1%	3%	1%	1%
1941	1%	0%	1%	0%	0%	1%
1942	1%	2%	1%	2%	0%	0%
1943	0%	0%	0%	0%	0%	0%
1944	0%	0%	0%	1%	0%	0%
1945	1%	2%	0%	0%	1%	1%
1946	0%	0%	1%	1%	0%	0%
1947	0%	0%	1%	1%	1%	1%
1948	0%	0%	1%	0%	0%	0%
1949	1%	1%	1%	2%	0%	0%
1950	3%	4%	3%	3%	2%	2%
1951	0%	0%	1%	0%	0%	1%
1952	1%	1%	1%	1%	1%	1%
1953	1%	1%	1%	1%	0%	2%
1954	1%	3%	1%	1%	1%	1%
1955	1%	1%	1%	0%	1%	1%
1956	1%	1%	2%	1%	1%	1%
1957	1%	1%	1%	1%	1%	1%
1958	1%	0%	2%	3%	0%	1%
1959	1%	1%	1%	2%	1%	1%
1960	3%	3%	3%	4%	3%	2%
1961	1%	1%	2%	2%	0%	1%
1962	1%	0%	2%	3%	0%	1%
1963	1%	1%	2%	2%	1%	1%
1964	1%	2%	2%	1%	1%	1%
1965	1%	1%	2%	1%	1%	1%
1966	1%	0%	1%	0%	2%	1%
1967	1%	2%	1%	2%	2%	1%
1968	1%	1%	3%	2%	1%	1%
1969	1%	1%	1%	3%	1%	1%
1970	3%	3%	4%	1%	3%	3%
1971	2%	2%	2%	1%	2%	2%
1972	2%	1%	3%	4%	2%	1%
1973	2%	1%	2%	2%	3%	3%
1974	2%	4%	2%	3%	5%	1%

1975	2%	4%	3%	4%	6%	1%
1976	2%	3%	2%	2%	5%	2%
1977	2%	1%	3%	5%	5%	3%
1978	3%	4%	4%	4%	4%	2%
1979	2%	3%	3%	1%	7%	2%
1980	3%	1%	3%	4%	7%	3%
1981	1%	2%	0%	1%	0%	1%
1982	1%	0%	0%	0%	1%	1%
1983	0%	0%	1%	2%	1%	0%
1984	1%	2%	1%	0%	2%	1%
1985	1%	1%	0%	1%	1%	1%
1986	1%	0%	1%	1%	1%	2%
1987	2%	3%	1%	1%	1%	2%
1988	1%	0%	1%	1%	2%	1%
1989	1%	1%	1%	1%	4%	0%
1990	1%	1%	1%	0%	1%	2%
1991	1%	1%	0%	0%	2%	1%
1992	1%	0%	0%	0%	2%	1%
1993	0%	0%	0%	0%	1%	0%
1994	1%	0%	0%	0%	0%	1%
1995	0%	1%	0%	0%	2%	0%
1996	0%	0%	0%	0%	1%	0%
1997	0%	0%	0%	0%	0%	0%
1998	0%	1%	0%	0%	0%	0%
1999	0%	0%	0%	0%	1%	0%
2000	0%	0%	0%	0%	1%	0%
2001	0%	0%	0%	0%	1%	0%
2002	0%	0%	0%	0%	0%	0%
2003	0%	0%	0%	0%	0%	0%
Refused	1%	0%	0%	0%	0%	1%
Don't know	2%	1%	1%	3%	1%	2%
N	1477	189	810	193	151	410

DE3A. Was it built …. [READ RANGE]?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
In the 1980s	11%	5%	23%	27%	0%	10%
In the 1970s	20%	0%	31%	46%	100%	21%
In the 1960s	15%	0%	4%	14%	0%	20%
In the 1950s	8%	5%	4%	14%	0%	10%
Before 1940	2%	0%	16%	0%	0%	0%
REFUSED	24%	7%	15%	0%	0%	30%
DON'T KNOW	19%	83%	7%	0%	0%	10%
N	29	4	16	7	1	11

DE4. bout how large is your home in terms of total square feet?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
120	0%	0%	0%	0%	0%	0%
150	0%	0%	0%	1%	0%	0%
186	0%	1%	0%	0%	0%	0%
511	0%	0%	0%	0%	0%	0%
652	0%	0%	0%	0%	0%	0%
675	0%	0%	0%	0%	0%	0%
700	0%	0%	0%	1%	0%	0%
725	0%	1%	0%	0%	0%	0%
740	0%	0%	0%	0%	0%	0%
750	0%	0%	0%	1%	0%	0%
800	0%	1%	0%	0%	0%	0%
806	0%	0%	0%	0%	0%	0%
812	0%	0%	0%	1%	0%	0%
840	0%	0%	0%	0%	0%	0%
850	0%	0%	0%	1%	0%	0%
853	0%	0%	0%	0%	0%	0%
860	0%	0%	0%	0%	0%	0%
865	0%	0%	0%	0%	0%	0%
880	0%	0%	0%	0%	0%	0%
900	1%	1%	1%	1%	0%	0%
911	0%	0%	0%	0%	0%	0%
912	0%	0%	0%	0%	0%	0%
920	0%	0%	0%	0%	0%	0%
930	0%	0%	0%	0%	0%	0%
938	0%	0%	0%	0%	0%	0%
940	0%	0%	0%	0%	0%	0%
950	0%	0%	0%	1%	1%	0%
961	0%	0%	0%	0%	0%	0%
964	0%	1%	0%	0%	0%	0%
972	0%	0%	0%	0%	0%	0%
980	0%	0%	0%	0%	0%	0%
985	0%	0%	0%	0%	0%	0%
990	0%	0%	0%	0%	0%	0%
1000	1%	2%	4%	1%	0%	0%
1008	0%	0%	0%	0%	0%	0%
1032	0%	0%	0%	0%	0%	0%
1050	0%	1%	0%	0%	1%	0%

1056	0%	0%	0%	0%	0%	0%
1066	0%	0%	0%	0%	0%	0%
1073	0%	0%	0%	0%	0%	0%
1075	0%	0%	0%	0%	1%	0%
1080	0%	0%	0%	0%	0%	0%
1085	0%	0%	0%	0%	0%	0%
1100	1%	0%	4%	5%	3%	1%
1105	0%	0%	0%	1%	0%	0%
1125	0%	0%	0%	0%	1%	0%
1150	0%	0%	0%	0%	0%	0%
1157	0%	0%	0%	0%	0%	0%
1160	0%	0%	0%	0%	0%	0%
1163	0%	0%	0%	1%	0%	0%
1176	0%	0%	0%	0%	0%	0%
1178	0%	0%	0%	0%	0%	0%
1180	0%	0%	0%	1%	0%	0%
1190	0%	0%	0%	1%	0%	0%
1200	4%	5%	5%	6%	1%	3%
1209	0%	0%	0%	0%	0%	0%
1217	0%	0%	0%	0%	0%	0%
1222	0%	1%	0%	0%	0%	0%
1228	0%	0%	0%	0%	0%	0%
1230	0%	0%	0%	1%	0%	0%
1238	0%	0%	0%	0%	0%	0%
1240	0%	0%	0%	1%	0%	0%
1248	0%	0%	0%	0%	1%	0%
1250	0%	0%	1%	1%	0%	0%
1276	0%	1%	0%	0%	0%	0%
1279	0%	0%	0%	0%	0%	0%
1280	0%	0%	0%	0%	0%	0%
1300	3%	6%	3%	2%	2%	1%
1320	0%	0%	0%	0%	0%	0%
1325	0%	0%	0%	0%	0%	0%
1330	0%	0%	0%	0%	0%	0%
1340	0%	0%	0%	0%	0%	0%
1342	0%	0%	0%	0%	0%	0%
1345	0%	0%	0%	0%	0%	0%
1350	0%	0%	0%	0%	0%	1%
1365	0%	0%	0%	0%	0%	0%
1368	0%	0%	0%	0%	0%	0%
1374	0%	0%	0%	0%	0%	0%
1380	0%	0%	0%	0%	0%	0%
1392	0%	0%	0%	0%	0%	0%
1400	4%	4%	5%	4%	4%	4%
1406	0%	0%	0%	0%	0%	0%
1407	0%	0%	0%	0%	0%	0%
1410	0%	0%	0%	0%	0%	0%
1413	0%	0%	0%	0%	1%	0%
1425	0%	0%	0%	0%	0%	0%
1430	0%	0%	0%	0%	0%	1%
1440	0%	0%	0%	0%	0%	0%
1445	0%	0%	0%	1%	0%	0%
1450	0%	0%	1%	1%	1%	0%
1457	0%	0%	0%	0%	0%	0%
1475	0%	0%	0%	0%	0%	0%
1480	0%	0%	0%	0%	0%	0%
1490	0%	0%	0%	1%	0%	0%
1500	6%	8%	6%	6%	5%	5%
1505	0%	0%	0%	0%	1%	0%
1516	0%	0%	0%	1%	0%	0%
1534	0%	0%	0%	0%	0%	0%
1540	0%	0%	0%	1%	0%	0%
1544	0%	0%	0%	0%	0%	0%
1550	0%	1%	1%	1%	0%	0%
1560	0%	0%	0%	0%	0%	0%
1575	0%	1%	0%	0%	0%	0%
1580	0%	0%	0%	0%	1%	0%
1586	0%	0%	0%	1%	0%	0%
1598	0%	0%	0%	0%	0%	0%
1600	5%	4%	4%	3%	4%	5%
1621	0%	0%	0%	0%	0%	0%
1634	0%	0%	0%	0%	1%	0%
1645	0%	0%	0%	0%	0%	0%
1650	1%	4%	0%	0%	1%	0%
1652	0%	1%	0%	0%	0%	0%
1660	0%	0%	0%	1%	0%	0%
1666	0%	0%	0%	0%	0%	0%
1674	0%	0%	0%	0%	0%	0%
1675	0%	0%	0%	0%	0%	0%
1690	0%	0%	0%	0%	0%	0%
1700	3%	3%	4%	1%	3%	4%
1710	0%	0%	0%	0%	0%	0%
1720	0%	0%	0%	0%	0%	0%
1734	0%	0%	0%	0%	0%	0%

1740	0%	0%	0%	0%	0%	0%
1750	1%	2%	1%	1%	0%	1%
1769	0%	0%	0%	0%	0%	0%
1780	0%	0%	0%	0%	0%	0%
1790	0%	0%	0%	0%	0%	0%
1800	5%	2%	6%	6%	7%	6%
1835	0%	0%	0%	0%	0%	0%
1840	0%	0%	0%	0%	0%	0%
1850	0%	0%	1%	1%	2%	0%
1860	0%	0%	0%	0%	1%	0%
1870	0%	0%	0%	0%	0%	0%
1880	0%	0%	0%	1%	0%	0%
1900	2%	3%	2%	4%	1%	2%
1920	0%	0%	0%	0%	0%	0%
1925	0%	0%	0%	0%	0%	0%
1936	0%	0%	0%	0%	0%	0%
1940	0%	1%	0%	0%	0%	0%
1942	0%	0%	0%	0%	0%	0%
1950	0%	0%	1%	0%	1%	1%
1956	0%	0%	0%	0%	0%	0%
1960	0%	0%	0%	0%	0%	0%
1972	0%	0%	0%	0%	0%	0%
1976	0%	0%	0%	0%	0%	0%
1977	0%	0%	0%	0%	0%	0%
1980	0%	0%	0%	0%	1%	0%
1990	0%	0%	0%	0%	0%	0%
1995	0%	0%	0%	0%	0%	0%
2000	5%	2%	6%	5%	8%	6%
2004	0%	0%	0%	0%	0%	0%
2010	0%	0%	0%	0%	1%	0%
2012	0%	0%	0%	0%	0%	0%
2020	0%	0%	0%	0%	0%	0%
2025	0%	0%	0%	0%	0%	0%
2038	0%	0%	0%	0%	0%	0%
2050	0%	0%	0%	0%	0%	0%
2100	2%	2%	2%	2%	2%	1%
2150	0%	0%	0%	0%	1%	0%
2184	0%	0%	0%	0%	1%	0%
2200	5%	7%	4%	4%	3%	5%
2204	0%	0%	0%	0%	0%	0%
2215	0%	0%	0%	0%	1%	0%
2250	0%	0%	0%	0%	0%	1%
2270	0%	0%	0%	0%	1%	0%
2300	4%	0%	2%	0%	1%	6%
2330	0%	0%	0%	0%	0%	0%
2350	0%	0%	0%	1%	0%	0%
2400	5%	6%	2%	2%	5%	5%
2448	0%	0%	0%	0%	0%	0%
2450	0%	0%	0%	0%	1%	0%
2460	0%	0%	0%	0%	0%	0%
2480	0%	0%	0%	1%	0%	0%
2500	3%	2%	3%	2%	5%	4%
2520	0%	0%	0%	0%	1%	0%
2530	0%	0%	0%	0%	0%	0%
2534	0%	0%	0%	1%	0%	0%
2600	2%	2%	2%	2%	3%	2%
2650	0%	0%	0%	0%	0%	0%
2700	2%	1%	1%	1%	2%	3%
2730	0%	0%	0%	0%	0%	0%
2750	0%	1%	0%	0%	0%	0%
2800	4%	2%	3%	2%	1%	5%
2874	0%	0%	0%	0%	1%	0%
2900	1%	2%	1%	1%	0%	0%
2950	0%	0%	0%	0%	0%	0%
3000	3%	5%	4%	4%	6%	3%
3015	0%	0%	0%	0%	0%	0%
3050	0%	0%	0%	0%	0%	0%
3100	0%	0%	0%	1%	0%	1%
3186	0%	0%	0%	0%	0%	0%
3200	1%	1%	0%	0%	1%	1%
3250	0%	0%	0%	0%	0%	0%
3270	0%	0%	0%	0%	0%	0%
3300	1%	0%	0%	0%	1%	1%
3320	0%	1%	0%	0%	0%	0%
3350	0%	0%	0%	0%	0%	0%
3400	1%	2%	1%	0%	1%	0%
3500	1%	0%	1%	1%	2%	1%
3520	0%	0%	0%	0%	0%	0%
3600	1%	1%	0%	1%	0%	1%
3800	0%	0%	0%	0%	0%	1%
3900	0%	0%	0%	0%	1%	0%
4000	1%	1%	0%	0%	3%	1%
4200	0%	0%	0%	0%	1%	0%
4242	0%	0%	0%	0%	1%	0%

4300	0%	0%	0%	0%	0%	0%
4400	0%	0%	0%	0%	0%	0%
4500	0%	0%	0%	1%	0%	0%
4800	0%	0%	0%	0%	0%	0%
5000	0%	0%	0%	0%	0%	0%
5500	0%	0%	0%	0%	0%	0%
5600	0%	0%	0%	0%	0%	0%
5900	0%	0%	0%	0%	0%	0%
6000	0%	0%	0%	0%	0%	0%
6500	0%	0%	0%	0%	1%	0%
Refused	1%	0%	0%	0%	0%	1%
Don't know	6%	4%	3%	4%	5%	7%
N	1477	189	810	193	151	410

DE4A. Is it …. [READ RANGE]?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Less than 500 sq ft	3%	0%	0%	0%	0%	3%
Between 500 and 1000 sq ft	1%	0%	5%	28%	0%	0%
Between 1000 and 1500 sq ft	15%	1%	26%	15%	0%	17%
Between 1500 and 2000 sq ft	19%	24%	16%	0%	56%	17%
Between 2000 and 2500 sq ft	8%	24%	12%	4%	5%	3%
Between 2500 and 3000 sq ft	9%	24%	0%	0%	0%	7%
More than 3000 sq ft	0%	0%	0%	0%	14%	0%
REFUSED	11%	2%	11%	0%	11%	14%
DON'T KNOW	35%	24%	29%	53%	14%	38%
N	70	6	29	8	8	32

DE5. Did you do any remodeling or renovation or additions Since January 2003?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes	25%	23%	27%	27%	16%	26%
No	73%	75%	72%	73%	84%	73%
REFUSED	1%	0%	0%	0%	1%	1%
DON'T KNOW	0%	1%	0%	0%	0%	0%
N	1477	189	810	193	151	410

DE6. Has the square footage of your house changed?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes it INCREASED	22%	18%	22%	10%	26%	22%
No Change	78%	82%	78%	90%	70%	78%
DON'T KNOW	0%	0%	1%	0%	4%	0%
N	379	48	225	52	24	105

DE6A. By how much did the square feet in your home increase as a result of the renovations?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
19	1%	0%	0%	0%	0%	1%
45	3%	0%	0%	0%	0%	5%
50	1%	4%	4%	0%	0%	0%
80	4%	23%	0%	0%	0%	0%
100	7%	0%	4%	0%	0%	10%
120	0%	0%	2%	23%	0%	0%
130	0%	0%	2%	0%	0%	0%
150	0%	0%	2%	0%	0%	0%
180	3%	0%	0%	0%	0%	5%
200	7%	2%	16%	0%	16%	5%
225	0%	0%	2%	0%	0%	0%
260	4%	23%	0%	0%	0%	0%
300	6%	2%	11%	0%	0%	6%
350	4%	23%	0%	0%	0%	0%
400	5%	2%	9%	49%	18%	5%
450	1%	0%	5%	0%	0%	0%
500	13%	0%	7%	0%	16%	19%
600	7%	0%	6%	0%	0%	10%
630	3%	0%	0%	0%	0%	5%
700	4%	0%	5%	0%	0%	5%
750	0%	0%	2%	0%	0%	0%
800	5%	0%	8%	28%	0%	5%
900	3%	0%	2%	0%	0%	5%
1000	8%	23%	2%	0%	0%	5%
1040	0%	0%	0%	0%	16%	0%
1050	0%	0%	0%	0%	16%	0%
1200	0%	0%	0%	0%	16%	0%
1250	3%	0%	0%	0%	0%	5%
1500	1%	0%	4%	0%	0%	0%
2000	3%	0%	0%	0%	0%	5%
2200	0%	0%	2%	0%	0%	0%
Don't know	1%	0%	5%	0%	0%	0%
N	82	9	47	5	6	22

DET. Approximately what year did you renovate your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2003	19%	19%	20%	16%	13%	19%
2004	36%	32%	38%	38%	47%	37%
2005	42%	49%	33%	44%	35%	43%

DET. Approximately what month did you renovate your home?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
January	3%	0%	3%	2%	4%	4%
February	2%	4%	4%	8%	0%	1%
March	7%	13%	7%	8%	9%	4%
April	7%	9%	4%	2%	4%	7%
May	6%	9%	6%	6%	0%	5%
June	4%	4%	7%	5%	9%	3%
July	9%	9%	5%	2%	4%	10%
August	7%	5%	8%	18%	13%	8%
September	11%	12%	12%	8%	9%	9%
October	12%	9%	8%	8%	8%	14%
November	3%	4%	3%	3%	4%	2%
December	4%	1%	5%	11%	8%	4%
DON'T KNOW	26%	21%	29%	20%	26%	27%
N	377	48	224	52	23	105

