

2021 Fast Feedback Survey End of Year Report

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Energy Trust of Oregon*

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Executive Summary

ADM Associates (“ADM”) conducted the Energy Trust of Oregon 2021 Fast Feedback program participant survey from April 2021 to early February 2022, which included program participants from January through December 2021. This report summarizes the analysis conducted by ADM and results of the survey. The purpose of the analyses was to summarize Fast Feedback survey findings by program and quota group.

Residential Survey Summary

The residential survey respondents generally well represented the Energy Trust participant base, with the exception that homeowners represented a larger percentage of survey respondents than of Energy Trust participants.¹

Results generally show high or moderately high satisfaction ratings across all facets of program experience for all measures. In nearly all cases, overall satisfaction remained consistent or showed a slight upward trend over time. *Table ES-1* shows mean overall program satisfaction for each of two types of quota group.² “Exclusive” quota groups are based on state (Oregon or Washington) and, within Oregon, type of measure installed; each respondent appears in only one of these quota groups. “Cross-cutting” quota groups are based on features that may or may not apply to a project that are independent of the exclusive quota group; a respondent may appear in more than one of these quota groups.

The overall program influence on purchase decisions was moderately high to high for all quota groups.³ Factors influencing the purchase decision varied somewhat by measure type, but a contractor was one of the most commonly identified influencers, followed by the measure’s efficiency rating. The Energy Trust incentive, Energy Trust information or materials, and a salesperson or retailer were commonly identified influencers for certain measures.

Among participants who used a contractor, by far the most consistently identified way participants found that contractor was by word of mouth. Web searches, use of an online referral or rating service, and contractor advertisements were also frequently identified for most quota groups.

¹ As compared with data from the 2020 Customer Insights Study.

² For both residential and nonresidential surveys, satisfaction was defined as a rating of 4 or 5 on a scale from 1 (not at all satisfied) to 5 (very satisfied). “Don’t know” and “no response” were excluded from the denominators for all analyses to be consistent with previous years.

³ Influence was defined as a rating of 4 or 5 on a scale from 1 (did not have any influence) to 5 (had a great influence). “Don’t know” and “no response” were excluded from the denominators for all analyses. For each respondent, “overall influence” rating was equal to the highest influence rating that respondent provided for all factors reflecting Energy Trust influence: the Energy Trust incentive, information and materials received from Energy Trust, the salesperson or retailer, the respondent’s contractor, information received from a solar workshop. It did not include the influence of the equipment’s efficiency rating.

Table ES-1: Summary of Residential Satisfaction

Quota Group	Number of Survey Respondents	Overall Satisfaction
Exclusive Quota Groups		
Residential - Oregon	780	90%
Smart Thermostats	73	88%
Heat Pump Advanced Controls	56	94%
Ceiling Insulation	78	90%
Other Insulation	71	95%
Ducted Heat Pumps	85	96%
Ductless Heat Pumps	59	94%
Central Air Conditioner	61	86%
Windows	67	88%
Gas Fireplaces	73	87%
Gas Furnaces	98	97%
Spa Covers	59	79%
Residential - Washington	184	92%
Residential Solar PV	196	91%
Cross-Cutting Quota Groups		
Moderate Income Track	96	99%
Rental Properties	72	95%
Fixed-Price Promotions	59	100%
Instant Incentives	234	95%

Nonresidential Survey Summary

Results generally show high satisfaction ratings across all facets of program experience for all quota groups. In nearly all cases, satisfaction with the overall program experience and with interactions with program representatives remained consistent or showed a slight upward trend over time. Respondents across all quota groups reported influence from multiple factors. Although some factors tended to have more influence on average than others, no single factor showed consistently greater influence across programs and quota groups than any other – that is, the most influential factor tended to be specific to the group in question.

Table ES-2 and shows mean overall program satisfaction for each quota group of Existing Buildings - Oregon Incentives as well as for Existing Buildings – Washington, Commercial Solar PV, and Multifamily while Table ES-3 shows these indices for the Production Efficiency program. Again, each respondent appears in only one “exclusive” quota group but may appear in multiple cross-cutting quota groups.