DET2. Can you recall the season?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Spring	10%	24%	14%	16%	17%	4%
Summer	22%	4%	14%	8%	31%	29%
Fall	8%	2%	5%	0%	0%	12%
Winter	4%	0%	6%	0%	0%	5%
DON'T KNOW	56%	71%	61%	77%	52%	50%
N	105	15	63	10	6	28

DE7. How many people live in your home year-round?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
1	15%	14%	17%	15%	10%	15%
2	44%	30%	45%	53%	58%	50%
3	15%	19%	18%	14%	14%	12%
4	17%	27%	13%	11%	11%	14%
5	5%	7%	4%	4%	4%	4%
6	2%	2%	1%	2%	1%	2%
7	0%	0%	1%	0%	1%	0%
8	0%	0%	0%	1%	0%	0%
9	0%	0%	0%	0%	0%	0%
More than 10	0%	0%	0%	0%	0%	0%
No one lives here year round	0%	0%	1%	1%	0%	0%
REFUSED	2%	1%	1%	0%	1%	3%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	1477	189	810	193	151	410

DE8. Did the number of people living year-round in your household change since January 2003?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Yes number INCREASED	10%	16%	12%	4%	5%	8%
Yes number DECREASED	11%	10%	9%	10%	10%	12%
No change	77%	73%	78%	86%	84%	78%
REFUSED	2%	1%	1%	0%	1%	3%
DON'T KNOW	0%	0%	0%	0%	0%	0%
N	1477	189	810	193	151	410

DEP. Approximately what year did the number of people in your home change?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
2003	28%	28%	19%	21%	4%	31%
2004	35%	21%	43%	30%	42%	41%
2005	33%	47%	36%	39%	53%	23%
REFUSED	2%	4%	1%	4%	0%	1%
DON'T KNOW	2%	0%	1%	5%	0%	3%
N	291	43	159	28	23	80

DEP. Approximately what month did the number of people in your home change?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
January	5%	1%	5%	11%	0%	8%
February	3%	0%	4%	0%	4%	4%
March	4%	4%	5%	3%	9%	3%
April	3%	4%	5%	6%	0%	1%
May	5%	12%	8%	14%	0%	0%
June	9%	11%	17%	3%	18%	4%
July	6%	8%	5%	4%	13%	4%
August	13%	12%	11%	8%	4%	14%
September	21%	19%	20%	17%	27%	23%
October	5%	0%	2%	5%	4%	9%
November	5%	8%	3%	0%	0%	4%
December	7%	8%	4%	4%	2%	8%
REFUSED	2%	4%	1%	4%	0%	1%
DON'T KNOW	12%	8%	11%	20%	18%	15%
N	291	43	159	28	23	80

DEP2. Can you recall the season?	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Spring	13%	0%	17%	26%	25%	18%
Summer	21%	31%	10%	0%	51%	18%
Fall	11%	0%	6%	0%	0%	18%
Winter	1%	0%	4%	18%	0%	0%
REFUSED	15%	31%	15%	18%	0%	9%
DON'T KNOW	38%	39%	47%	38%	25%	38%
N	41	5	20	7	4	13

DE9. Which of the following best represents your annual household income in 2004, before taxes? Is it:	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Less than .388. per year	7%	7%	6%	7%	3%	7%
Between .388. to .389. per year OR is it	12%	18%	13%	12%	7%	10%
.389. or more per year?	65%	59%	65%	69%	69%	68%
REFUSED	13%	11%	13%	11%	18%	14%
DON'T KNOW	2%	5%	2%	1%	3%	1%
N	1451	187	798	192	149	399

Gender. RECORD RESPONDENT GENDER	Total	CFL	Insulation	Window	Heat Pump	Gas Furnace
Male	47%	33%	48%	48%	52%	53%
Female	53%	67%	52%	52%	48%	47%
N	1477	189	810	193	151	410

APPENDIX E
NONPARTICIPANT TABLES

Screener

S15. Do you own your home or rent?	Total (%)
Own home	100%
N	1000

S20. What type of home do you live in?	Total (%)
Single Family Detached	98%
Townhome or condominium	2%
N	1000

S25. Have you lived at your current residence since January 2004?	Total (%)
Yes - living here since January 2004	100%
N	1000

S30. Do you have natural gas service to your home?	Total (%)
Yes	64%
No	36%
N	1000

S40. What is the name of your Gas Utility provider?	Total (%)
Northwest Natural Gas	84%
Avista	9%
Cascade	3%
RECORD name of Gas Provider	2%
DON'T KNOW	3%
N	640

S50. What is the name of your Electric Utility provider?	Total (%)
PacifiCorp (Pacific Power)	37%
PGE (Portland General Electric)	56%
City of Forest Grove	0%
Columbia River PUD	0%
Consumer Power	1%
Eugene Water & Electric Board	2%
McMinnville Water & Light	0%
Pacific Power & Light	0%
Public Utility District, various cities	1%
Salem Electric	1%
Springfield Utility Board (SUB)	1%
RECORD name of Electricity Provider	1%
DON'T KNOW	1%
N	1000

Program Awareness

PA1. Have you heard of the Energy Trust of Oregon?	Total (%)
Yes	24%
No	72%
DON'T KNOW	4%
N	1000

PA3. If YES, what have you heard?	Total (%)
Offers energy efficiency programs for re	21%
Offers cash incentives for installing en	13%
Provides CFLs	0%
Provides (AUDITS) Home Energy analysis/a	4%
Noting specific	4%
Involved in different types of energy	4%
Don't know what they do, I've just hea	45%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	17%
N	53

PA7. Are you aware of any specific programs or services offered by the Energy Trust of Oregon available for homeowners such as yourself?	Total (%)
Yes	25%
No	75%
N	53

PA9. What programs are you aware of?	Total (%)
Home Energy Savings Program	23%
Home Energy Review Program	15%
Rebate/Cash Incentives programs	38%
Free CFL	0%
SHOW (State Home Oil Weatherization) pro	0%
Home Energy Analyzer	0%
Special Financing available through cont	0%
Solar Hot Water	8%
Solar Electric	8%
RECORD - VERBATIM	31%
REFUSED	0%
DON'T KNOW	8%
N	13

PA10. Have you heard of the Home Energy Savings program offered by the Energy Trust of Oregon?	Total (%)
Yes	36%
No	62%
DON'T KNOW	3%
N	1000

S60. Have you participated in the Energy Trust of Oregon's Home Energy Savings program since January 2003?	Total (%)
No	99%
DON'T KNOW	1%
N	358

PA11. What measures are cash incentives available for?	Total (%)
Ceiling/Attic Insulation	16%
Floor Insulation	14%
Wall Insulation	15%
Windows	25%
Water Heaters	16%
Duct Insulation	7%
Duct Sealing	1%
Heat Pump Installation	3%
Air Sealing	1%
Gas Furnace	28%
Direct Vent Gas Heater	0%
Appliances - not specific	6%
Energy efficient equipment	3%
Clothes washer and/or dryer	3%
Dishwasher	1%
Refrigerator	3%
Solar technologies	4%
Weatherization	1%
Tax software	0%
Autos	0%
CFLs	3%
ACs	1%
Insulation - not specific	2%
RECORD MEASURE NAME	2%
REFUSED	0%
DON'T KNOW SPECIFIC MEASURE NAMES	38%
N	358

PA13. Do you know what the requirements are to be eligible for these cash incentives?	Total (%)
Yes, know the requirements	14%
No - Not aware of requirements	86%
N	63

PART1. How did you first learn about financial incentives available from the Home Energy Savings Program?	Total (%)
Participating in HOME ENERGY REVIEW audi	0%
Contractor/Trade ally	0%
Utility Newsletter	10%
Utility bill insert	21%
Newspaper ad	5%
Word of mouth (friends/co-workers)	10%
Television or radio	3%
Magazine or trade journals	0%
Manufacturer information/suggestion	3%
Salesperson or in the store	17%
WEBSITE - Energy Trust of Oregon	2%
WEBSITE - Utility	0%
Customer Service Representative	6%
Trade Show/Home Show/Event	2%
Previous Experience/Knowledge	2%
Tax related	0%
Energy Audit	0%
Utility Other	2%
Other website	3%
Other - record	0%
REFUSED	0%
DON'T KNOW	29%
N	63

P8A. Are you aware of Oregon tax credits available for the purchase and installation of certain energy saving measures?	Total (%)
Yes	67%
No	33%
DON'T KNOW	1%
N	1000

P8C. Where did you hear about the Oregon tax credits?	Total (%)
Energy Trust Website	1%
Contractor	3%
Utility	17%
Newspaper or magazine	17%
Retail sales representative	17%
Manufacturer	2%
Friend/Family/Coworker (word of mouth)	11%
Northwest Energy Efficiency Alliance (NE	0%
Office of Sustainable Development (OSD)	0%
Prior knowledge	3%
ETO other	0%
TV / Radio	6%
Workshop / Trade faire	1%
Other website	1%
Many / All	0%
Accountant/while doing taxes	7%
On an appliance we purchased	3%
Realtor	0%
Voting pamphlet	0%
RECORD MEASURE NAME	1%
REFUSED	0%
DON'T KNOW SPECIFICALLY Where heard fro	18%
N	665

P8B. What measures are tax credits available for?	Total (%)
Ceiling/Attic Insulation	10%
Floor Insulation	10%
Wall Insulation	8%
Windows	10%
Water Heaters	8%
Duct Insulation	4%
Duct Sealing	2%
Heat Pump Installation	0%
Air Sealing	1%
Gas Furnace	10%
Direct Vent Gas Heater	0%
Appliances - not specific	12%
Energy efficient equipment	3%
Clothes washer and/or dryer	6%
Dishwasher	3%
Refrigerator	2%
Solar technologies	6%
Weatherization	2%
Tax software	1%
Autos	1%
RECORD MEASURE NAME	1%
REFUSED	0%
DON'T KNOW SPECIFIC MEASURE NAMES	55%
N	125

PA15. Have you heard of the Home Energy Review program?	Total (%)
Yes	38%
No	60%
DON'T KNOW	2%
N	1000

S70. Have you participated in the Energy Trust of Oregon's Home Energy Review program since January 2003?	Total (%)
No	100%
DON'T KNOW	0%
N	381

PA16. How would you go about finding more information on the programs offered by the Energy Trust of Oregon for homeowners?	Total (%)
Call Utility	23%
Call ETO (Energy Trust of Oregone)	5%
Call a Contractor	1%
Call a Retailer	1%
Call a Friend	3%
Utility WEBSITE	7%
ETO WEBSITE	10%
Other Internet Search	35%
Call city hall	1%
Call the energy commission	1%
Call the fire department	1%
Department of Energy	1%
Library	1%
Yellow pages	1%
I am not interested	1%
Newspaper	1%
Utility bill inserts	1%
RECORD Source	1%
REFUSED	1%
DON'T KNOW	17%
N	199

PART5a. Are you aware that information is available online about Energy Trust programs?	Total (%)
Yes	41%
No	57%
DON'T KNOW	3%
N	199

PA17. Have you ever called ETO information line to inquire about residential programs?	Total (%)
Yes	2%
No	97%
REFUSED	0%
DON'T KNOW	1%
N	585

PA19. How satisfied were you with the quality and completeness of information provided on how to participate in Energy Trust Programs?	Total (%)
3	50%
5 EXTREMELY SATISFIED	50%
N	50

PA19. How satisfied were you with the quality and completeness of information provided on how to participate in Energy Trust Programs?	Total (%)
Mean	4.00
N	4

General EE Knowledge and Awareness

A1. How would you rate your knowledge of the ways you could save energy in your home?	Total (%)
1 NOT AT ALL KNOWLEDGEABLE	7%
2	15%
3	41%
4	31%
5 EXTREMELY KNOWLEDGEABLE	6%
DON'T KNOW	1%
N	199

A1. How would you rate your knowledge of the ways you could save energy in your home?	Total (%)
Mean	3.14
N	198

ES1. Have you ever heard of Energy Star?	Total (%)
Yes	45%
No	54%
DON'T KNOW	2%
N	199

ES2. Is Energy Star a brand that would influence your buying decision?	Total (%)
Somewhat influential	1%
Not at all influential	1%
Yes	79%
No	10%
DON'T KNOW	9%
N	89

GE1. Where would you go to seek information about energy efficiency?	Total (%)
Call ETO (Energy Trust of Oregone)	0%
Call a Contractor	1%
Call a Retailer	11%
Call a Friend	2%
Utility WEBSITE	7%
ETO WEBSITE	3%
Other Internet Search	41%
Utility information	2%
Consumer reports	3%
Manufacturer	2%
Equipment itself	2%
Library	2%
Dont need it/not interested	2%
RECORD Source	1%
REFUSED	1%
DON'T KNOW	11%
N	199

Gas Furnace Adoption Battery

GSC1. Have you purchased a new gas furnace for your home since January 2004?	Total (%)
Yes	4%
No	96%
N	1000

GSP2. Is the new gas furnace high or standard efficiency?	Total (%)
High efficiency	74%
Standard Efficiency	17%
DON'T KNOW	10%
N	42

GSP2a. Why do you say that?	Total (%)
Label on equipment/literature	21%
Received rebate/tax credit	8%
Didnt received rebate/tax credit	5%
Was sold as such	8%
Contractor told me	5%
Gas company told me	11%
Salesperson told me	10%
Heats to right temp and then shuts off	3%
Similar to old HE system	3%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	5%
N	38

GSP2b. What is the energy efficiency rating of your new Gas Furnace?	Total (%)
RECORD VERBATIM	5%
80	5%
82	5%
85	2%
87	2%
90	12%
91	2%
92	2%
93	7%
94	2%
95	2%
97	2%
DON'T KNOW	50%
N	42

GSP2c. Did you have to pay extra for your Gas Furnace to get a high efficiency unit?	Total (%)
Yes	46%
No	34%
DON'T KNOW	20%
N	35

GSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient gas furnace?	Total (%)
Very Influential	7%
Somewhat influential	21%
Not at all influential	71%
N	28

GF09. Before you began shopping for a new Gas Furnace, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Gas Furnace?	Total (%)
Yes-aware of differences before shopping	64%
No-NOT aware of differences before shopp	29%
REFUSED	2%
DON'T KNOW	5%
N	42

ECM1. Does your new Gas Furnace have an Electrically Commutated Motor, also known as an ECM Blower?	Total (%)
Yes	48%
No	7%
REFUSED	2%
DON'T KNOW	43%
N	42

ECM3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase a gas furnace with an ECM blower?	Total (%)
Somewhat influential	23%
Not at all influential	77%
N	13

GF10. Before you began shopping for a new Gas Furnace, were you aware of the benefits of an ECM Blower?	Total (%)
Yes	30%
No	65%
DON'T KNOW	5%
N	20

GF3. How old was the system that was replaced by the new Gas Furnace?	Total (%)
Mean	27%
N	38

GF3A. Was it…?	Total (%)
5 to 10 years old	25%
10 to 15 years old	25%
15 to 20 years old	25%
More than 20 years old	25%
N	4

GF2a. What type of heating system was removed and replaced with the new Gas Furnace?	Total (%)
Gas Furnace	75%
Electric Forced air furnace	5%
Electric Heat Pump	3%
Didn't have a heater before	3%
Oil system	5%
Electric strip heat	3%
Wood furnace	3%
Diesel	3%
DON'T KNOW	3%
N	40

GF5. Could your old heating system have been fixed, or was it beyond repair?	Total (%)
Could have been FIXED	10%
Beyond Repair	31%
Was working but just wanted to replace i	51%
DON'T KNOW	8%
N	39

GF6. What was your main reason for installing your new Gas Furnace?	Total (%)
Previous system was really old	20%
Previous system BROKEN/Emergency Replace	23%
Save Energy	27%
Remodeling Home	17%
Didn't have AC/Heater Before	3%
To increase comfort	3%
Save money	3%
OTHER RECORD	3%
N	30

ING3. Did you hire a contractor to install your new Gas Furnace?	Total (%)
Yes	79%
No	21%
N	42

CG6. Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total (%)
Yes	6%
No	85%
DON'T KNOW	9%
N	33

CG9. Did your contractor contact you first regarding installing a Gas Furnace in your home?	Total (%)
Contractor contacted us	9%
We contacted contractor	91%
N	33

GFC1. Did the contractor that installed your Gas Furnace inform you of the Home Energy Savings cash incentive program?	Total (%)
Yes	47%
No	33%
DON'T KNOW	20%
N	15

GFC2. How influential was your contractor in your decision to purchase an energy efficient Gas Furnace?	Total (%)
Very Influential	21%
Somewhat influential	33%
Not at all influential	42%
DON'T KNOW	3%
N	33

GSP6. Did you receive a cash incentives for your new gas furnace?	Total (%)
Yes	26%
No	69%
DON'T KNOW	5%
N	42

GSP20. From which company, institution or program did you receive the cash incentives?	Total (%)
Gas company	9%
Retailer	9%
State of Oregon	18%
DON'T KNOW	64%
N	11

GFTX. Did you take advantage of the Oregon Tax Credit for the Gas Furnace you installed? (IF respondent states they haven't paid taxes yet, "Do you plan to take advantage of the Oregon Tax Credit?)	Total (%)
Yes applied (plan to apply) for tax cred	57%
No did not apply (don't plan to apply)	40%
DON'T KNOW	3%
N	30

GFTXI. How likely is it that you would have purchased the same exact Gas Furnace were you not eligible to receive a Tax Credit from the State of Oregon?	Total (%)
Very likely	71%
Somewhat likely	24%
Not at all likely	6%
N	17

Windows Adoption Battery

WC1. Have you purchased and installed new windows for your home since January 2004?	Total (%)
Yes	14%
No	86%
DON'T KNOW	0%
N	1000

WK1. Are the new windows you purchased Energy Star?	Total (%)
Yes	67%
No	8%
DON'T KNOW	26%
N	144

WK3. Are the new windows you purchased Argon Gas filled?	Total (%)
Yes	39%
No	23%
DON'T KNOW	38%
N	144

WK5. Do the new windows you purchased have Low E glass?	Total (%)
Yes	63%
No	6%
DON'T KNOW	32%
N	144

WSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to install energy efficient Windows?	Total (%)
Very Influential	5%
Somewhat influential	14%
Not at all influential	81%
DON'T KNOW	1%
N	88

WIN5. Before purchasing new Windows, did you have primarily single pane or dual pane windows?	Total (%)
Single Pane	50%
Dual Pane	44%
Both	1%
Addition/New construction	1%
DON'T KNOW	3%
N	144

WIN6. Thinking about your new windows, how energy efficient are they relative to the old ones?	Total (%)
About as energy efficient as the old one	6%
Slightly more energy efficient than the	10%
Significantly more energy efficient than	62%
The most energy efficient ones available	16%
Addition/ new construction	2%
Other-record	1%
DON'T KNOW	3%
N	144

WIN7. What was your main reason for installing new windows?	Total (%)
Windows really old	22%
Windows were broken/emergency replacemen	7%
Save energy	35%
Remodeling home	14%
Reduce noise	1%
Moisture buildup in window	13%
Better looking/Design	15%
UV Light blocking/Reduces fading	0%
Less drafty/less heat gain in summer/bet	17%
Better quality	7%
Increased Comfort	7%
Save money	0%
Other- Record	0%
REFUSED	0%
DON'T KNOW	0%
N	144

INW`3.Did you hire a contractor to install your new windows?	Total (%)
Yes	58%
No	41%
DON'T KNOW	1%
N	144

CW6.Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total (%)
Yes	1%
No	95%
DON'T KNOW	4%
N	84

CW9. Did your contractor contact you first regarding installing windows in your home?	Total (%)
Contractor contacted us	8%
We initiated contact with contractor	90%
DON'T KNOW	1%
N	84

CW11. Did the contractor that installed your windows inform you of the Home Energy Savings cash incentive program?	Total (%)
Yes	12%
No	76%
DON'T KNOW	12%
N	33

CW13.How influential was your contractor in your decision to purchase Energy Star windows? Would you say your contractor was:	Total (%)
Very Influential	29%
Somewhat influential	26%
Not at all influential	45%
N	84

WSP6. Did you receive a cash incentive for your new windows?	Total (%)
Yes	5%
No	92%
DON'T KNOW	3%
N	144

WSP20. From which company, institution or program did you receive the cash incentives?	Total (%)
Avista	14%
Constuction company	14%
ETO	14%
State	14%
RECORD NAME	0%
REFUSED	14%
DON'T KNOW	29%
N	7

WTX. Did you take advantage of the Oregon Tax Credit for the Windows that you installed?	Total (%)
Yes -Applied (plan to apply)for Tax Cred	25%
No-did NOT apply (don't plan to apply)	68%
DON'T KNOW	7%
N	100

WTXI. How likely is it that you would have purchased energy-efficient windows had you not been eligible to receive a Tax Credit from the State of Oregon?	Total (%)
Very likely	84%
Somewhat likely	16%
N	25

Heat Pump Adoption Battery

HC1. Have you purchased a new Heat Pump for your home since January 2004?	Total (%)
Yes	2%
No	98%
DON'T KNOW	0%
N	1000

HSP2. Is the new Heat Pump high or standard efficiency?	Total (%)
High Efficiency	63%
Standard Efficiency	11%
Somewhere in the middle	5%
DON'T KNOW	21%
N	19

HSP2a. Why do you say that?	Total (%)
SEER	13%
Label on equipment/literature	7%
Received rebate/tax credit	0%
Didnt received rebate/tax credit	0%
Was sold as such	0%
Contractor told me	27%
Gas company told me	0%
Salesperson told me	7%
Thats what I wanted	20%
Top of the line	7%
Internet	7%
Bill went down	7%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	7%
N	15

HSP2b. What is the energy efficiency rating of your new Heat Pump?	Total (%)
12	11%
DON'T KNOW	89%
N	19

HSP2c. Did you have to pay extra for your Heat Pump to get a high efficiency unit?	Total (%)
Yes	35%
No	24%
DON'T KNOW	41%
N	17

HSp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient heat pump?	Total (%)
Somewhat influential	33%
Not at all influential	67%
N	12

HP2. Did the new Heat Pump replace an old Heat Pump, an Electric Forced Air Furnace, or something else?	Total (%)
Heat Pump	47%
Electric Forced Air Furnace	26%
Other	21%
DON'T KNOW	5%
N	19

HP2a. What type of system was removed and replaced with the new Heat Pump?	Total (%)
Heat Pump	40%
NONE	40%
Oil Furnace	20%
N	5

HP3N. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to convert from a forced air furnace to a heat pump?	Total (%)
Very Influential	33%
Not at all influential	67%
N	3

HP3. How old was the system that was replaced when you installed the new heat pump?	Total (%)
1	6%
8	6%
10	6%
13	6%
15	12%
17	6%
20	6%
22	6%
30	12%
43	6%
88	6%
99	24%
N	17

HP3a. Was it…?	Total (%)
Less than 5 years old	20%
5 to 10 years old	40%
10 to 15 years old	20%
REFUSED	20%
N	5

HP4. Could your old system have been fixed, or was it beyond repair?	Total (%)
Could have been fixed	53%
Was beyond repair	35%
REFUSED	6%
DON'T KNOW	6%
N	17

HP5. What was your main reason for installing a new Heat Pump?	Total (%)
Previous system really old	8%
Previous system was broken/emergency rep	15%
Save Energy	8%
Remodeling Home/New Home	15%
Did not have air conditioner/heater befo	15%
Increased Comfort	15%
Save Money	23%
N	13

HP10. Before you began shopping for a new Heat Pump, were you aware of the differences in performance and energy consumption between a standard and a high efficiency Heat Pump?	Total (%)
Yes	32%
No	63%
DON'T KNOW	5%
N	19

INH3.Did a contractor install your new Heat Pump?	Total (%)
Yes	84%
No	16%
N	19

CH6.Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total (%)
No	88%
DON'T KNOW	13%
N	16

CHP9. Did your contractor contact you first regarding installing a new heat pump in your home?	Total (%)
We initiated contact with contractor	94%
DON'T KNOW	6%
N	16

HPC1. Did the contractor that installed your new Heat Pump tell you about the Home Energy Savings cash incentive program?	Total (%)
Yes	22%
No	78%
N	9

HPC2.How influential was your contractor in your decision to purchase an energy efficient Heat Pump?	Total (%)
Very Influential	25%
Somewhat influential	38%
Not at all influential	31%
DON'T KNOW	6%
N	16

HSP6. Did you receive a cash incentives for installing your new Heat Pump?	Total (%)
Yes	11%
No	89%
N	19

HSP20. From which company, institution or program did you receive the cash incentives?	Total (%)
Sears	50%
The company that installed it	50%
RECORD NAME	0%
REFUSED	0%
DON'T KNOW	0%
N	2

HPTX. Did you take advantage of the Oregon Tax Credit for the Heat Pump you installed?	Total (%)
Yes -Applied (plan to apply) for Tax Cre	36%
No-did NOT (do not plan to) apply for ta	64%
N	11

HPTXI. How likely is it that you would have purchased the same exact Heat Pump had you not been eligible to receive a Tax Credit from the State of Oregon?	Total (%)
Very likely	50%
Somewhat likely	50%
N	4

Insulation

IC1. Have you added any insulation to your home since January 2004?	Total (%)
Yes	8%
No	91%
DON'T KNOW	0%
N	1000

IT1. Which of the following types of insulation did you install in your home…	Total (%)
Ceiling Insulation	71%
Wall Insulation	57%
Floor Insulation	36%
Duct Insulation	20%
REFUSED	0%
DON'T KNOW	0%
N	84

ISp3. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to install new insulation?	Total (%)
Very Influential	2%
Somewhat influential	12%
Not at all influential	87%
N	52

PRT3. What was the primary reason you installed Insulation?	Total (%)
To save Energy	39%
Available Cash incentie	2%
To improve comfort level	24%
To save on my utility bill	5%
Remodeled/ new construction	25%
Old House/Insulation	1%
Required	2%
Other - RECORD	2%
N	85

INS3.Did you hire a contractor to install your new Insulation?	Total (%)
Yes	35%
No	64%
DON'T KNOW	1%
N	84

INC6.Did you select a contractor from the list of qualified contractors provided by the Energy Trust?	Total (%)
No	90%
DON'T KNOW	10%
N	29

INC9. Did your contractor contact you first regarding installing Insulation in your home?	Total (%)
Contractor contacted us	3%
We contacted contractor	93%
DON'T KNOW	3%
N	29

INC13. Did the contractor that installed your Insulation inform you of the Home Energy Savings cash incentive program?	Total (%)
Yes	18%
No	64%
DON'T KNOW	18%
N	11

INC15.How influential was your contractor in your decision to install Insulation?	Total (%)
Very Influential	21%
Somewhat influential	7%
Not at all influential	72%
N	29

ISP6. Did you receive a cash incentive for your insulation?	Total (%)
Yes	1%
No	98%
DON'T KNOW	1%
N	84

ISP20. From which company, institution or program did you receive the cash incentives?	Total (%)
RECORD NAME	0%
REFUSED	0%
DON'T KNOW	100%
N	1

ITX. Did you take advantage of the Oregon Tax Credit for the Insulation you installed?	Total (%)
Yes -Applied (plan to apply) for Tax Cre	21%
No-did NOT (do not plan to) apply for ta	70%
DON'T KNOW	9%
N	67

ITXI. How likely is it that you would have installed Insulation had you not been eligible to receive a Tax Credit from the State of Oregon?	Total (%)
Very likely	79%
Somewhat likely	7%
Not at all likley	7%
DON'T KNOW	7%
N	14

Other Equipment Changes and Spillover

C1A. Have you installed any new heating, cooling or water heating equipment since January 2004 that we have not already discussed?	Total (%)
Yes	12%
No	88%
DON'T KNOW	0%
N	1000

C2_1. What specific types of new heating, cooling or water heating equipment did you install?	Total (%)
Room Air Conditioner	9%
Central Air Conditioner VERIFY NOT HEAT	15%
Centl Heat/Electric	1%
Water Heater GAS	31%
Water Heater ELECTRIC	22%
Evaporative Cooler/Swamp Cooler	1%
Pellet/wood stove	6%
Gas fireplace	4%
Other water heater	3%
Electric Room/Space Heater	1%
Oil furnace	2%
Other - Specify	4%
N	118

C2_2. What specific types of new heating, cooling or water heating equipment did you install?	Total (%)
Room Air Conditioner	1%
Water Heater GAS	1%
Water Heater ELECTRIC	3%
Gas stove	1%
Pellet/wood stove	2%
Other - Specify	1%
NO OTHER INSTALLS	90%
REFUSED	2%
DON'T KNOW	1%
N	117

C2_3. Anything else?	Total (%)
Room Air Conditioner	0%
Central Air Conditioner VERIFY NOT HEAT	0%
Centl Heat/Electric	0%
Electric Strip Heat	0%
Water Heater GAS	0%
Water Heater ELECTRIC	0%
Evaporative Cooler/Swamp Cooler	0%
Whole House Fan	0%
Other - Specify	0%
Other - Specify	0%
OTHER - SPECIFY	22%
NO OTHER INSTALLS	67%
REFUSED	0%
DON'T KNOW	11%
N	9

SP2_1. Is the new &EQUIP1 high or standard efficiency?	Total (%)
High Efficiency	65%
Standard Efficiency	9%
OTHER - SPECIFY	3%
DON'T KNOW	23%
N	117

SP2_2. Is the new &EQUIP2 high or standard efficiency?	Total (%)
High Efficiency	56%
Standard Efficiency	33%
DON'T KNOW	11%
N	9

SP2a_1. Why do you say that?	Total (%)
Contractor	8%
Label/Lack of Label	34%
Requested/Informed upon purchase	6%
Researched	7%
Was told so	11%
SEER rating	3%
Price descrimination	2%
It is new	6%
How it works	6%
Utility	2%
Salesperson	4%
RECORD VERBATIM	7%
DON'T KNOW	4%
N	90

SP2a_2. Why do you say that?	Total (%)
It is	13%
Equipment said so	13%
Not expensive	13%
First one I have had	13%
Contractor told me	13%
Think it was high but not sure	13%
Label	13%
DON'T KNOW	13%
N	8

SpillI3_1. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient &EQUIP1?	Total (%)
Very influential	4%
Somewhat influential	5%
Not at all influential	91%
N	75

SpillI3_2. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on your decision to purchase an energy efficient &EQUIP2?	Total (%)
Not at all influential	88%
DON'T KNOW	13%
N	8

SP6_1. Did you receive a cash incentives for &EQUIP1?	Total (%)
Yes	4%
No	95%
DON'T KNOW	1%
N	117

SP6_2. Did you receive a cash incentives for &EQUIP2?	Total (%)
Yes	22%
No	78%
N	9

SP20_1. From which company, institution or program did you receive the cash incentives?	Total (%)
Utility	60%
State	20%
Coleman	20%
N	5

SP20_2. From which company, institution or program did you receive the cash incentives?	Total (%)
Utility	50%
DON'T KNOW	50%
N	2

CFL Adoption Battery

CFLSP1. Since January 2004, have you installed any CFLs in your home?	Total (%)
Yes	51%
No	49%
DON'T KNOW	0%
N	1000

CFLSP2. How many CFLs did you install?	Total (%)
0	0%
1	5%
2	10%
3	12%
4	11%
5	9%
6	13%
7	3%
8	4%
9	1%
10	11%
11	1%
12	6%
14	1%
15	2%
16	0%
18	0%
20	5%
22	0%
25	1%
30	1%
40	0%
50	1%
55	0%
99	2%
N	505

Cflsp6. How influential was the Energy Trust of Oregon, or any specific Trust programs or program materials on you decision to purchase CFLs?	Total (%)
Very influential	10%
Somewhat influential	21%
Not at all influential	65%
REFUSED	1%
DON'T KNOW	3%
N	325

Home Appliance and Equipment Stock

EQ25. Do you have gas heating or electric heating in your home?	Total (%)
Gas Heating	90%
Electric Heating	5%
Both	4%
Neither	1%
REFUSED	0%
N	628

Eq1.Which of the following best describes your primary heating system?	Total (%)
An Electric Furnace	15%
A Heat Pump	22%
Electric Strip Heat	6%
Space Heating - Electric	6%
You don't have a Primary Heating System	1%
Wood/pellet stove	15%
Forced Air	1%
Baseboard Heat	2%
Gas Fireplace	1%
Gas - other	2%
Oil Furnace	16%
Wall heaters	3%
Propane	3%
Ceiling heat	2%
Diesel furnace	1%
Fireplace - not specific	1%
Heat exchanger	0%
Kerosene	0%
Geothermal	0%
Other - SPECIFY	1%
REFUSED	0%
DON'T KNOW	1%
N	411

EQ3. How old is your current heating system?	Total (%)
Mean	12.42
N	12

EQ3A. Is it…?	Total (%)
Less than 5 years old	3%
5 to 10 years old	22%
10 to 15 years old	16%
15 to 20 years old	21%
More than 20 years old	21%
REFUSED	1%
DON'T KNOW	16%
N	97

Eq11.Does your home have air conditioning?	Total (%)
Yes	48%
No	52%
REFUSED	0%
N	860

AC1. What type of air conditioning system do you have?	Total (%)
Central Air Conditioning (Split or Packa	67%
Heat Pump	13%
Evaporative Cooler	1%
Room Air Conditioner	17%
REFUSED	0%
DON'T KNOW	2%
N	413

AC3. How old is your current air conditioning system?	Total (%)
Mean	9.2
N	495

AC3A. Is it…?	Total (%)
5 to 10 years old	21%
10 to 15 years old	23%
15 to 20 years old	8%
More than 20 years old	13%
DON'T KNOW	36%
N	39

Home Characteristics and Demographics

DE3. In what year was your home built?	Total (%)
Mean	1969
N	937

DE3A. Was it built ….?	Total (%)
In the 1990s	2%
In the 1980s	6%
In the 1970s	17%
In the 1960s	14%
In the 1950s	25%
In the 1940s	10%
Before 1940	16%
REFUSED	2%
DON'T KNOW	8%
N	63

DE4. About how large is your home in terms of total square feet?	Total (%)
Mean	1,944
N	884

DE4A. Is it ….?	Total (%)
Less than 500 sq ft	1%
Between 500 and 1000 sq ft	6%
Between 1000 and 1500 sq ft	22%
Between 1500 and 2000 sq ft	21%
Between 2000 and 2500 sq ft	16%
Between 2500 and 3000 sq ft	3%
More than 3000 sq ft	4%
REFUSED	1%
DON'T KNOW	27%
N	116

DE5. Have you done any remodeling or renovation or additions Since January 2004?	Total (%)
Yes	14%
No	86%
REFUSED	0%
DON'T KNOW	0%
N	1000

DE6. Has the square footage of your house changed?	Total (%)
Yes it has increased	21%
No change	79%
N	140

DE6A. By how much did the square feet in your home increase as a result of the renovations?	Total (%)
120	3%
150	3%
180	3%
200	10%
300	10%
340	3%
350	3%
360	3%
400	3%
500	10%
550	3%
600	3%
700	3%
750	3%
800	14%
900	3%
1000	3%
1200	3%
1400	3%
2400	3%
N	29

INP1. Which of the following types of insulation does your home have?…	Total (%)
Duct Insulation	42%
Wall Insulation	73%
Floor Insulation	48%
None	1%
Attic	0%
Pipe	0%
Other Specify	0%
REFUSED	0%
DON'T KNOW	9%
N	1000

WNP1. Are the windows in your home primarily single pane or dual pane?	Total (%)
Single pane	23%
Dual pane	73%
Both equal	2%
Triple pane	1%
Other - record	0%
REFUSED	0%
DON'T KNOW	1%
N	1000

WNP2. Thinking about all the windows in your home, would you say most of them are…	Total (%)
Less than 5 years old	25%
Between 5 and 10 years old	22%
Between 10 and 20 years old	21%
More than 20 years old	30%
REFUSED	1%
DON'T KNOW	1%
N	1000

DE7. How many people live in your home year-round?	Total (%)
Mean	2.60
N	989

DE8. Did the number of people living year-round in your household change since January 2004?	Total (%)
Yes number INCREASED	6%
Yes number DECREASED	10%
No change	82%
REFUSED	1%
DON'T KNOW	0%
N	1000

DE9. Which of the following best represents your annual household income in 2004, before taxes? Is it:	Total (%)
Less than .240. per year	14%
Between .240. to .241. per year OR is it	12%
.241. or more per year?	56%
REFUSED	15%
DON'T KNOW	2%
N	987

Gender. RECORD RESPONDENT GENDER	Total (%)
Male	41%
Female	59%
N	1000

APPENDIX F
VENDOR TABLES

HOME ENERGY SAVINGS PROGRAM SINGLE FAMILY VENDOR SURVEY

SCREENER

P5. Are you familiar with the Home Energy Savings Program run by the Energy Trust of Oregon, where customers can receive cash rebates for installing energy efficient measures in their homes?	Percent of Jobs
Yes	100%
N	159

P20. Our records indicate that your company installed Insulation for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	82%
No	17%
DON'T KNOW	0%
N	44

P20. Our records indicate that your company installed Efficient Windows for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	61%
No	39%
N	44

P20. Our records indicate that your company installed Gas Furnaces for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	100%
N	103

P20. Our records indicate that your company installed Heat Pumps for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	98%
DON'T KNOW	2%
N	30

FIRMOGRAPHICS AND BUSINESS PROFILE

F1A. Within the residential sector, roughly what percent of your company's business is in single-family homes?	Percent of Jobs
5 percent	1%
10 percent	0%
40 percent	0%
50 percent	3%
55 percent	0%
60 percent	9%
65 percent	5%
70 percent	1%
75 percent	8%
80 percent	16%
85 percent	3%
88 percent	1%
89 percent	0%
90 percent	29%
93 percent	1%
94 percent	2%
95 percent	9%
97 percent	2%
98 percent	3%
99 percent	2%
100 percent	4%
Mean percent	82.1
N	159