Table ES-2: Summary of Nonresidential Satisfaction: Existing Buildings, Commercial Solar, and Multifamily

Group	Number of Survey Respondents	Satisfaction	
		Overall Program Experience	Interaction with Program Representative
Existing Buildings Exclusive Quota Groups			
Existing Buildings - OR	292	92%	92%
Assembly/Religious	9	89%	100%
Auto Services	17	81%	90%
Education	30	97%	96%
Government	11	82%	78%
Grocery	17	94%	79%
Healthcare	0	n/a	n/a
Higher Education	3	100%	100%
Hospitality	15	87%	93%
Office	34	94%	93%
Other Commercial	20	95%	100%
Recreation	1	100%	100%
Restaurant	66	92%	94%
Retail	40	90%	86%
Warehouse	29	86%	92%
Existing Buildings - WA	4	100%	100%
Commercial Solar	49	87%	88%
Existing Buildings Cross-Cutting Quota Groups			
Direct Install (DI)	8	85%	85%
Lighting (Non-DI)	155	91%	93%
Multifamily Exclusive Quota Groups			
Multifamily	94	89%	91%
Appliances	9	89%	88%
Direct Install	10	100%	100%
Hot Water	2	50%	100%
HVAC	30	86%	92%
Insulation and Windows	34	91%	85%
Lighting	8	88%	100%
Other Measures	1	100%	100%
Products	0	n/a	n/a

The overall program influence on purchase decisions was high for all programs and program tracks. It was moderately high or high for all quota groups. The small sample sizes argue for using caution in interpreting findings at the individual quota group level. However, the Energy Trust incentive consistently appeared to have relatively high influence in several programs and tracks. Some other influencers stood out somewhat in particular tracks within particular programs but did not appear to have consistently high influence across programs and tracks.

Table ES-3: Summary of Nonresidential Satisfaction: Production Efficiency

Group	Number of Survey Respondents	Satisfaction	
		Overall Program Experience	Interaction with Program Representative
Production Efficiency Exclusive Quota Groups			
Production Efficiency	151	97%	94%
Agriculture	7	100%	100%
Compressed air	0	n/a	n/a
HVAC and controls	5	100%	80%
Lighting	29	100%	88%
Other industrial measures	67	96%	97%
Pumps and Motors	34	94%	100%
Refrigeration	9	100%	89%
Production Efficiency Cross-Cutting Quota Groups			
Custom projects	30	100%	100%
Standard projects	92	95%	95%
Agriculture sector	67	94%	96%
Food & beverage sector	15	100%	100%
High tech sector	6	100%	100%
Metals sector	5	100%	100%
Wood & paper sector	17	100%	100%

1 Introduction

Energy Trust has been using a monthly Fast Feedback survey since 2010 to assess free-ridership, satisfaction, and selected other aspects of program experiences in samples of customers who participated in Energy Trust residential and nonresidential programs in the prior month.

ADM Associates (“ADM”) conducted the 2021 Energy Trust Energy Trust Fast Feedback program participant satisfaction survey from April 2021 into February 2022. In 2021, Energy Trust set a goal achieving 10% relative precision at 90% confidence (90/10 precision) for satisfaction and influence results at the program level on a quarterly basis and for individual quota groups on an annual basis.

Quota groups are defined somewhat differently for the residential and nonresidential surveys. The residential survey has two types of quota groups. The first is based primarily on the type of measure the participant installed, but also includes a quota group for all residential participants from Washington. We refer to these as the “exclusive” quota groups. The second type of residential quota group is based on features that may or may not apply to a project that are independent of the type of measure or location of the participant. Thus, for example, a residential participant may have received an instant incentive for any of the measure types. We refer to these as “cross-cutting” quota groups. The quota groups are shown in Table 1.

Table 1: Residential Survey Quota Groups

Exclusive Quota Groups		Cross-Cutting Quota Groups
Smart Thermostats	Windows	Moderate Income Track Rental Properties Fixed-Price Promotions Instant Incentives
Heat Pump Advanced Controls	Gas Fireplaces	
Ceiling Insulation	Gas Furnaces	
Other Insulation	Spa Covers	
Ducted Heat Pumps	Residential Solar PV	
Ductless Heat Pumps	Residential Washington	
Central Air Conditioner		

The nonresidential survey also has separate sets of quota groups for each of the three programs (Existing Buildings, Production Efficiency, Multifamily). Existing Buildings and Production Efficiency have both exclusive quota groups and cross-cutting quota groups, while Multifamily has only exclusive quota groups.

For Existing Buildings, the exclusive quota groups are based primarily on building end-use or business type but also include quotas for participants from Washington and those with commercial solar projects. The three Existing Buildings cross-cutting quota groups are related to measure implementation or a combination of measure type (lighting) and implementation.