F1B. Within the residential sector, roughly what percent of your company's business is in multi-family buildings?	Percent of Jobs
0 percent	15%
1 percent	4%
2 percent	3%
3 percent	1%
4 percent	1%
5 percent	8%
6 percent	0%
7 percent	0%
8 percent	4%
9 percent	3%
10 percent	23%
12 percent	1%
15 percent	2%
16 percent	0%
18 percent	0%
20 percent	11%
25 percent	7%
30 percent	0%
35 percent	8%
40 percent	7%
50 percent	3%
60 percent	0%
95 percent	1%
Mean percent	15.3
N	159

F1C. Within the residential sector, roughly what percent of your company's business is in manufactured homes?	Percent of Jobs
0 percent	62%
1 percent	7%
2 percent	4%
3 percent	4%
4 percent	0%
5 percent	10%
7 percent	1%
9 percent	1%
10 percent	6%
12 percent	0%
14 percent	0%
15 percent	1%
18 percent	1%
20 percent	2%
25 percent	0%
30 percent	0%
33 percent	0%
90 percent	0%
Mean percent	2.6
N	159

F5A. Within the residential sector, what percent of your company's business is in existing homes?	Percent of Jobs
4 percent	1%
5 percent	0%
10 percent	2%
15 percent	9%
20 percent	1%
25 percent	1%
30 percent	5%
35 percent	3%
40 percent	1%
50 percent	9%
60 percent	1%
70 percent	0%
75 percent	1%
76 percent	0%
80 percent	1%
85 percent	1%
90 percent	6%
95 percent	14%
96 percent	1%
97 percent	1%
98 percent	1%
99 percent	2%
100 percent	38%
Mean percent	74.3
N	159

F5B. Within the residential sector, what percent of your company's business is in new construction?	Percent of Jobs
0	0%
N	0

F10. Approximately how many employees work for your company at this location?	Percent of Jobs
0	0%
1	2%
2	5%
3	4%
4	4%
5	9%
6	8%
7	1%
8	1%
9	1%
10	2%
11	1%
12	4%
14	4%
15	7%
16	2%
17	1%
18	2%
19	5%
20	1%
21	0%
23	3%
24	1%
25	5%
26	1%
27	1%
30	0%
33	2%
35	3%
36	1%
40	0%
47	0%
50	5%
60	1%
65	1%
85	1%
90	0%
120	8%
125	1%
130	0%
140	0%
Refused	0%
Mean	27.0
N	159

F15. How many years has your company been in business?	Percent of Jobs
1	0%
2	2%
3	1%
4	1%
5	5%
6	2%
7	1%
8	1%
9	1%
10	5%
11	0%
12	2%
13	1%
14	1%
15	1%
16	3%
17	1%
18	2%
19	1%
20	13%
21	0%
22	3%
23	0%
24	2%
25	2%
26	4%
27	3%
28	7%
30	6%
31	0%
33	1%
34	0%
35	0%
36	3%
37	0%
39	0%
40	3%
45	2%
50	0%
54	1%
57	1%
58	1%
60	1%
66	0%
69	1%
71	1%
74	1%
80	8%
88	0%
90	0%
99	3%
Mean	28.3
N	159

F20. How would you describe your own position?	Percent of Jobs
Proprietor/CEO	30%
Director of Sales	3%
Manager	33%
Contractor	0%
Accounting	2%
Administrative	7%
Estimator	8%
Salesperson	5%
Secretary	4%
Vice President	4%
Another description	3%
N	159

F25. Which of the following best describes your company's 2005 annual revenue at this location…(READ)	Percent of Jobs
Less than $200,000	4%
$200,000 to $1 million	22%
$1 - $5 million or	36%
Over $5 million	17%
REFUSED	13%
DON'T KNOW	8%
N	159

MARKETING

M5. Are you on the Home Energy Savings List of Trade Ally Contractors with the Energy Trust of Oregon?	Percent of Jobs
Yes	90%
No	7%
DON'T KNOW	3%
N	159

M7. In which year did you first become part of the Home Energy Savings Trade Ally network with the Energy Trust of Oregon?	Percent of Jobs
2003	61%
2004	11%
2005	4%
2002	3%
2001	2%
2000	11%
1999	2%
1995	1%
When it started	2%
DON'T KNOW	4%
N	113

M10. Do you think being on this List of Trade Ally Contractors has increased your sales of energy efficient equipment to owners of existing single family homes?	Percent of Jobs
Yes	86%
No	13%
DON'T KNOW	2%
N	113

M11. Has being on the List of Trade Ally Contractors decreased your sales of energy efficient equipment to owners of existing single-family homes?	Percent of Jobs
No	100%
N	23

M12. Why do think this is the case?	Percent of Jobs
RECORD VERBATIM	.
REFUSED	.
DON'T KNOW	.
N	0

M15. By how much has being on this list increased your sales to owners of existing homes? Would you say it has increased your business…	Percent of Jobs
Significantly	31%
Somewhat or	33%
Marginally	32%
DON'T KNOW	5%
N	84

M20. Next, we'd like to talk to you about your customers that have received rebates through the Home Energy Savings program. I'm going to refer to them as "HES customers" in the following question sequences.	Percent of Jobs
0	0%

M35. Which of the following best describes how many of your HES customers were already aware of the HES rebate when they first began discussing their project with you? Would you say…	Percent of Jobs
Most of your HES customers	39%
Some of your HES customers OR	36%
Only a few of your HES customers	24%
None	0%
DON'T KNOW	0%
N	159

M40. Which of the following best describes how many of your HES customers became aware of the HES program and rebate only after you informed them?	Percent of Jobs
Most of your HES customers	36%
Some of your HES customers OR	37%
Only a few of your HES customers	26%
Never informed them	0%
DON'T KNOW	1%
N	159

M50. Does your company promote energy saving measures more often now than before the Incentive Offers were available?	Percent of Jobs
Yes	62%
No	38%
DON'T KNOW	0%
N	159

M55. Does your company actively promote the Incentive Offers as part of its regular marketing activities?	Percent of Jobs
Yes	78%
No	22%
N	159

M60. Has your company participated in the CO-OP marketing offered by the Energy Trust of Oregon, where the Energy Trust helps pay for marketing that promotes the Home Energy Savings Program?	Percent of Jobs
Yes	19%
No	74%
DON'T KNOW	7%
N	159

M65. How useful to your business was your company's participation in CO-OP marketing? Would you say…	Percent of Jobs
Very Useful	76%
Somewhat Useful	17%
Marginally Useful or	7%
Not At All Useful	0%
N	25

M70. Why do you say that?	Percent of Jobs
Didnt get a lot of feedback from the program	6%
Gained business/Good selling point	6%
Makes us more credible and professional	54%
Helps us sell higher end equipment	2%
Money for something we would do anyway	3%
One piece of our marketing	10%
Cost	1%
Gives us an advantage over competitors	8%
Didnt use it/dont know what to do with it	4%
Gave us info to give to our customers	0%
Helps pay for the advertising	1%
Useful to create public awareness	2%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	2%
N	25

M75. Do you plan on participating in CO-OP marketing opportunities again in the future?	Percent of Jobs
Yes	91%
No	9%
N	25

M75a. Why not?	Percent of Jobs
We understand that they are not offering it anymore	0%
RECORD VERBATIM	100%
REFUSED	0%
DON'T KNOW	0%
N	1

M80. Why has your company not chosen to participate in the CO-OP marketing offered by the Energy Trust?	Percent of Jobs
Unaware of it	18%
We dont advertise	11%
Too busy	37%
We advertise alternative ways	2%
We will in the future	6%
Small company	2%
We dont qualify	1%
Mostly do new construction/multifamily	2%
Havent finished paperwork	1%
Lack of personnel	2%
Doesnt work well	0%
Dont need it	0%
Cost	4%
RECORD VERBATIM	6%
REFUSED	0%
DON'T KNOW	14%
N	134

M85. What could the Energy Trust change about the program that would lead your company to participate in the CO-OP marketing program?	Percent of Jobs
Need information about it/Unaware	20%
Nothing	22%
Better information	2%
Incentives	2%
We are participating now/soon	13%
Advertise it more	0%
Advertising too expensive	2%
Audit the program	1%
Do it for me	0%
More training	1%
Promote multifamily side	0%
Reduce paperwork	0%
Referral list	0%
Simplify the process	0%
Talk to our marketing people	0%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	35%
N	134

M90. How often do you mention the Oregon Energy Efficiency Incentive Offers to encourage customers considering program qualifying measures to select higher efficiency alternatives? Would you say…	Percent of Jobs
Often	89%
Sometimes	4%
Rarely or	7%
Never	0%
N	138

M95. How effective are the Incentive offers in encouraging customers to select higher efficiency alternatives? Would you say…	Percent of Jobs
They are VERY effective	55%
Somewhat effective or	42%
Not At All effective	1%
DON'T KNOW	2%
N	137

M100. How often do you suggest or recommend to customers already making a program qualifying purchase that they install additional measures that qualify for Incentive Offers? Would you say…	Percent of Jobs
Often	72%
Sometimes	22%
Rarely or	5%
Never	2%
N	159

M105. How effective are the incentive offers in encouraging customers to install additional energy saving measures? Would you say…	Percent of Jobs
They are VERY effective	22%
Somewhat effective or	71%
Not At All effective	1%
DON'T KNOW	7%
N	150

M110. Which program has a greater influence on customers' decisions regarding installations of energy saving measures? Would you say …	Percent of Jobs
The Home Energy Savings Program	49%
The Oregon Tax Credit or	3%
Both Programs are Equally Important OR	46%
Neither are Important	0%
DON'T KNOW	2%
N	159

INSULATION

IN5. Over the past year, what percent of your company's revenue at this location came from insulation jobs in existing single family homes?	Percent of Jobs
1	1%
2	2%
4	2%
5	2%
10	17%
15	1%
20	2%
30	5%
40	12%
45	1%
50	22%
75	1%
80	5%
85	2%
99	7%
Refused	1%
Don't know	17%
Mean	41.7
N	31

IN10. Roughly how many insulation jobs did your company complete in existing single family homes over the past year?	Percent of Jobs
1	1%
10	1%
15	0%
30	0%
40	1%
50	1%
100	12%
180	1%
200	9%
245	2%
250	6%
300	8%
360	2%
400	2%
998	24%
1000	17%
1300	1%
Don't know	10%
Mean	584.2
N	31

IN15. Approximately what percent of the jobs your company completed over the past year involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
1	1%
30	3%
50	14%
60	9%
70	2%
75	21%
80	33%
85	2%
90	1%
95	9%
100	4%
Don't know	2%
Mean	73.1
N	31

IN20. Our records show your company completed &NUMJOBS insulation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	94%
No	1%
DON'T KNOW	4%
N	31

IN20a. How many insulation jobs would you say your company completed over the past year that were rebated through the Home Energy Savings Program?	Percent of Jobs
20	30%
30	6%
70	19%
Don't know	45%
Mean	38.7
N	5

IN30. Thinking back a few years, approximately how many insulation jobs did your company complete in existing single family homes during 2003?	Percent of Jobs
0	1%
5	0%
25	0%
30	0%
40	1%
45	1%
50	2%
60	2%
100	0%
150	6%
250	7%
300	8%
360	2%
400	2%
750	13%
800	17%
998	8%
1000	0%
1300	1%
Don't know	26%
Mean	553.2
N	31

IN35. Approximately what percent of the jobs completed in 2003 involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
10	3%
25	1%
30	2%
40	1%
50	14%
60	9%
65	2%
70	2%
75	22%
80	21%
90	0%
95	9%
Don't know	14%
Mean	68.9
N	30

IN40. How many insulation jobs do you expect to do in 2006 in existing single family homes?	Percent of Jobs
0	1%
20	0%
40	0%
50	2%
120	2%
200	7%
250	6%
280	5%
300	14%
360	2%
400	2%
489	2%
500	2%
998	21%
1000	3%
1200	17%
1400	1%
1600	0%
Don't know	12%
Mean	671.1
N	31

IN45. Roughly what percent of these 2006 jobs do you expect to be rebated through the Home Energy Savings program?	Percent of Jobs
5	2%
10	0%
20	6%
25	0%
30	4%
40	1%
50	3%
60	17%
65	5%
70	7%
75	16%
80	18%
85	7%
100	0%
Don't know	12%
Mean	63.6
N	30

IN50. What percent of your year 2006 jobs do you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct?	Percent of Jobs
10	3%
25	1%
30	3%
40	3%
50	10%
60	12%
70	0%
75	0%
80	50%
85	1%
90	2%
99	9%
100	4%
Don't know	2%
Mean	72.9
N	30

IN55. If there were no Home Energy Savings program how many insulation jobs would you expect to do in 2006 in existing single family homes?	Percent of Jobs
0	1%
5	0%
30	0%
35	1%
40	0%
50	5%
100	1%
140	6%
190	1%
200	15%
300	7%
360	2%
400	2%
480	1%
489	2%
500	1%
750	13%
800	3%
998	8%
1000	17%
1400	1%
1575	0%
Don't know	12%
Mean	562.1
N	31

IN60. What percent of these jobs would you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
10	3%
25	1%
30	2%
40	3%
50	36%
60	2%
70	0%
75	8%
80	28%
85	1%
99	9%
100	4%
Don't know	2%
Mean	65.9
N	30

IN65. The Home Energy Savings program offers incentives for Efficient Windows if they are installed in conjunction with another program qualifying measure, such as insulation. Have you received any referrals from other contractors to complete insulation jobs so that customers would be eligible for Efficient Windows rebates?	Percent of Jobs
Yes	42%
No	58%
DON'T KNOW	0%
N	31

IN70. Roughly what percent of the insulation jobs you completed in existing single-family homes over the past year were a result of this type of referral?	Percent of Jobs
0	1%
1	19%
2	5%
3	1%
5	24%
10	9%
20	41%
Mean	10.5
N	13

IN75. Have you referred or recommended to any of your insulation customers that they consider installing other measures, such as windows, in conjunction with insulation to qualify for greater program rebates and save energy?	Percent of Jobs
Yes	75%
No	24%
DON'T KNOW	1%
N	31

IN80. Roughly what percent of your insulation customers follow your recommendation and go on to install other measures and take advantage of additional program rebates?	Percent of Jobs
5	3%
10	12%
15	2%
30	0%
50	6%
70	12%
75	18%
90	10%
Don't know	36%
Mean	56.1
N	22

IN85. Considering all aspects of the Home Energy Savings Program including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Home Energy Savings Program has been in increasing your company's insulation business in existing single family homes? Would you say…	Percent of Jobs
Very effective	43%
Somewhat effective OR	48%
Not at all effective	9%
N	31

IN90 Thinking only about insulation customers that went on to receive a Home Energy Savings rebate, which of following best describes the degree of influence the Home Energy Savings program had on customers' decisions to install insulation? Would you say… (SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	63%
Most were Somewhat Influenced OR	36%
Most were Not At All Influenced by the p	1%
N	31

IN95. Again, for those customers that received a Home Energy Savings rebate—if the rebate had not been available, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have installed the exact same	36%
Most would have installed less insulatio	46%
Most would have elected not to install i	15%
DON'T KNOW	3%
N	31

IN100. For which of the following types of insulation has the Home Energy Savings program been most successful with respect to increasing your business in existing single family homes? (READ, SELECT ALL THAT APPLY)	Percent of Jobs
Ceiling/Attic insulation	80%
Wall Insulation	32%
Floor insulation or	57%
Duct Insulation	40%
DO NOT READ-NONE	3%
REFUSED	0%
DON'T KNOW	12%
N	31

IN105. As you probably know, Duct Insulation qualifies for both a Home Energy Savings rebate and an Oregon Tax Credit, while Ceiling, Wall and Floor insulation qualify only for the Home Energy Savings rebate. Which program is more influential in customers' decision to install Duct Insulation, would you say…	Percent of Jobs
The Home Energy Savings Rebate is more I	41%
Both programs are equally Influential OR	24%
DON'T KNOW	35%
N	31

WINDOWS

WN5. Over the past year, approximately what percent of your company's revenue at this location came from window installation jobs in existing single-family homes?	Percent of Jobs
6	4%
10	10%
30	2%
40	6%
50	0%
60	1%
65	0%
75	15%
80	29%
85	3%
90	0%
99	0%
100	20%
Don't know	9%
Mean	68.7
N	30

WN10. Roughly how many window installation jobs did your company complete in existing single-family homes over the past year?	Percent of Jobs
1	0%
2	2%
5	4%
12	3%
15	0%
20	6%
30	3%
50	0%
70	11%
75	6%
100	30%
175	6%
180	2%
200	4%
250	0%
375	0%
400	19%
450	2%
600	0%
2500	0%
Don't know	1%
Mean	164.8
N	30

WN15. Our records indicate your company completed &NUMJOBS Window installation jobs over the past year that were rebated through the Home Energy Savings program, is that approximately correct?	Percent of Jobs
Yes	54%
No	43%
DON'T KNOW	3%
N	30

WN15a. Approximately how many window installation jobs did your company complete over the past year that were rebated through the Home Energy Savings program?	Percent of Jobs
5	0%
6	24%
9	0%
10	12%
80	1%
Don't know	62%
Mean	8.5
N	11

WN20. Thinking back to 2003, how many window installation jobs did your company complete during 2003?	Percent of Jobs
0	0%
5	0%
15	0%
20	9%
25	1%
60	4%
70	11%
80	2%
100	32%
130	2%
160	0%
175	6%
200	0%
250	0%
400	19%
450	2%
600	0%
999	2%
2500	0%
Don't know	8%
Mean	170.7
N	30

WN25. Thinking back to 2003, what percent of your company's window installations in existing single family homes had a U value of .35 or lower?	Percent of Jobs
0	6%
50	0%
70	0%
85	6%
90	2%
95	0%
98	1%
100	72%
Don't know	12%
Mean	91.5
N	29

WN30. …and what percent had a U-value of .32 or better?	Percent of Jobs
0	35%
5	1%
10	9%
25	26%
33	2%
35	0%
50	4%
75	1%
80	10%
95	0%
100	5%
Don't know	7%
Mean	26.4
N	29

WN35. Over the past year, approximately what percent of your company's window installations in existing single family homes had a U value of .35 or lower? (PROMPT FOR BEST GUESS)	Percent of Jobs
0	6%
60	1%
75	0%
80	6%
90	6%
97	2%
100	77%
Don't know	2%
Mean	91.5
N	30

WN40…and how many would you say had a U-Value of .32 or lower? (PROMPT FOR BEST GUESS)	Percent of Jobs
0	1%
5	3%
10	0%
15	29%
33	26%
35	0%
50	1%
62	2%
75	1%
80	5%
85	4%
90	8%
98	0%
100	12%
Don't know	9%
Mean	46.0
N	30

WN45. Looking forward to 2006, about how many window installation jobs in existing single family homes do you expect to complete in 2006?	Percent of Jobs
0	0%
3	2%
15	0%
40	3%
60	4%
70	11%
100	32%
175	6%
200	8%
250	4%
375	0%
450	2%
500	19%
550	0%
600	0%
999	0%
2500	0%
Don't know	7%
Mean	210.8
N	30

WN50. Looking forward to 2006, about what percent of your company's window installations in existing single family homes do you expect will have a U value of .35 or lower?	Percent of Jobs
0	6%
60	6%
75	0%
90	0%
97	2%
100	83%
Don't know	3%
Mean	91.2
N	30

WN55…and what percent would you guess will have a U-Value of .32 or lower?	Percent of Jobs
0	0%
5	0%
10	3%
20	11%
25	0%
33	26%
50	6%
62	2%
75	0%
80	3%
90	2%
95	4%
100	40%
Don't know	3%
Mean	64.7
N	30

WN60. Roughly what percent of your company's 2006 window installation jobs in existing single family homes do you expect to be rebated through the Home Energy Savings Program?	Percent of Jobs
0	0%
1	1%
3	0%
5	0%
10	3%
12	2%
15	0%
20	1%
25	13%
50	11%
60	4%
75	26%
80	4%
90	8%
100	19%
Don't know	7%
Mean	65.9
N	30

WN65. If the Incentive Offers were discontinued today, how many window installation jobs in existing single family homes would you expect to complete in 2006?	Percent of Jobs
0	0%
3	2%
12	1%
20	6%
30	3%
40	4%
70	12%
75	26%
90	2%
100	18%
175	0%
200	2%
250	0%
375	0%
420	2%
450	1%
500	17%
550	0%
600	0%
999	0%
2500	0%
Don't know	1%
Mean	173.3
N	30

WN70. If the Incentive Offers were discontinued today, about what percent of these 2006 window installation jobs do you expect would have a U value of .35 or lower?	Percent of Jobs
0	6%
10	3%
75	0%
90	2%
97	2%
100	84%
Don't know	3%
Mean	91.1
N	29

WN75…If the Incentive Offers were discontinued, what percent of these 2006 jobs would you expect to have a U Value of .32 or lower?	Percent of Jobs
0	14%
5	0%
10	37%
25	0%
40	0%
50	18%
62	2%
70	1%
75	3%
90	4%
100	16%
Don't know	3%
Mean	38.2
N	29

WN80. Have you recommended to any of your windows customers that they consider installing other energy saving measure so that they could receive the Home Energy Savings Efficient Windows rebate and potentially other Incentive Offers?	Percent of Jobs
Yes	91%
No	9%
N	30

WN85. How often do you make this recommendation? Would you say…	Percent of Jobs
Often	82%
Sometimes	1%
Rarely or	14%
DON'T KNOW	3%
N	24

WN90. Which measures do you typically recommend customers install in order to qualify for the Home Energy Savings Efficiency Window rebate?	Percent of Jobs
Insulation	89%
Water Heater	3%
Gas Furnace	2%
Heat Pump	0%
Other Measure-Specify	11%
REFUSED	0%
DON'T KNOW	0%
N	24

WN95. What percent of your rebated windows customers choose to install additional measures primarily to take advantage of the Incentive Offers?	Percent of Jobs
0	1%
2	0%
3	0%
15	2%
25	0%
40	17%
50	20%
65	3%
75	2%
80	4%
100	21%
Don't know	30%
Mean	63.5
N	30

WN100. Have you received referrals from other contractors to complete window installation jobs for customers already installing other measures that qualify for Incentive Offers, because they would be eligible for Efficient Windows rebates?	Percent of Jobs
Yes	9%
No	73%
DON'T KNOW	18%
N	30

WN105. In general, approximately what percent of your rebated window installations result from this type of referral?	Percent of Jobs
0	27%
2	3%
5	38%
10	21%
20	3%
Don't know	10%
Mean	5.0
N	6

WN110. Are residential windows with a U-value of .32 or lower difficult to find?	Percent of Jobs
Yes	6%
No	92%
DON'T KNOW	2%
N	30

WN115. Are they more or less difficult to find now than a year ago?	Percent of Jobs
They are less difficult to find	63%
No change	35%
DON'T KNOW	2%
N	30

WN120. To what do you attribute this change in availability?	Percent of Jobs
Market demand	78%
Change to .35	1%
Energy costs	4%
Incentive program	3%
New technology	9%
Vendors offering more of them	1%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	2%
N	11

WN125. If windows with a U Value of .32 or lower were easy to get, what percent of your 2006 window sales would you expect to be windows with a U Value of .32 or lower?	Percent of Jobs
75	95%
100	5%
Mean	76.2
N	2

WN130. Has the efficiency of windows you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	6%
No	83%
DON'T KNOW	11%
N	30

WN135. Do you stock more or fewer windows with U values of .35 or lower compared to a couple years ago?	Percent of Jobs
Stock more now	96%
No Change	4%
N	2

WN140. Do you stock more or fewer windows with U values of .32 or lower compared to a couple years ago?	Percent of Jobs
Stock more now	96%
No Change	4%
N	2

WN145. How influential has the Home Energy Savings program been on these changes in the efficiency of the windows you are stocking? Would you say…	Percent of Jobs
Very Influential	100%
N	1

WN146. How have the prices for windows with U-Values of .32 or lower changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10 percen	40%
They have not changed by 10 percent over	56%
DON'T KNOW	4%
N	30

WN150. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Incentive Offers have been in increasing your company's sales of high efficiency windows? Would you say they have been…	Percent of Jobs
Very Influential	41%
Somewhat Influential OR	39%
Not at all Influential	20%
DON'T KNOW	0%
N	30

WN155. Which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install high efficiency windows? Would you say…	Percent of Jobs
Most customers were Very Influenced by t	40%
Most were Somewhat Influenced or	57%
Most customers were Not At All Influence	3%
N	30

WN160. For those customers that received Incentive Offers—if the Incentive Offers had not been available, which of the following best describes what most of those customers would have installed… (IF NEEDED: 'Standard Efficiency' windows refers to windows with a U-Value greater than .35.)	Percent of Jobs
Most would have installed the exact same	38%
Most would have installed Standard Effic	62%
Most would have elected not to install w	0%
N	30

GAS FURNACE

GF5. Over the past year, what percent of your company's revenue at this location came from gas furnace installations in existing single-family homes?	Percent of Jobs
5	0%
10	1%
15	1%
20	4%
25	2%
30	10%
33	1%
35	0%
40	1%
45	1%
50	17%
60	18%
65	1%
67	1%
70	11%
75	8%
80	6%
85	3%
87	1%
90	5%
95	1%
96	0%
98	2%
Refused	2%
Don't know	3%
Mean	58.8
N	103

GF10. Approximately how many Gas Furnace installations in existing single-family homes did your company complete over the past year?	Percent of Jobs
10	1%
12	0%
15	0%
20	3%
24	0%
25	3%
27	0%
30	1%
35	1%
36	0%
40	2%
45	0%
48	0%
50	4%
60	1%
65	1%
70	1%
75	2%
80	0%
85	0%
95	0%
100	9%
103	2%
120	1%
125	1%
130	2%
150	9%
160	3%
175	1%
180	2%
200	10%
250	6%
300	8%
340	3%
350	3%
400	3%
450	3%
1200	5%
Refused	1%
Don't know	6%
Mean	226.5
N	103

GF15. Roughly what percent of your company's gas furnace installations in existing single family homes over the past year had an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
6	0%
15	1%
20	1%
25	1%
40	1%
50	10%
60	1%
70	10%
75	8%
78	2%
80	16%
85	2%
90	16%
92	2%
93	6%
95	7%
98	2%
99	4%
100	6%
Don't know	5%
Mean	79.4
N	103

GF20…and what percent would you say had an AFUE rating of .9 or higher and an Electrically Commutated Motor, or "ECM"?	Percent of Jobs
0	1%
1	1%
3	1%
5	2%
6	0%
9	0%
10	1%
15	1%
20	2%
25	1%
30	6%
40	2%
50	7%
60	4%
68	2%
70	8%
75	11%
78	2%
80	4%
85	3%
89	2%
90	15%
95	5%
98	2%
99	1%
100	7%
Don't know	12%
Mean	68.5
N	103

GF25. Our records show your company completed &NUMJOBS gas furnace installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	64%
No	33%
DON'T KNOW	3%
N	103

GF25a. Approximately how many gas furnace installation jobs did your company complete over the past year that were rebated through the Home Energy Savings?	Percent of Jobs
14	1%
15	2%
20	4%
40	3%
45	1%
50	6%
60	2%
75	7%
100	11%
103	6%
109	3%
140	3%
170	8%
200	14%
220	9%
250	13%
Don't know	7%
Mean	140.3
N	33

GF35. Thinking back to 2003, approximately how many gas furnace installations in existing single family homes did your company install in 2003?	Percent of Jobs
2	0%
3	0%
5	0%
10	1%
11	1%
12	1%
17	0%
18	0%
20	2%
24	0%
30	2%
35	3%
40	2%
45	0%
48	2%
50	13%
60	1%
70	0%
75	1%
80	2%
85	1%
90	2%
100	6%
120	2%
125	1%
150	9%
155	1%
160	3%
175	2%
180	1%
200	7%
250	9%
300	1%
340	3%
500	1%
Refused	1%
Don't know	18%
Mean	129.0
N	103

GF40. Thinking back to 2003, roughly what percent of your company's gas furnace installations in existing single family homes had a an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
2	1%
5	0%
10	0%
15	0%
20	3%
25	1%
30	3%
40	2%
48	1%
50	22%
55	1%
60	4%
65	3%
70	8%
75	2%
78	2%
80	6%
82	2%
85	1%
90	7%
95	3%
97	2%
98	2%
100	7%
Don't know	16%
Mean	64.2
N	103

GF45. …and what percent would you guess had an AFUE rating of .9 or higher and an ECM?	Percent of Jobs
0	3%
1	0%
2	2%
3	1%
5	1%
10	10%
15	1%
20	6%
25	2%
30	6%
33	0%
35	1%
40	5%
50	8%
55	4%
60	1%
65	2%
70	1%
75	3%
80	9%
90	6%
95	5%
96	0%
97	2%
100	1%
Don't know	19%
Mean	47.9
N	103

GF50. Looking forward to 2006, about how many gas furnace installations in existing single family homes do you expect to complete?	Percent of Jobs
6	0%
10	1%
12	0%
16	0%
20	2%
25	1%
30	2%
40	1%
50	5%
52	0%
60	1%
65	2%
70	3%
75	6%
80	1%
100	11%
120	1%
130	1%
150	8%
175	4%
180	1%
200	10%
250	4%
275	2%
300	7%
340	3%
350	12%
400	2%
450	3%
500	3%
Refused	1%
Don't know	3%
Mean	196.8
N	103

GF55. In 2006, approximately what percent of your company's gas furnace installations in existing single family homes do you expect will have an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
10	0%
15	0%
20	0%
25	2%
30	0%
40	1%
50	2%
55	3%
60	4%
65	1%
70	3%
75	3%
78	2%
80	13%
85	10%
90	29%
92	2%
95	5%
98	5%
99	0%
100	7%
Don't know	5%
Mean	81.5
N	103

GF60. …and about what percent do you expect will have an AFUE rating of .9 or higher and an ECM?	Percent of Jobs
0	1%
1	0%
5	2%
10	4%
15	1%
20	0%
25	3%
35	0%
40	4%
45	1%
50	6%
60	4%
68	1%
70	7%
75	8%
80	8%
85	10%
90	19%
95	4%
97	2%
99	0%
100	8%
Don't know	7%
Mean	70.9
N	103

GF61. Roughly what percent of your 2006 gas furnace installations in existing single family homes do you expect will be rebated through the Incentive Offers.	Percent of Jobs
0	1%
20	1%
25	4%
30	1%
35	2%
40	0%
45	1%
50	5%
60	9%
70	6%
75	5%
80	10%
85	7%
90	25%
95	2%
98	3%
99	2%
100	12%
Don't know	4%
Mean	76.9
N	103

GF65. If the Incentive Offers were discontinued today how many gas furnace installations in existing single family homes would you expect to make in 2006?	Percent of Jobs
6	0%
7	0%
10	2%
15	0%
16	0%
20	2%
25	4%
30	2%
35	3%
40	1%
45	2%
50	7%
52	0%
55	0%
60	2%
65	2%
70	5%
75	6%
80	0%
90	1%
95	0%
100	6%
102	0%
120	2%
125	1%
140	1%
150	5%
160	2%

175	3%
200	7%
220	2%
250	8%
300	5%
350	4%
375	3%
400	1%
500	3%
Refused	1%
Don't know	8%
Mean	155.9
N	103

GF70. If the Incentive Offers were discontinued today, what percent of these 2006 gas furnace installations would you expect to have an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
7	0%
10	0%
20	0%
25	8%
30	6%
35	0%
40	3%
45	2%
50	21%
60	7%
70	9%
75	7%
78	2%
80	15%
85	2%
90	4%
95	2%
96	2%
98	2%
100	2%
Don't know	5%
Mean	62.0
N	103

GF75. …and, if the Incentive Offers were discontinued, what percent of these 2006 gas furnace installations would you expect to have an AFUE of .9 or higher and an ECM?	Percent of Jobs
0	3%
1	3%
2	1%
5	2%
10	5%
15	1%
20	12%
25	8%
28	1%
30	5%
40	4%
50	17%
60	6%
65	4%
70	7%
75	2%
80	7%
85	2%
90	1%
95	2%
100	2%
Don't know	5%
Mean	43.6
N	103

GF80. Have you referred or recommended to any of your gas furnace customers that they install other measures qualifying for Incentive Offers in order to take advantage of additional rebates and save energy?	Percent of Jobs
Yes	81%
No	17%
DON'T KNOW	2%
N	103

GF85. How often do customers go ahead and install additional measure to take advantage of greater Incentive Offers? Would you say…	Percent of Jobs
Often	11%
Sometimes	53%
Rarely or	23%
Never	1%
DON'T KNOW	11%
N	80

GF86. How have the prices for gas furnaces with an AFUE rating of .90 or higher changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10 percen	53%
They have declined by more than 10 perce	1%
They have not changed by 10 percent over	43%
DON'T KNOW	3%
N	103

GF87. Are gas furnaces with an AFUE rating of .95 or higher difficult to find?	Percent of Jobs
Yes	41%
No	56%
DON'T KNOW	4%
N	103

GF88. How do you foresee the availability of gas furnaces with an AFUE of .95 or higher changing over the next couple years? Would you say…	Percent of Jobs
They will probably become easier to find	57%
They will become harder to find	2%
There will be little or no change in ava	35%
DON'T KNOW	6%
N	30

GF90. Has the typical AFUE rating of the gas furnaces you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	24%
No	74%
REFUSED	1%
DON'T KNOW	2%
N	103

GF95. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher?	Percent of Jobs
More units with AFUE of .9 or higher	92%
No change	6%
DON'T KNOW	2%
N	24

GF100. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher and an ECM?	Percent of Jobs
More units with AFUE of .9 or higher and	78%
No change	20%
DON'T KNOW	2%
N	24

GF105. How influential have the Incentive Offers been on this change in the efficiency of the furnaces you are stocking? Would you say…	Percent of Jobs
Very Influential	86%
Somewhat Influential OR	13%
Not at all Influential	1%
N	21

GF110. Which of the three Incentive Offers had the most influence on these changes in your company's stocking practices? Would you say…	Percent of Jobs
The Home Energy Savings program	11%
The Oregon Tax Credit	7%
All three have been equally influential	81%
N	20

GF115. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think these incentive offers have been in increasing sales of gas furnaces with AFUE of .90 or greater? Would you say…	Percent of Jobs
Very Influential	70%
Somewhat Influential OR	27%
Not at all Influential	1%
DON'T KNOW	1%
N	103

GF120. Consider customers that received Incentive Offers, which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install gas furnaces with AFUE of .90 or greater? Would you say… (SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	64%
Most were Somewhat Influenced OR	33%
Most were Not At All Influenced	1%
DON'T KNOW	1%
N	103

GF125. Again, for those customers that received Incentive Offers—if the Incentive Offers had not been available,, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have selected the exact same	27%
Most would have selected a furnace with	50%
Most would have selected a Standard Effi	20%
Most would have elected not to install a	0%
DON'T KNOW	3%
N	103

GF130. Which of the three Incentive Offers has the most influence on a customer's decision to purchase a gas furnace with an AFUE of .90 or greater? Would you say…	Percent of Jobs
The Home Energy Savings program	10%
The Oregon Tax Credit	11%
The Northwest Natural cash incentive OR	6%
All three have been equally influential	71%
DON'T KNOW	1%
N	103

HEAT PUMP

HP5. Over the past year, what percent of your company's revenue at this location came from heat pump installations in existing single-family homes?	Percent of Jobs
1	1%
5	3%
9	5%
10	9%
15	1%
20	5%
25	13%
30	6%
33	1%
40	24%
50	24%
65	2%
80	3%
90	2%
Don't know	2%
Mean	35.7
N	29

HP10. Approximately how many Heat Pump installations in existing single-family homes did your company complete over the past year?	Percent of Jobs
10	2%
15	4%
17	1%
20	8%
25	6%
30	5%
35	1%
40	2%
42	1%
50	3%
60	3%
75	2%
100	27%
120	2%
150	2%
240	15%
250	14%
Don't know	2%
Mean	117.2
N	29

HP15. Approximately what percent of these heat pump installations were conversions from forced air furnace to heat pump?	Percent of Jobs
0	7%
2	11%
5	5%
10	5%
15	3%
20	19%
25	5%
30	13%
50	28%
Don't know	4%
Mean	25.4
N	29

HP20. And approximately what percent of your company's heat pump installations in existing single family homes over the past year had a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
1	4%
10	2%
15	8%
20	6%
30	1%
35	4%
40	11%
50	22%
60	14%
75	3%
80	5%
85	2%
90	2%
100	14%
Don't know	2%
Mean	52.5
N	29

HP21…and what percent would you say had a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
50	9%
60	26%
67	1%
70	5%
75	2%
80	2%
90	11%
95	16%
100	17%
Don't know	2%
Mean	70.6
N	29

HP25. Our records show your company completed &NUMJOBS heat pump installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	76%
No	20%
DON'T KNOW	5%
N	29

HP25a. Approximately how many heat pump installation jobs did your company complete over the past year that were rebated through the Home Energy Savings ?	Percent of Jobs
15	4%
25	13%
125	55%
150	9%
Don't know	19%
Mean	105.9
N	5

HP30. Thinking back to 2003, approximately how many Heat Pump installations in existing single-family homes did your company complete during 2003?	Percent of Jobs
8	3%
10	4%
15	4%
20	6%
25	5%
29	1%
30	9%
35	1%
40	6%
50	16%
60	5%
100	14%
120	4%
200	11%
Don't know	10%
Mean	68.7
N	29