For Production Efficiency and Multifamily, the exclusive quota groups are based primarily on application end-use or measure type. The eight Production Efficiency cross-cutting quota are related to project track, market sub-sector, or a combination of measure type (lighting) and implementation. Table 2 shows the nonresidential survey quota groups.

Table 2: Nonresidential Survey Quota Groups

Program	Exclusive Quota Groups		Cross-Cutting Quota Groups	
Existing Buildings	Assembly/Religious Auto Services Education Government Grocery Healthcare Higher Education Hospitality	Office Other Commercial Recreation Restaurant Retail Warehouse Commercial Solar Washington	Direct Install (DI) Non-DI Lighting	
Production Efficiency	Agriculture Compressed Air HVAC and Controls Lighting	Other Industrial Measures Pumps and Motors Refrigeration	Standard Projects Custom Projects Agriculture Sector	Food & Beverage Sector High Tech Sector Metals Sector Wood & Paper Sector
Existing Multifamily	Appliances Direct Install Hot Water HVAC	Insulation and Windows Lighting Other Measures Products	None	

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This report describes the Fast Feedback survey methods and the results for each quota group. The remainder of this report is divided into the following sections.

Section Two provides a brief explanation the survey's implementation, information on contact information availability, a summary of survey responses by sector and group, and a description of how ADM weighted the combined data to control for possible mode and sampling effects.

Sections Three and Four present the Fast Feedback summary findings for the residential and nonresidential sectors. They are subdivided by survey topic and include assessment of satisfaction ratings by time (program year) by quota groups.

Finally, Section Four presents our conclusions from the Fast Feedback data collection.

2 Methods and Survey Response

This section describes the survey modes and experimental conditions, the availability of contact information and the number of survey responses by sector and group, and the method for weighting the combined data to control for possible mode effects.

2.1 Sample Development

Each month, Energy Trust Evaluation staff provided ADM with a dataset of recent survey-eligible residential and non-residential participants. ADM carried out similar data cleaning and sampling procedures for both the residential and nonresidential data sets. ADM used an Excel workbook tool that cleaned and deduplicated data sets and then used a weighted randomization process to select participants for the sample. The workbook tool accomplished this while keeping the original data set received from Energy Trust intact, rather than deleting records or splitting files, which may introduce error.

The tool first flagged as ineligible for selection any records identified as “do not contact” or as having been surveyed recently (defined as in the past year for residential records and in the past six months for nonresidential records).

The tool then identified the first record in the data set for each unique participant, where “unique participant” is anyone that does not match another record on the unique Contact ID or Project ID fields or on any combination of name and any phone number or email address.⁴

For each unique participant with more than one project or measure represented in the data set, the tool then aggregated all quota-related information to the first record, with separate fields representing separate projects or measures.

For each unique, eligible participant with multiple projects or measures, the workbook used a weighted random algorithm to select one project or measure to represent that participant. The weight was based on that project or measure type’s frequency among the unique, eligible participants as a ratio to the target number of completions for that type. Thus, those quota groups that appeared least frequently relative to the target number of completions had the highest weights. The weight was multiplied by a random number to create a weighted random number. Thus, across multiple participants with two or more measures or projects, the measures or projects with greater weight are selected more frequently than those with smaller weights; but for a given participant with two or more measures or projects, a measure or project with a lower weight could be selected instead if it was assigned a higher random number prior to the weighting.

Once a project or measure was selected for each unique, eligible participant, the workbook used a separate weighted random algorithm to select participants to generate a sample composed of project and measure types in rough proportion to the desired composition of the survey completions. Based on prior

⁴ Some email addresses are not unique to an individual. For example, some companies may have an “info” or “sales” email address that may be accessed or used by multiple individuals.

Fast Feedback survey results, we sampled at an approximately 5:1 ratio for both residential and nonresidential customers.

2.2 Survey Fielding

ADM administered the residential survey first on the web, with follow-up phone calls to non-respondents. At the beginning of the monthly survey, ADM sent a recruitment email to all sampled residential participants with a valid email address. The email included a short recruitment message with a survey web link. The recruitment email offered all residential participants a \$10 gift card for completing the survey. ADM sent reminder emails to non-respondents approximately one week after the initial contact. Residential participants that did not respond to the survey within approximately one week after the reminder were then queued for phone follow-up. Customers who did not have a valid email address on file were immediately advanced to the phone survey.