HP35. Roughly what percent of these heat pump installations in year 2003 were conversions from forced air furnace to heat pump?	Percent of Jobs
0	5%
2	11%
5	1%
10	18%
15	1%
17	1%
20	8%
25	5%
30	11%
33	1%
35	1%
40	3%
50	26%
Don't know	8%
Mean	25.7
N	29

HP40. And about what percent of the year 2003 heat pump installations had a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
0	13%
3	2%
5	1%
10	6%
15	4%
20	19%
30	11%
35	1%
40	15%
50	7%
60	1%
70	6%
80	9%
Don't know	4%
Mean	32.3
N	29

HP41…and about what percent would you say had a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
15	1%
30	3%
35	4%
40	5%
50	22%
60	14%
70	14%
75	4%
80	2%
90	2%
97	2%
100	6%
Don't know	6%
Mean	52.1
N	29

HP45. Looking forward to 2006, approximately how many Heat Pump installations in existing single-family homes do you expect to complete?	Percent of Jobs
15	2%
20	5%
25	7%
30	5%
35	1%
40	5%
50	1%
55	1%
60	2%
70	3%
100	5%
120	4%
125	1%
130	9%
150	4%
200	11%
240	4%
250	11%
300	14%
Don't know	4%
Mean	148.6
N	29

HP50. And, if you had to guess, roughly what percent of these 2006 heat pump installations do you expect to be conversions from forced air furnace to heat pump?	Percent of Jobs
0	2%
5	14%
15	1%
17	1%
20	36%
25	3%
30	6%
40	4%
50	26%
60	1%
70	2%
Don't know	3%
Mean	28.2
N	29

HP55. And approximately what percent of your expected 2006 heat pump installations do you guess will have a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
1	4%
5	5%
15	1%
20	2%
25	3%
30	1%
50	17%
60	1%
70	10%
75	24%
80	2%
85	5%
90	1%
100	19%
Don't know	4%
Mean	65.3
N	29

HP56. …and what percent would you guess will have a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
20	2%
25	1%
30	1%
50	13%
60	4%
70	1%
75	8%
80	2%
85	3%
90	19%
95	2%
100	25%
Don't know	4%
Mean	69.1
N	29

HP60. About what percent of these 2006 heat pump installations do you expect will be rebated through the Incentive Offers?	Percent of Jobs
0	2%
5	1%
10	5%
20	1%
50	20%
60	6%
70	9%
75	27%
80	19%
90	1%
100	9%
Mean	66.2
N	29

HP65. If the Incentive Offers were discontinued today, about how many heat pump installations in existing single family homes would you expect to complete in 2006?	Percent of Jobs
10	1%
12	2%
15	3%
20	4%
25	11%
28	1%
30	2%
35	1%
40	1%
50	1%
70	3%
75	18%
100	14%
120	4%
150	4%
225	14%
250	11%
Don't know	4%
Mean	110.4
N	29

HP70. If the Incentive Offers were discontinued what percent of your 2006 heat pump installations would you expect would have an HSPF of 8.5 or higher?	Percent of Jobs
1	4%
5	5%
10	1%
20	8%
40	4%
50	25%
60	14%
70	9%
75	12%
80	4%
100	8%
Don't know	6%
Mean	54.1
N	29

HP71. …and roughly what percent would you expect to have an HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
20	2%
25	1%
50	41%
60	2%
75	12%
80	2%
85	3%
90	2%
95	3%
100	11%
Don't know	6%
Mean	55.6
N	29

HP75. And, if the Incentive Offers were discontinued, roughly what percent of your 2006 heat pump installations would you expect to be conversions from forced air furnace to heat pump?	Percent of Jobs
0	2%
5	14%
6	1%
10	23%
15	10%
25	6%
30	18%
40	2%
50	10%
60	4%
Don't know	9%
Mean	21.6
N	29

HP80. Has the number of heat pumps you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	33%
No	67%
N	29

HP85. Are you stocking more or fewer heat pumps relative to a couple years ago?	Percent of Jobs
Stocking More Heat Pumps	95%
Stocking Fewer Heat Pumps	5%
N	6

HP90. Has the typical HSPF rating of the heat pumps you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	94%
DON'T KNOW	6%
N	6

HP95. Do you stock more or fewer units with an HSPF of 8.5 or higher compared to a couple years ago?	Percent of Jobs
Stocking MORE Heat Pumps with HSPF over	100%
N	6

HP100. How influential have the Incentive Offers been on these change in your company's heat pump stocking practices? Would you say…	Percent of Jobs
Very Influential	85%
Somewhat Influential OR	15%
N	6

HP101. How have the prices for heat pumps with an HSPF rating of 8.5 or higher changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10	57%
They have not changed by 10 percent over	43%
N	29

HP105. How often do you suggest to your heat pump customers that they install other measures qualifying for the Incentive Offers in order to take advantage of additional rebates and save energy? Would you say…	Percent of Jobs
Often	30%
Sometimes	48%
Rarely or	20%
Never	2%
N	29

HP110. How often do customers take this advice and install additional measure to take advantage of greater Incentive Offers? Would you say…	Percent of Jobs
Often	17%
Sometimes	48%
Rarely or	23%
DON'T KNOW	12%
N	28

HP115. How often do you use the Incentive Offers as a sales tool to encourage interested customers to convert from a forced air furnace to a heat pump? Would you say…	Percent of Jobs
Often	84%
Sometimes	14%
Rarely or	2%
N	29

HP120. How influential are the Incentive Offers in encouraging customers to convert from a forced air furnace to a heat pump? Would you say…	Percent of Jobs
Very Influential	49%
Somewhat Influential OR	49%
Not at all Influential	2%
N	29

HP125. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think the Incentive Offers have been in increasing sales of high efficiency heat pumps in existing single family homes? Would you say …	Percent of Jobs
Very Influential	54%
Somewhat Influential OR	46%
N	29

HP130. Considering only customers that received a Home Energy Savings rebate and possibly a tax credit, which of following best describes the degree of influence these Incentive Offers had on your customers' selection of a high efficiency Heat Pump? Would you say…(SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	54%
Most were Somewhat Influenced OR	46%
N	29

HP135. Again, for those customers that received Incentive Offers—if the Incentive Offers had not been available, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have selected the exact same	33%
Most would have selected a heat pump wit	67%
N	29

HP140. In general, which Incentive Offer would you say is more important to customers in their decision to install a high efficiency heat pump…	Percent of Jobs
The Home Energy Savings Program is more	33%
The Tax Credit is more important than th	5%
Both programs are equally important OR	62%
N	29

OVERALL INFLUENCE

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
3	5%
4	17%
5 EXTREMELY IMPORTANT	78%
Mean	4.7
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	6%
3	39%
4	29%
5 EXTREMELY IMPORTANT	22%
DON'T KNOW	4%
Mean	3.7
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	0%
3	21%
4	34%
5 EXTREMELY IMPORTANT	45%
Mean	4.2
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	2%
2	14%
3	32%
4	30%
5 EXTREMELY IMPORTANT	21%
DON'T KNOW	0%
Mean	3.5
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	0%
2	1%
3	23%
4	31%
5 EXTREMELY IMPORTANT	44%
DON'T KNOW	0%
Mean	4.2
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	5%
3	12%
4	29%
5 EXTREMELY IMPORTANT	54%
Mean	4.3
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	2%
2	5%
3	39%
4	26%
5 EXTREMELY IMPORTANT	28%
DON'T KNOW	1%
Mean	3.7
N	138

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
4	7%
5 EXTREMELY IMPORTANT	93%
Mean	4.9
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	7%
2	7%
3	17%
4	3%
5 EXTREMELY IMPORTANT	65%
Mean	4.1
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	6%
3	1%
4	41%
5 EXTREMELY IMPORTANT	52%
Mean	4.4
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	15%
2	2%
3	33%
4	23%
5 EXTREMELY IMPORTANT	27%
Mean	3.4
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
2	17%
3	4%
4	14%
5 EXTREMELY IMPORTANT	63%
Mean	4.2
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
3	2%
4	69%
5 EXTREMELY IMPORTANT	28%
Mean	4.2
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
2	44%
3	10%
4	20%
5 EXTREMELY IMPORTANT	25%
Mean	3.2
N	21

APPENDIX F
VENDOR TABLES

HOME ENERGY SAVINGS PROGRAM SINGLE FAMILY VENDOR SURVEY

SCREENER

P5. Are you familiar with the Home Energy Savings Program run by the Energy Trust of Oregon, where customers can receive cash rebates for installing energy efficient measures in their homes?	Percent of Jobs
Yes	100%
N	159

P20. Our records indicate that your company installed Insulation for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	82%
No	17%
DON'T KNOW	0%
N	44

P20. Our records indicate that your company installed Efficient Windows for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	61%
No	39%
N	44

P20. Our records indicate that your company installed Gas Furnaces for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	100%
N	103

P20. Our records indicate that your company installed Heat Pumps for customers in single-family homes that were rebated through the Home Energy Savings Program. Is this correct?	Percent of Jobs
Yes	98%
DON'T KNOW	2%
N	30

FIRMOGRAPHICS AND BUSINESS PROFILE

F1A. Within the residential sector, roughly what percent of your company's business is in single-family homes?	Percent of Jobs
5 percent	1%
10 percent	0%
40 percent	0%
50 percent	3%
55 percent	0%
60 percent	9%
65 percent	5%
70 percent	1%
75 percent	8%
80 percent	16%
85 percent	3%
88 percent	1%
89 percent	0%
90 percent	29%
93 percent	1%
94 percent	2%
95 percent	9%
97 percent	2%
98 percent	3%
99 percent	2%
100 percent	4%
Mean percent	82.1
N	159

F1B. Within the residential sector, roughly what percent of your company's business is in multi-family buildings?	Percent of Jobs
0 percent	15%
1 percent	4%
2 percent	3%
3 percent	1%
4 percent	1%
5 percent	8%
6 percent	0%
7 percent	0%
8 percent	4%
9 percent	3%
10 percent	23%
12 percent	1%
15 percent	2%
16 percent	0%
18 percent	0%
20 percent	11%
25 percent	7%
30 percent	0%
35 percent	8%
40 percent	7%
50 percent	3%
60 percent	0%
95 percent	1%
Mean percent	15.3
N	159

F1C. Within the residential sector, roughly what percent of your company's business is in manufactured homes?	Percent of Jobs
0 percent	62%
1 percent	7%
2 percent	4%
3 percent	4%
4 percent	0%
5 percent	10%
7 percent	1%
9 percent	1%
10 percent	6%
12 percent	0%
14 percent	0%
15 percent	1%
18 percent	1%
20 percent	2%
25 percent	0%
30 percent	0%
33 percent	0%
90 percent	0%
Mean percent	2.6
N	159

F5A. Within the residential sector, what percent of your company's business is in existing homes?	Percent of Jobs
4 percent	1%
5 percent	0%
10 percent	2%
15 percent	9%
20 percent	1%
25 percent	1%
30 percent	5%
35 percent	3%
40 percent	1%
50 percent	9%
60 percent	1%
70 percent	0%
75 percent	1%
76 percent	0%
80 percent	1%
85 percent	1%
90 percent	6%
95 percent	14%
96 percent	1%
97 percent	1%
98 percent	1%
99 percent	2%
100 percent	38%
Mean percent	74.3
N	159

F5B. Within the residential sector, what percent of your company's business is in new construction?	Percent of Jobs
0	0%
N	0

F10. Approximately how many employees work for your company at this location?	Percent of Jobs
0	0%
1	2%
2	5%
3	4%
4	4%
5	9%
6	8%
7	1%
8	1%
9	1%
10	2%
11	1%
12	4%
14	4%
15	7%
16	2%
17	1%
18	2%
19	5%
20	1%
21	0%
23	3%
24	1%
25	5%
26	1%
27	1%
30	0%
33	2%
35	3%
36	1%
40	0%
47	0%
50	5%
60	1%
65	1%
85	1%
90	0%
120	8%
125	1%
130	0%
140	0%
Refused	0%
Mean	27.0
N	159

F15. How many years has your company been in business?	Percent of Jobs
1	0%
2	2%
3	1%
4	1%
5	5%
6	2%
7	1%
8	1%
9	1%
10	5%
11	0%
12	2%
13	1%
14	1%
15	1%
16	3%
17	1%
18	2%
19	1%
20	13%
21	0%
22	3%
23	0%
24	2%
25	2%
26	4%
27	3%
28	7%
30	6%
31	0%
33	1%
34	0%
35	0%
36	3%
37	0%
39	0%
40	3%
45	2%
50	0%
54	1%
57	1%
58	1%
60	1%
66	0%
69	1%
71	1%
74	1%
80	8%
88	0%
90	0%
99	3%
Mean	28.3
N	159

F20. How would you describe your own position?	Percent of Jobs
Proprietor/CEO	30%
Director of Sales	3%
Manager	33%
Contractor	0%
Accounting	2%
Administrative	7%
Estimator	8%
Salesperson	5%
Secretary	4%
Vice President	4%
Another description	3%
N	159

F25. Which of the following best describes your company's 2005 annual revenue at this location…(READ)	Percent of Jobs
Less than $200,000	4%
$200,000 to $1 million	22%
$1 - $5 million or	36%
Over $5 million	17%
REFUSED	13%
DON'T KNOW	8%
N	159

MARKETING

M5. Are you on the Home Energy Savings List of Trade Ally Contractors with the Energy Trust of Oregon?	Percent of Jobs
Yes	90%
No	7%
DON'T KNOW	3%
N	159

M7. In which year did you first become part of the Home Energy Savings Trade Ally network with the Energy Trust of Oregon?	Percent of Jobs
2003	61%
2004	11%
2005	4%
2002	3%
2001	2%
2000	11%
1999	2%
1995	1%
When it started	2%
DON'T KNOW	4%
N	113

M10. Do you think being on this List of Trade Ally Contractors has increased your sales of energy efficient equipment to owners of existing single family homes?	Percent of Jobs
Yes	86%
No	13%
DON'T KNOW	2%
N	113

M11. Has being on the List of Trade Ally Contractors decreased your sales of energy efficient equipment to owners of existing single-family homes?	Percent of Jobs
No	100%
N	23

M12. Why do think this is the case?	Percent of Jobs
RECORD VERBATIM	.
REFUSED	.
DON'T KNOW	.
N	0

M15. By how much has being on this list increased your sales to owners of existing homes? Would you say it has increased your business…	Percent of Jobs
Significantly	31%
Somewhat or	33%
Marginally	32%
DON'T KNOW	5%
N	84

M20. Next, we'd like to talk to you about your customers that have received rebates through the Home Energy Savings program. I'm going to refer to them as "HES customers" in the following question sequences.	Percent of Jobs
0	0%

M35. Which of the following best describes how many of your HES customers were already aware of the HES rebate when they first began discussing their project with you? Would you say…	Percent of Jobs
Most of your HES customers	39%
Some of your HES customers OR	36%
Only a few of your HES customers	24%
None	0%
DON'T KNOW	0%
N	159

M40. Which of the following best describes how many of your HES customers became aware of the HES program and rebate only after you informed them?	Percent of Jobs
Most of your HES customers	36%
Some of your HES customers OR	37%
Only a few of your HES customers	26%
Never informed them	0%
DON'T KNOW	1%
N	159

M50. Does your company promote energy saving measures more often now than before the Incentive Offers were available?	Percent of Jobs
Yes	62%
No	38%
DON'T KNOW	0%
N	159

M55. Does your company actively promote the Incentive Offers as part of its regular marketing activities?	Percent of Jobs
Yes	78%
No	22%
N	159

M60. Has your company participated in the CO-OP marketing offered by the Energy Trust of Oregon, where the Energy Trust helps pay for marketing that promotes the Home Energy Savings Program?	Percent of Jobs
Yes	19%
No	74%
DON'T KNOW	7%
N	159

M65. How useful to your business was your company's participation in CO-OP marketing? Would you say…	Percent of Jobs
Very Useful	76%
Somewhat Useful	17%
Marginally Useful or	7%
Not At All Useful	0%
N	25

M70. Why do you say that?	Percent of Jobs
Didnt get a lot of feedback from the program	6%
Gained business/Good selling point	6%
Makes us more credible and professional	54%
Helps us sell higher end equipment	2%
Money for something we would do anyway	3%
One piece of our marketing	10%
Cost	1%
Gives us an advantage over competitors	8%
Didnt use it/dont know what to do with it	4%
Gave us info to give to our customers	0%
Helps pay for the advertising	1%
Useful to create public awareness	2%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	2%
N	25

M75. Do you plan on participating in CO-OP marketing opportunities again in the future?	Percent of Jobs
Yes	91%
No	9%
N	25

M75a. Why not?	Percent of Jobs
We understand that they are not offering it anymore	0%
RECORD VERBATIM	100%
REFUSED	0%
DON'T KNOW	0%
N	1

M80. Why has your company not chosen to participate in the CO-OP marketing offered by the Energy Trust?	Percent of Jobs
Unaware of it	18%
We dont advertise	11%
Too busy	37%
We advertise alternative ways	2%
We will in the future	6%
Small company	2%
We dont qualify	1%
Mostly do new construction/multifamily	2%
Havent finished paperwork	1%
Lack of personnel	2%
Doesnt work well	0%
Dont need it	0%
Cost	4%
RECORD VERBATIM	6%
REFUSED	0%
DON'T KNOW	14%
N	134

M85. What could the Energy Trust change about the program that would lead your company to participate in the CO-OP marketing program?	Percent of Jobs
Need information about it/Unaware	20%
Nothing	22%
Better information	2%
Incentives	2%
We are participating now/soon	13%
Advertise it more	0%
Advertising too expensive	2%
Audit the program	1%
Do it for me	0%
More training	1%
Promote multifamily side	0%
Reduce paperwork	0%
Referral list	0%
Simplify the process	0%
Talk to our marketing people	0%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	35%
N	134

M90. How often do you mention the Oregon Energy Efficiency Incentive Offers to encourage customers considering program qualifying measures to select higher efficiency alternatives? Would you say…	Percent of Jobs
Often	89%
Sometimes	4%
Rarely or	7%
Never	0%
N	138

M95. How effective are the Incentive offers in encouraging customers to select higher efficiency alternatives? Would you say…	Percent of Jobs
They are VERY effective	55%
Somewhat effective or	42%
Not At All effective	1%
DON'T KNOW	2%
N	137

M100. How often do you suggest or recommend to customers already making a program qualifying purchase that they install additional measures that qualify for Incentive Offers? Would you say…	Percent of Jobs
Often	72%
Sometimes	22%
Rarely or	5%
Never	2%
N	159

M105. How effective are the incentive offers in encouraging customers to install additional energy saving measures? Would you say…	Percent of Jobs
They are VERY effective	22%
Somewhat effective or	71%
Not At All effective	1%
DON'T KNOW	7%
N	150

M110. Which program has a greater influence on customers' decisions regarding installations of energy saving measures? Would you say …	Percent of Jobs
The Home Energy Savings Program	49%
The Oregon Tax Credit or	3%
Both Programs are Equally Important OR	46%
Neither are Important	0%
DON'T KNOW	2%
N	159

INSULATION

IN5. Over the past year, what percent of your company's revenue at this location came from insulation jobs in existing single family homes?	Percent of Jobs
1	1%
2	2%
4	2%
5	2%
10	17%
15	1%
20	2%
30	5%
40	12%
45	1%
50	22%
75	1%
80	5%
85	2%
99	7%
Refused	1%
Don't know	17%
Mean	41.7
N	31

IN10. Roughly how many insulation jobs did your company complete in existing single family homes over the past year?	Percent of Jobs
1	1%
10	1%
15	0%
30	0%
40	1%
50	1%
100	12%
180	1%
200	9%
245	2%
250	6%
300	8%
360	2%
400	2%
998	24%
1000	17%
1300	1%
Don't know	10%
Mean	584.2
N	31

IN15. Approximately what percent of the jobs your company completed over the past year involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
1	1%
30	3%
50	14%
60	9%
70	2%
75	21%
80	33%
85	2%
90	1%
95	9%
100	4%
Don't know	2%
Mean	73.1
N	31

IN20. Our records show your company completed &NUMJOBS insulation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	94%
No	1%
DON'T KNOW	4%
N	31

IN20a. How many insulation jobs would you say your company completed over the past year that were rebated through the Home Energy Savings Program?	Percent of Jobs
20	30%
30	6%
70	19%
Don't know	45%
Mean	38.7
N	5

IN30. Thinking back a few years, approximately how many insulation jobs did your company complete in existing single family homes during 2003?	Percent of Jobs
0	1%
5	0%
25	0%
30	0%
40	1%
45	1%
50	2%
60	2%
100	0%
150	6%
250	7%
300	8%
360	2%
400	2%
750	13%
800	17%
998	8%
1000	0%
1300	1%
Don't know	26%
Mean	553.2
N	31

IN35. Approximately what percent of the jobs completed in 2003 involved insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
10	3%
25	1%
30	2%
40	1%
50	14%
60	9%
65	2%
70	2%
75	22%
80	21%
90	0%
95	9%
Don't know	14%
Mean	68.9
N	30

IN40. How many insulation jobs do you expect to do in 2006 in existing single family homes?	Percent of Jobs
0	1%
20	0%
40	0%
50	2%
120	2%
200	7%
250	6%
280	5%
300	14%
360	2%
400	2%
489	2%
500	2%
998	21%
1000	3%
1200	17%
1400	1%
1600	0%
Don't know	12%
Mean	671.1
N	31

IN45. Roughly what percent of these 2006 jobs do you expect to be rebated through the Home Energy Savings program?	Percent of Jobs
5	2%
10	0%
20	6%
25	0%
30	4%
40	1%
50	3%
60	17%
65	5%
70	7%
75	16%
80	18%
85	7%
100	0%
Don't know	12%
Mean	63.6
N	30

IN50. What percent of your year 2006 jobs do you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct?	Percent of Jobs
10	3%
25	1%
30	3%
40	3%
50	10%
60	12%
70	0%
75	0%
80	50%
85	1%
90	2%
99	9%
100	4%
Don't know	2%
Mean	72.9
N	30

IN55. If there were no Home Energy Savings program how many insulation jobs would you expect to do in 2006 in existing single family homes?	Percent of Jobs
0	1%
5	0%
30	0%
35	1%
40	0%
50	5%
100	1%
140	6%
190	1%
200	15%
300	7%
360	2%
400	2%
480	1%
489	2%
500	1%
750	13%
800	3%
998	8%
1000	17%
1400	1%
1575	0%
Don't know	12%
Mean	562.1
N	31

IN60. What percent of these jobs would you expect to involve insulation in more than one of the following areas – Ceiling, Wall, Floor and Duct	Percent of Jobs
10	3%
25	1%
30	2%
40	3%
50	36%
60	2%
70	0%
75	8%
80	28%
85	1%
99	9%
100	4%
Don't know	2%
Mean	65.9
N	30

IN65. The Home Energy Savings program offers incentives for Efficient Windows if they are installed in conjunction with another program qualifying measure, such as insulation. Have you received any referrals from other contractors to complete insulation jobs so that customers would be eligible for Efficient Windows rebates?	Percent of Jobs
Yes	42%
No	58%
DON'T KNOW	0%
N	31

IN70. Roughly what percent of the insulation jobs you completed in existing single-family homes over the past year were a result of this type of referral?	Percent of Jobs
0	1%
1	19%
2	5%
3	1%
5	24%
10	9%
20	41%
Mean	10.5
N	13

IN75. Have you referred or recommended to any of your insulation customers that they consider installing other measures, such as windows, in conjunction with insulation to qualify for greater program rebates and save energy?	Percent of Jobs
Yes	75%
No	24%
DON'T KNOW	1%
N	31

IN80. Roughly what percent of your insulation customers follow your recommendation and go on to install other measures and take advantage of additional program rebates?	Percent of Jobs
5	3%
10	12%
15	2%
30	0%
50	6%
70	12%
75	18%
90	10%
Don't know	36%
Mean	56.1
N	22

IN85. Considering all aspects of the Home Energy Savings Program including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Home Energy Savings Program has been in increasing your company's insulation business in existing single family homes? Would you say…	Percent of Jobs
Very effective	43%
Somewhat effective OR	48%
Not at all effective	9%
N	31

IN90 Thinking only about insulation customers that went on to receive a Home Energy Savings rebate, which of following best describes the degree of influence the Home Energy Savings program had on customers' decisions to install insulation? Would you say… (SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	63%
Most were Somewhat Influenced OR	36%
Most were Not At All Influenced by the p	1%
N	31

IN95. Again, for those customers that received a Home Energy Savings rebate—if the rebate had not been available, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have installed the exact same	36%
Most would have installed less insulatio	46%
Most would have elected not to install i	15%
DON'T KNOW	3%
N	31

IN100. For which of the following types of insulation has the Home Energy Savings program been most successful with respect to increasing your business in existing single family homes? (READ, SELECT ALL THAT APPLY)	Percent of Jobs
Ceiling/Attic insulation	80%
Wall Insulation	32%
Floor insulation or	57%
Duct Insulation	40%
DO NOT READ-NONE	3%
REFUSED	0%
DON'T KNOW	12%
N	31

IN105. As you probably know, Duct Insulation qualifies for both a Home Energy Savings rebate and an Oregon Tax Credit, while Ceiling, Wall and Floor insulation qualify only for the Home Energy Savings rebate. Which program is more influential in customers' decision to install Duct Insulation, would you say…	Percent of Jobs
The Home Energy Savings Rebate is more I	41%
Both programs are equally Influential OR	24%
DON'T KNOW	35%
N	31

WINDOWS

WN5. Over the past year, approximately what percent of your company's revenue at this location came from window installation jobs in existing single-family homes?	Percent of Jobs
6	4%
10	10%
30	2%
40	6%
50	0%
60	1%
65	0%
75	15%
80	29%
85	3%
90	0%
99	0%
100	20%
Don't know	9%
Mean	68.7
N	30

WN10. Roughly how many window installation jobs did your company complete in existing single-family homes over the past year?	Percent of Jobs
1	0%
2	2%
5	4%
12	3%
15	0%
20	6%
30	3%
50	0%
70	11%
75	6%
100	30%
175	6%
180	2%
200	4%
250	0%
375	0%
400	19%
450	2%
600	0%
2500	0%
Don't know	1%
Mean	164.8
N	30

WN15. Our records indicate your company completed &NUMJOBS Window installation jobs over the past year that were rebated through the Home Energy Savings program, is that approximately correct?	Percent of Jobs
Yes	54%
No	43%
DON'T KNOW	3%
N	30

WN15a. Approximately how many window installation jobs did your company complete over the past year that were rebated through the Home Energy Savings program?	Percent of Jobs
5	0%
6	24%
9	0%
10	12%
80	1%
Don't know	62%
Mean	8.5
N	11

WN20. Thinking back to 2003, how many window installation jobs did your company complete during 2003?	Percent of Jobs
0	0%
5	0%
15	0%
20	9%
25	1%
60	4%
70	11%
80	2%
100	32%
130	2%
160	0%
175	6%
200	0%
250	0%
400	19%
450	2%
600	0%
999	2%
2500	0%
Don't know	8%
Mean	170.7
N	30

WN25. Thinking back to 2003, what percent of your company's window installations in existing single family homes had a U value of .35 or lower?	Percent of Jobs
0	6%
50	0%
70	0%
85	6%
90	2%
95	0%
98	1%
100	72%
Don't know	12%
Mean	91.5
N	29

WN30. …and what percent had a U-value of .32 or better?	Percent of Jobs
0	35%
5	1%
10	9%
25	26%
33	2%
35	0%
50	4%
75	1%
80	10%
95	0%
100	5%
Don't know	7%
Mean	26.4
N	29

WN35. Over the past year, approximately what percent of your company's window installations in existing single family homes had a U value of .35 or lower? (PROMPT FOR BEST GUESS)	Percent of Jobs
0	6%
60	1%
75	0%
80	6%
90	6%
97	2%
100	77%
Don't know	2%
Mean	91.5
N	30

WN40…and how many would you say had a U-Value of .32 or lower? (PROMPT FOR BEST GUESS)	Percent of Jobs
0	1%
5	3%
10	0%
15	29%
33	26%
35	0%
50	1%
62	2%
75	1%
80	5%
85	4%
90	8%
98	0%
100	12%
Don't know	9%
Mean	46.0
N	30

WN45. Looking forward to 2006, about how many window installation jobs in existing single family homes do you expect to complete in 2006?	Percent of Jobs
0	0%
3	2%
15	0%
40	3%
60	4%
70	11%
100	32%
175	6%
200	8%
250	4%
375	0%
450	2%
500	19%
550	0%
600	0%
999	0%
2500	0%
Don't know	7%
Mean	210.8
N	30

WN50. Looking forward to 2006, about what percent of your company's window installations in existing single family homes do you expect will have a U value of .35 or lower?	Percent of Jobs
0	6%
60	6%
75	0%
90	0%
97	2%
100	83%
Don't know	3%
Mean	91.2
N	30

WN55…and what percent would you guess will have a U-Value of .32 or lower?	Percent of Jobs
0	0%
5	0%
10	3%
20	11%
25	0%
33	26%
50	6%
62	2%
75	0%
80	3%
90	2%
95	4%
100	40%
Don't know	3%
Mean	64.7
N	30

WN60. Roughly what percent of your company's 2006 window installation jobs in existing single family homes do you expect to be rebated through the Home Energy Savings Program?	Percent of Jobs
0	0%
1	1%
3	0%
5	0%
10	3%
12	2%
15	0%
20	1%
25	13%
50	11%
60	4%
75	26%
80	4%
90	8%
100	19%
Don't know	7%
Mean	65.9
N	30

WN65. If the Incentive Offers were discontinued today, how many window installation jobs in existing single family homes would you expect to complete in 2006?	Percent of Jobs
0	0%
3	2%
12	1%
20	6%
30	3%
40	4%
70	12%
75	26%
90	2%
100	18%
175	0%
200	2%
250	0%
375	0%
420	2%
450	1%
500	17%
550	0%
600	0%
999	0%
2500	0%
Don't know	1%
Mean	173.3
N	30

WN70. If the Incentive Offers were discontinued today, about what percent of these 2006 window installation jobs do you expect would have a U value of .35 or lower?	Percent of Jobs
0	6%
10	3%
75	0%
90	2%
97	2%
100	84%
Don't know	3%
Mean	91.1
N	29

WN75…If the Incentive Offers were discontinued, what percent of these 2006 jobs would you expect to have a U Value of .32 or lower?	Percent of Jobs
0	14%
5	0%
10	37%
25	0%
40	0%
50	18%
62	2%
70	1%
75	3%
90	4%
100	16%
Don't know	3%
Mean	38.2
N	29

WN80. Have you recommended to any of your windows customers that they consider installing other energy saving measure so that they could receive the Home Energy Savings Efficient Windows rebate and potentially other Incentive Offers?	Percent of Jobs
Yes	91%
No	9%
N	30

WN85. How often do you make this recommendation? Would you say…	Percent of Jobs
Often	82%
Sometimes	1%
Rarely or	14%
DON'T KNOW	3%
N	24

WN90. Which measures do you typically recommend customers install in order to qualify for the Home Energy Savings Efficiency Window rebate?	Percent of Jobs
Insulation	89%
Water Heater	3%
Gas Furnace	2%
Heat Pump	0%
Other Measure-Specify	11%
REFUSED	0%
DON'T KNOW	0%
N	24

WN95. What percent of your rebated windows customers choose to install additional measures primarily to take advantage of the Incentive Offers?	Percent of Jobs
0	1%
2	0%
3	0%
15	2%
25	0%
40	17%
50	20%
65	3%
75	2%
80	4%
100	21%
Don't know	30%
Mean	63.5
N	30

WN100. Have you received referrals from other contractors to complete window installation jobs for customers already installing other measures that qualify for Incentive Offers, because they would be eligible for Efficient Windows rebates?	Percent of Jobs
Yes	9%
No	73%
DON'T KNOW	18%
N	30

WN105. In general, approximately what percent of your rebated window installations result from this type of referral?	Percent of Jobs
0	27%
2	3%
5	38%
10	21%
20	3%
Don't know	10%
Mean	5.0
N	6

WN110. Are residential windows with a U-value of .32 or lower difficult to find?	Percent of Jobs
Yes	6%
No	92%
DON'T KNOW	2%
N	30

WN115. Are they more or less difficult to find now than a year ago?	Percent of Jobs
They are less difficult to find	63%
No change	35%
DON'T KNOW	2%
N	30

WN120. To what do you attribute this change in availability?	Percent of Jobs
Market demand	78%
Change to .35	1%
Energy costs	4%
Incentive program	3%
New technology	9%
Vendors offering more of them	1%
RECORD VERBATIM	0%
REFUSED	0%
DON'T KNOW	2%
N	11

WN125. If windows with a U Value of .32 or lower were easy to get, what percent of your 2006 window sales would you expect to be windows with a U Value of .32 or lower?	Percent of Jobs
75	95%
100	5%
Mean	76.2
N	2

WN130. Has the efficiency of windows you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	6%
No	83%
DON'T KNOW	11%
N	30

WN135. Do you stock more or fewer windows with U values of .35 or lower compared to a couple years ago?	Percent of Jobs
Stock more now	96%
No Change	4%
N	2

WN140. Do you stock more or fewer windows with U values of .32 or lower compared to a couple years ago?	Percent of Jobs
Stock more now	96%
No Change	4%
N	2

WN145. How influential has the Home Energy Savings program been on these changes in the efficiency of the windows you are stocking? Would you say…	Percent of Jobs
Very Influential	100%
N	1

WN146. How have the prices for windows with U-Values of .32 or lower changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10 percen	40%
They have not changed by 10 percent over	56%
DON'T KNOW	4%
N	30

WN150. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how effective do you think the Incentive Offers have been in increasing your company's sales of high efficiency windows? Would you say they have been…	Percent of Jobs
Very Influential	41%
Somewhat Influential OR	39%
Not at all Influential	20%
DON'T KNOW	0%
N	30

WN155. Which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install high efficiency windows? Would you say…	Percent of Jobs
Most customers were Very Influenced by t	40%
Most were Somewhat Influenced or	57%
Most customers were Not At All Influence	3%
N	30

WN160. For those customers that received Incentive Offers—if the Incentive Offers had not been available, which of the following best describes what most of those customers would have installed… (IF NEEDED: 'Standard Efficiency' windows refers to windows with a U-Value greater than .35.)	Percent of Jobs
Most would have installed the exact same	38%
Most would have installed Standard Effic	62%
Most would have elected not to install w	0%
N	30

GAS FURNACE

GF5. Over the past year, what percent of your company's revenue at this location came from gas furnace installations in existing single-family homes?	Percent of Jobs
5	0%
10	1%
15	1%
20	4%
25	2%
30	10%
33	1%
35	0%
40	1%
45	1%
50	17%
60	18%
65	1%
67	1%
70	11%
75	8%
80	6%
85	3%
87	1%
90	5%
95	1%
96	0%
98	2%
Refused	2%
Don't know	3%
Mean	58.8
N	103

GF10. Approximately how many Gas Furnace installations in existing single-family homes did your company complete over the past year?	Percent of Jobs
10	1%
12	0%
15	0%
20	3%
24	0%
25	3%
27	0%
30	1%
35	1%
36	0%
40	2%
45	0%
48	0%
50	4%
60	1%
65	1%
70	1%
75	2%
80	0%
85	0%
95	0%
100	9%
103	2%
120	1%
125	1%
130	2%
150	9%
160	3%
175	1%
180	2%
200	10%
250	6%
300	8%
340	3%
350	3%
400	3%
450	3%
1200	5%
Refused	1%
Don't know	6%
Mean	226.5
N	103

GF15. Roughly what percent of your company's gas furnace installations in existing single family homes over the past year had an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
6	0%
15	1%
20	1%
25	1%
40	1%
50	10%
60	1%
70	10%
75	8%
78	2%
80	16%
85	2%
90	16%
92	2%
93	6%
95	7%
98	2%
99	4%
100	6%
Don't know	5%
Mean	79.4
N	103

GF20…and what percent would you say had an AFUE rating of .9 or higher and an Electrically Commutated Motor, or "ECM"?	Percent of Jobs
0	1%
1	1%
3	1%
5	2%
6	0%
9	0%
10	1%
15	1%
20	2%
25	1%
30	6%
40	2%
50	7%
60	4%
68	2%
70	8%
75	11%
78	2%
80	4%
85	3%
89	2%
90	15%
95	5%
98	2%
99	1%
100	7%
Don't know	12%
Mean	68.5
N	103

GF25. Our records show your company completed &NUMJOBS gas furnace installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	64%
No	33%
DON'T KNOW	3%
N	103

GF25a. Approximately how many gas furnace installation jobs did your company complete over the past year that were rebated through the Home Energy Savings?	Percent of Jobs
14	1%
15	2%
20	4%
40	3%
45	1%
50	6%
60	2%
75	7%
100	11%
103	6%
109	3%
140	3%
170	8%
200	14%
220	9%
250	13%
Don't know	7%
Mean	140.3
N	33

GF35. Thinking back to 2003, approximately how many gas furnace installations in existing single family homes did your company install in 2003?	Percent of Jobs
2	0%
3	0%
5	0%
10	1%
11	1%
12	1%
17	0%
18	0%
20	2%
24	0%
30	2%
35	3%
40	2%
45	0%
48	2%
50	13%
60	1%
70	0%
75	1%
80	2%
85	1%
90	2%
100	6%
120	2%
125	1%
150	9%
155	1%
160	3%
175	2%
180	1%
200	7%
250	9%
300	1%
340	3%
500	1%
Refused	1%
Don't know	18%
Mean	129.0
N	103