In consultation with Energy Trust, ADM somewhat revised the recruitment approach to the nonresidential survey in 2021. In the 2020 survey, we carried out all initial survey recruitment by phone, but we sent the survey link and password to a few participants who requested we do so, so they could complete the survey online. We continued this practice in the 2021 survey, but starting in the survey of June participants, we also began sending email recruitments to all sampled participants with available email addresses, a few days before beginning the phone recruitments. During phone recruitment, callers made up to five contact attempts to each sampled nonresidential participant until reaching the monthly quota or exhausting the monthly recruiting list. Exactly half of the survey completions for June-December participants were done online in response to the email recruitment. We found no differences between phone and online survey in key metrics (overall satisfaction, satisfaction with interactions with an Energy Trust representative, and overall program influence). Therefore, we did not weight on survey mode in data analysis; we will investigate whether it makes sense to do so for the 2022-2023 survey.

2.3 Availability of Contact Information

Table 3 shows the percentages of all residential and nonresidential program participants with phone and email contact information. In the residential sector participants were somewhat more likely to have email than phone information, but in the nonresidential sector, they were more likely to have phone information. All participants had at least some type of contact information.

Table 3. Availability of Contact Information by Sector and Type

Type of Information	Residential Sector (n = 34,508)	Nonresidential Sector (n = 3,624)
Phone	86%	100%
Email	89%	95%
Both	75%	95%
Either	100%	100%

2.4 Number of Respondents

Table 4 shows response rate information. Recall that the recruitment approach was: 1) send email recruitments to all sampled customers with available email addresses; 2) make phone call to all email nonresponders with available phone numbers; and 3) make phone calls to all sampled customers with available phone numbers but no available email addresses. The email recruitments produced a 20.5% response rate. The phone follow-ups to email nonresponders had a 15.2% response rate, which resulted in an overall response rate of 19.6% for the participants initially contacted by email. Phone attempts with participants with no available email information produced a 23.3% response rate. The overall residential survey response rate, across all attempt modes, was 19.7%. Of those survey completions with respondents with available email addresses, 87% were completed by web and 13% by phone.

Table 4. Residential Survey Response Rate by Recruitment Mode

Recruitment Mode	Number Attempted	Number Responses	Response Rate
Email	4,810	985	20.5%
Phone, after email nonresponse	965	147	15.2%
Email and phone	5,775	1,132	19.6%
Phone only ¹	120	28	23.3%
All phone recruitment ²	1,085	175	16.1%
Overall	5,895	1,160	19.7%

¹No email address available.

²"Phone – email nonrespondents" plus "Phone only."

The 2020 survey found similar response rates for the two subgroups of phone respondents, suggesting that emailing customers before calling them did not affect the phone response rate. This year, however, the response rate for phone attempts with email nonrespondents was lower than that for the phone-only subgroup (15.2% vs. 23.3%; $z = -2.28, p < 0.01$). When results for both years are combined, the difference remains statistically significant (24.2% vs. 32.4%, $z = -3.59, p < .001$). The differences in response rate by recruitment and completion mode underscores the value of weighting survey results by mode (see Section 2.6).

Table 5 shows the total number of residential survey responses by quota group. ADM completed the survey with 1,160 residential respondents. Residential responses met or exceeded quotas for 8 of the 13 exclusive quota groups and came within one of the quotas for two additional groups. Responses fell further short for Heat Pump Advanced Controls, Ductless Heat Pumps, and Central Air Conditioner. ADM made multiple contact attempts with all available participants in these quota groups.

Table 5. Number of Residential Responses by Mode and Quota Group

Measure Group	Web	Phone	Total	12-Month Quota
Oregon Incentives (Exclusive Quotas)				
Smart Thermostats	68	5	73	68
Heat Pump Advanced Controls	32	24	56	64
Ceiling Insulation	75	3	78	64
Other Insulation	70	1	71	60

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Measure Group	Web	Phone	Total	12-Month Quota
Ducted Heat Pumps	73	12	85	64
Ductless Heat Pumps	38	21	59	68
Central Air Conditioner	46	15	61	64
Windows	61	6	67	68
Gas Fireplaces	69	4	73	68
Gas Furnaces	51	47	98	68
Spa Covers	47	12	59	60
Subtotal: Oregon Incentives	630	150	780	716
Residential WA & Solar PV (Exclusive Quotas)				
Residential - Washington	168	16	184	164
Residential Solar PV	192	4	196	168
Cross-Cutting Quotas				
Moderate Income Track	51	45	96	68
Rental Properties	51	21	72	60
Fixed-Price Promotions	47	12	59	60
Instant Incentives	176	58	234	68
Oregon Total	822	154	976	740
Program Total ¹	990	170	1,160	1,048

¹ The Program Total includes both Oregon and Washington. The Moderate Income Track applies to both Oregon and Washington projects, while the other cross-cutting quotas apply only to Oregon projects.