GF40. Thinking back to 2003, roughly what percent of your company's gas furnace installations in existing single family homes had a an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
2	1%
5	0%
10	0%
15	0%
20	3%
25	1%
30	3%
40	2%
48	1%
50	22%
55	1%
60	4%
65	3%
70	8%
75	2%
78	2%
80	6%
82	2%
85	1%
90	7%
95	3%
97	2%
98	2%
100	7%
Don't know	16%
Mean	64.2
N	103

GF45. …and what percent would you guess had an AFUE rating of .9 or higher and an ECM?	Percent of Jobs
0	3%
1	0%
2	2%
3	1%
5	1%
10	10%
15	1%
20	6%
25	2%
30	6%
33	0%
35	1%
40	5%
50	8%
55	4%
60	1%
65	2%
70	1%
75	3%
80	9%
90	6%
95	5%
96	0%
97	2%
100	1%
Don't know	19%
Mean	47.9
N	103

GF50. Looking forward to 2006, about how many gas furnace installations in existing single family homes do you expect to complete?	Percent of Jobs
6	0%
10	1%
12	0%
16	0%
20	2%
25	1%
30	2%
40	1%
50	5%
52	0%
60	1%
65	2%
70	3%
75	6%
80	1%
100	11%
120	1%
130	1%
150	8%
175	4%
180	1%
200	10%
250	4%
275	2%
300	7%
340	3%
350	12%
400	2%
450	3%
500	3%
Refused	1%
Don't know	3%
Mean	196.8
N	103

GF55. In 2006, approximately what percent of your company's gas furnace installations in existing single family homes do you expect will have an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
10	0%
15	0%
20	0%
25	2%
30	0%
40	1%
50	2%
55	3%
60	4%
65	1%
70	3%
75	3%
78	2%
80	13%
85	10%
90	29%
92	2%
95	5%
98	5%
99	0%
100	7%
Don't know	5%
Mean	81.5
N	103

GF60. …and about what percent do you expect will have an AFUE rating of .9 or higher and an ECM?	Percent of Jobs
0	1%
1	0%
5	2%
10	4%
15	1%
20	0%
25	3%
35	0%
40	4%
45	1%
50	6%
60	4%
68	1%
70	7%
75	8%
80	8%
85	10%
90	19%
95	4%
97	2%
99	0%
100	8%
Don't know	7%
Mean	70.9
N	103

GF61. Roughly what percent of your 2006 gas furnace installations in existing single family homes do you expect will be rebated through the Incentive Offers.	Percent of Jobs
0	1%
20	1%
25	4%
30	1%
35	2%
40	0%
45	1%
50	5%
60	9%
70	6%
75	5%
80	10%
85	7%
90	25%
95	2%
98	3%
99	2%
100	12%
Don't know	4%
Mean	76.9
N	103

GF65. If the Incentive Offers were discontinued today how many gas furnace installations in existing single family homes would you expect to make in 2006?	Percent of Jobs
6	0%
7	0%
10	2%
15	0%
16	0%
20	2%
25	4%
30	2%
35	3%
40	1%
45	2%
50	7%
52	0%
55	0%
60	2%
65	2%
70	5%
75	6%
80	0%
90	1%
95	0%
100	6%
102	0%
120	2%
125	1%
140	1%
150	5%
160	2%

175	3%
200	7%
220	2%
250	8%
300	5%
350	4%
375	3%
400	1%
500	3%
Refused	1%
Don't know	8%
Mean	155.9
N	103

GF70. If the Incentive Offers were discontinued today, what percent of these 2006 gas furnace installations would you expect to have an AFUE rating of .9 or higher?	Percent of Jobs
0	0%
7	0%
10	0%
20	0%
25	8%
30	6%
35	0%
40	3%
45	2%
50	21%
60	7%
70	9%
75	7%
78	2%
80	15%
85	2%
90	4%
95	2%
96	2%
98	2%
100	2%
Don't know	5%
Mean	62.0
N	103

GF75. …and, if the Incentive Offers were discontinued, what percent of these 2006 gas furnace installations would you expect to have an AFUE of .9 or higher and an ECM?	Percent of Jobs
0	3%
1	3%
2	1%
5	2%
10	5%
15	1%
20	12%
25	8%
28	1%
30	5%
40	4%
50	17%
60	6%
65	4%
70	7%
75	2%
80	7%
85	2%
90	1%
95	2%
100	2%
Don't know	5%
Mean	43.6
N	103

GF80. Have you referred or recommended to any of your gas furnace customers that they install other measures qualifying for Incentive Offers in order to take advantage of additional rebates and save energy?	Percent of Jobs
Yes	81%
No	17%
DON'T KNOW	2%
N	103

GF85. How often do customers go ahead and install additional measure to take advantage of greater Incentive Offers? Would you say…	Percent of Jobs
Often	11%
Sometimes	53%
Rarely or	23%
Never	1%
DON'T KNOW	11%
N	80

GF86. How have the prices for gas furnaces with an AFUE rating of .90 or higher changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10 percen	53%
They have declined by more than 10 perce	1%
They have not changed by 10 percent over	43%
DON'T KNOW	3%
N	103

GF87. Are gas furnaces with an AFUE rating of .95 or higher difficult to find?	Percent of Jobs
Yes	41%
No	56%
DON'T KNOW	4%
N	103

GF88. How do you foresee the availability of gas furnaces with an AFUE of .95 or higher changing over the next couple years? Would you say…	Percent of Jobs
They will probably become easier to find	57%
They will become harder to find	2%
There will be little or no change in ava	35%
DON'T KNOW	6%
N	30

GF90. Has the typical AFUE rating of the gas furnaces you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	24%
No	74%
REFUSED	1%
DON'T KNOW	2%
N	103

GF95. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher?	Percent of Jobs
More units with AFUE of .9 or higher	92%
No change	6%
DON'T KNOW	2%
N	24

GF100. Compared to a couple years ago, do you stock more or fewer units with an AFUE of .9 or higher and an ECM?	Percent of Jobs
More units with AFUE of .9 or higher and	78%
No change	20%
DON'T KNOW	2%
N	24

GF105. How influential have the Incentive Offers been on this change in the efficiency of the furnaces you are stocking? Would you say…	Percent of Jobs
Very Influential	86%
Somewhat Influential OR	13%
Not at all Influential	1%
N	21

GF110. Which of the three Incentive Offers had the most influence on these changes in your company's stocking practices? Would you say…	Percent of Jobs
The Home Energy Savings program	11%
The Oregon Tax Credit	7%
All three have been equally influential	81%
N	20

GF115. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think these incentive offers have been in increasing sales of gas furnaces with AFUE of .90 or greater? Would you say…	Percent of Jobs
Very Influential	70%
Somewhat Influential OR	27%
Not at all Influential	1%
DON'T KNOW	1%
N	103

GF120. Consider customers that received Incentive Offers, which of following best describes the degree of influence the Incentive Offers had on customers' decisions to install gas furnaces with AFUE of .90 or greater? Would you say… (SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	64%
Most were Somewhat Influenced OR	33%
Most were Not At All Influenced	1%
DON'T KNOW	1%
N	103

GF125. Again, for those customers that received Incentive Offers—if the Incentive Offers had not been available,, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have selected the exact same	27%
Most would have selected a furnace with	50%
Most would have selected a Standard Effi	20%
Most would have elected not to install a	0%
DON'T KNOW	3%
N	103

GF130. Which of the three Incentive Offers has the most influence on a customer's decision to purchase a gas furnace with an AFUE of .90 or greater? Would you say…	Percent of Jobs
The Home Energy Savings program	10%
The Oregon Tax Credit	11%
The Northwest Natural cash incentive OR	6%
All three have been equally influential	71%
DON'T KNOW	1%
N	103

HEAT PUMP

HP5. Over the past year, what percent of your company's revenue at this location came from heat pump installations in existing single-family homes?	Percent of Jobs
1	1%
5	3%
9	5%
10	9%
15	1%
20	5%
25	13%
30	6%
33	1%
40	24%
50	24%
65	2%
80	3%
90	2%
Don't know	2%
Mean	35.7
N	29

HP10. Approximately how many Heat Pump installations in existing single-family homes did your company complete over the past year?	Percent of Jobs
10	2%
15	4%
17	1%
20	8%
25	6%
30	5%
35	1%
40	2%
42	1%
50	3%
60	3%
75	2%
100	27%
120	2%
150	2%
240	15%
250	14%
Don't know	2%
Mean	117.2
N	29

HP15. Approximately what percent of these heat pump installations were conversions from forced air furnace to heat pump?	Percent of Jobs
0	7%
2	11%
5	5%
10	5%
15	3%
20	19%
25	5%
30	13%
50	28%
Don't know	4%
Mean	25.4
N	29

HP20. And approximately what percent of your company's heat pump installations in existing single family homes over the past year had a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
1	4%
10	2%
15	8%
20	6%
30	1%
35	4%
40	11%
50	22%
60	14%
75	3%
80	5%
85	2%
90	2%
100	14%
Don't know	2%
Mean	52.5
N	29

HP21…and what percent would you say had a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
50	9%
60	26%
67	1%
70	5%
75	2%
80	2%
90	11%
95	16%
100	17%
Don't know	2%
Mean	70.6
N	29

HP25. Our records show your company completed &NUMJOBS heat pump installation jobs that were rebated through the Home Energy Savings Program over the past year, is this approximately correct?	Percent of Jobs
Yes	76%
No	20%
DON'T KNOW	5%
N	29

HP25a. Approximately how many heat pump installation jobs did your company complete over the past year that were rebated through the Home Energy Savings ?	Percent of Jobs
15	4%
25	13%
125	55%
150	9%
Don't know	19%
Mean	105.9
N	5

HP30. Thinking back to 2003, approximately how many Heat Pump installations in existing single-family homes did your company complete during 2003?	Percent of Jobs
8	3%
10	4%
15	4%
20	6%
25	5%
29	1%
30	9%
35	1%
40	6%
50	16%
60	5%
100	14%
120	4%
200	11%
Don't know	10%
Mean	68.7
N	29

HP35. Roughly what percent of these heat pump installations in year 2003 were conversions from forced air furnace to heat pump?	Percent of Jobs
0	5%
2	11%
5	1%
10	18%
15	1%
17	1%
20	8%
25	5%
30	11%
33	1%
35	1%
40	3%
50	26%
Don't know	8%
Mean	25.7
N	29

HP40. And about what percent of the year 2003 heat pump installations had a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
0	13%
3	2%
5	1%
10	6%
15	4%
20	19%
30	11%
35	1%
40	15%
50	7%
60	1%
70	6%
80	9%
Don't know	4%
Mean	32.3
N	29

HP41…and about what percent would you say had a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
15	1%
30	3%
35	4%
40	5%
50	22%
60	14%
70	14%
75	4%
80	2%
90	2%
97	2%
100	6%
Don't know	6%
Mean	52.1
N	29

HP45. Looking forward to 2006, approximately how many Heat Pump installations in existing single-family homes do you expect to complete?	Percent of Jobs
15	2%
20	5%
25	7%
30	5%
35	1%
40	5%
50	1%
55	1%
60	2%
70	3%
100	5%
120	4%
125	1%
130	9%
150	4%
200	11%
240	4%
250	11%
300	14%
Don't know	4%
Mean	148.6
N	29

HP50. And, if you had to guess, roughly what percent of these 2006 heat pump installations do you expect to be conversions from forced air furnace to heat pump?	Percent of Jobs
0	2%
5	14%
15	1%
17	1%
20	36%
25	3%
30	6%
40	4%
50	26%
60	1%
70	2%
Don't know	3%
Mean	28.2
N	29

HP55. And approximately what percent of your expected 2006 heat pump installations do you guess will have a Heating Season Performance Factor (HSPF) of 8.5 or higher?	Percent of Jobs
1	4%
5	5%
15	1%
20	2%
25	3%
30	1%
50	17%
60	1%
70	10%
75	24%
80	2%
85	5%
90	1%
100	19%
Don't know	4%
Mean	65.3
N	29

HP56. …and what percent would you guess will have a HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
20	2%
25	1%
30	1%
50	13%
60	4%
70	1%
75	8%
80	2%
85	3%
90	19%
95	2%
100	25%
Don't know	4%
Mean	69.1
N	29

HP60. About what percent of these 2006 heat pump installations do you expect will be rebated through the Incentive Offers?	Percent of Jobs
0	2%
5	1%
10	5%
20	1%
50	20%
60	6%
70	9%
75	27%
80	19%
90	1%
100	9%
Mean	66.2
N	29

HP65. If the Incentive Offers were discontinued today, about how many heat pump installations in existing single family homes would you expect to complete in 2006?	Percent of Jobs
10	1%
12	2%
15	3%
20	4%
25	11%
28	1%
30	2%
35	1%
40	1%
50	1%
70	3%
75	18%
100	14%
120	4%
150	4%
225	14%
250	11%
Don't know	4%
Mean	110.4
N	29

HP70. If the Incentive Offers were discontinued what percent of your 2006 heat pump installations would you expect would have an HSPF of 8.5 or higher?	Percent of Jobs
1	4%
5	5%
10	1%
20	8%
40	4%
50	25%
60	14%
70	9%
75	12%
80	4%
100	8%
Don't know	6%
Mean	54.1
N	29

HP71. …and roughly what percent would you expect to have an HSPF of 8.1 or higher?	Percent of Jobs
0	9%
10	5%
20	2%
25	1%
50	41%
60	2%
75	12%
80	2%
85	3%
90	2%
95	3%
100	11%
Don't know	6%
Mean	55.6
N	29

HP75. And, if the Incentive Offers were discontinued, roughly what percent of your 2006 heat pump installations would you expect to be conversions from forced air furnace to heat pump?	Percent of Jobs
0	2%
5	14%
6	1%
10	23%
15	10%
25	6%
30	18%
40	2%
50	10%
60	4%
Don't know	9%
Mean	21.6
N	29

HP80. Has the number of heat pumps you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	33%
No	67%
N	29

HP85. Are you stocking more or fewer heat pumps relative to a couple years ago?	Percent of Jobs
Stocking More Heat Pumps	95%
Stocking Fewer Heat Pumps	5%
N	6

HP90. Has the typical HSPF rating of the heat pumps you keep in stock changed notably over the past couple of years?	Percent of Jobs
Yes	94%
DON'T KNOW	6%
N	6

HP95. Do you stock more or fewer units with an HSPF of 8.5 or higher compared to a couple years ago?	Percent of Jobs
Stocking MORE Heat Pumps with HSPF over	100%
N	6

HP100. How influential have the Incentive Offers been on these change in your company's heat pump stocking practices? Would you say…	Percent of Jobs
Very Influential	85%
Somewhat Influential OR	15%
N	6

HP101. How have the prices for heat pumps with an HSPF rating of 8.5 or higher changed over the past year? Would you say …	Percent of Jobs
They have gone up by more than 10	57%
They have not changed by 10 percent over	43%
N	29

HP105. How often do you suggest to your heat pump customers that they install other measures qualifying for the Incentive Offers in order to take advantage of additional rebates and save energy? Would you say…	Percent of Jobs
Often	30%
Sometimes	48%
Rarely or	20%
Never	2%
N	29

HP110. How often do customers take this advice and install additional measure to take advantage of greater Incentive Offers? Would you say…	Percent of Jobs
Often	17%
Sometimes	48%
Rarely or	23%
DON'T KNOW	12%
N	28

HP115. How often do you use the Incentive Offers as a sales tool to encourage interested customers to convert from a forced air furnace to a heat pump? Would you say…	Percent of Jobs
Often	84%
Sometimes	14%
Rarely or	2%
N	29

HP120. How influential are the Incentive Offers in encouraging customers to convert from a forced air furnace to a heat pump? Would you say…	Percent of Jobs
Very Influential	49%
Somewhat Influential OR	49%
Not at all Influential	2%
N	29

HP125. Considering all aspects of the Incentive Offers including equipment rebates, the Contractor Trade Ally List, and program literature, how influential do you think the Incentive Offers have been in increasing sales of high efficiency heat pumps in existing single family homes? Would you say …	Percent of Jobs
Very Influential	54%
Somewhat Influential OR	46%
N	29

HP130. Considering only customers that received a Home Energy Savings rebate and possibly a tax credit, which of following best describes the degree of influence these Incentive Offers had on your customers' selection of a high efficiency Heat Pump? Would you say…(SINGLE CHOICE)	Percent of Jobs
Most customers were Very Influenced by t	54%
Most were Somewhat Influenced OR	46%
N	29

HP135. Again, for those customers that received Incentive Offers—if the Incentive Offers had not been available, which of the following best describes what most of your company's customers would have installed…	Percent of Jobs
Most would have selected the exact same	33%
Most would have selected a heat pump wit	67%
N	29

HP140. In general, which Incentive Offer would you say is more important to customers in their decision to install a high efficiency heat pump…	Percent of Jobs
The Home Energy Savings Program is more	33%
The Tax Credit is more important than th	5%
Both programs are equally important OR	62%
N	29

OVERALL INFLUENCE

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
3	5%
4	17%
5 EXTREMELY IMPORTANT	78%
Mean	4.7
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	6%
3	39%
4	29%
5 EXTREMELY IMPORTANT	22%
DON'T KNOW	4%
Mean	3.7
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	0%
3	21%
4	34%
5 EXTREMELY IMPORTANT	45%
Mean	4.2
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	2%
2	14%
3	32%
4	30%
5 EXTREMELY IMPORTANT	21%
DON'T KNOW	0%
Mean	3.5
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	0%
2	1%
3	23%
4	31%
5 EXTREMELY IMPORTANT	44%
DON'T KNOW	0%
Mean	4.2
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	5%
3	12%
4	29%
5 EXTREMELY IMPORTANT	54%
Mean	4.3
N	138

O10. Please consider the factors that influence customers to select high efficiency equipment instead of standard efficiency equipment. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	2%
2	5%
3	39%
4	26%
5 EXTREMELY IMPORTANT	28%
DON'T KNOW	1%
Mean	3.7
N	138

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
4	7%
5 EXTREMELY IMPORTANT	93%
Mean	4.9
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	7%
2	7%
3	17%
4	3%
5 EXTREMELY IMPORTANT	65%
Mean	4.1
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
2	6%
3	1%
4	41%
5 EXTREMELY IMPORTANT	52%
Mean	4.4
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	15%
2	2%
3	33%
4	23%
5 EXTREMELY IMPORTANT	27%
Mean	3.4
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
2	17%
3	4%
4	14%
5 EXTREMELY IMPORTANT	63%
Mean	4.2
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
3	2%
4	69%
5 EXTREMELY IMPORTANT	28%
Mean	4.2
N	21

O30. Please consider the factors that influence customers to purchase insulation qualifying for the Home Energy Savings program. I will read a list of factors to you, please rank each one on a scale from 1 to 5 where 1 is not important at all and 5 is extremely important. How important is…	Percent of Jobs
1 NOT AT ALL IMPORTANT	1%
2	44%
3	10%
4	20%
5 EXTREMELY IMPORTANT	25%
Mean	3.2
N	21