ADM obtained an overall response rate of 23% for the nonresidential survey, which is lower than that achieved in the 2020 survey. The response rate varied considerably by program. We obtained a 22% response rate for Existing Buildings, 26% for Production Efficiency, and 21% for Multifamily.

Table 6 shows the number of nonresidential survey responses by quota group. The survey fell short of all but two of the exclusive quotas for Existing Buildings, all but one of those for Production Efficiency, and all Multifamily quotas despite ADM’s having made multiple contact attempts with all available participants in these quota groups. The primary reason for falling short of quotas was lack of sample because of low program participation. This can be seen in the last two columns in Table 6, which show that a response rate of more than 40% would have been required to achieve 26 of 31 end-use quotas and 5 of 9 cross-cutting quotas.

Table 6. Number of Nonresidential Responses by Quota Group

Measure Group	Total	12-Month Quota	Available Sample	Response Rate to Meet Quota
Existing Buildings				
Existing Buildings End-Use Quotas (Exclusive Quotas)				
Assembly/Religious	9	40	29	100%
Auto Services	17	40	69	58%
Education	30	40	119	34%
Government	11	60	50	100%
Grocery	17	60	65	92%

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Measure Group	Total	12-Month Quota	Available Sample	Response Rate to Meet Quota
Healthcare	0	40	19	100%
Higher Education	3	40	12	100%
Hospitality	15	40	48	83%
Office	34	60	125	48%
Other Commercial	19	40	86	47%
Recreation	1	40	23	100%
Restaurant	66	60	444	14%
Retail	40	60	178	34%
Warehouse	29	60	112	54%
Subtotal: End-Use Quotas	291	680	1,379	49%
Existing Buildings WA & Commercial Solar (Exclusive Quotas)				
Existing Buildings - Washington	4	20	38	53%
Commercial Solar	49	40	163	25%
Existing Buildings Cross-Cutting Quotas				
Direct Install (DI)	8	60	28	100%
Lighting (Non-DI)	155	60	763	8%
Total: Existing Buildings	344	720	1,417	51%
Production Efficiency				
Production Efficiency End-Use Quotas (Exclusive Quotas)				
Agriculture	7	60	35	100%
Compressed air	0	12	6	100%
HVAC and controls	5	40	19	100%
Lighting	30	60	134	45%
Other industrial measures	67	60	256	23%
Pumps and Motors	34	40	99	40%
Refrigeration	9	28	32	88%
Subtotal: End-Use Quotas	152	300	581	52%
Production Efficiency Cross-Cutting Quotas				
Custom projects	30	40	115	35%
Standard projects	92	60	332	18%
Agriculture sector	67	60	251	24%
Food & beverage sector	15	40	71	56%
High tech sector	6	40	26	100%
Metals sector	5	24	15	100%
Wood & paper sector	17	40	53	75%
Total: Production Efficiency	152	384	581	66%
Multifamily				
Appliances	9	60	73	82%
Direct Install	10	60	54	100%
Hot Water	2	28	12	100%
HVAC	30	60	126	48%

Measure Group	Total	12-Month Quota	Available Sample	Response Rate to Meet Quota
Insulation and Windows	34	60	121	50%
Lighting	8	60	53	100%
Other Measures	1	20	4	100%
Products	0	20	2	100%
Total: Multifamily	94	368	445	83%

2.5 Language of Survey and Language Barriers

All surveys were offered in English and Spanish. One residential survey and five nonresidential surveys were completed in Spanish; all others were completed surveys in English. We encountered no instances of language barriers in the residential sector. We encountered two instances of language barrier in the nonresidential sector. One of those was Turkish American and the other was Chinese American.

2.6 Creation and Application of Data Weights

ADM applied three types of weights to survey data:

- For both the residential and nonresidential surveys, in any analyses performed across quota groups, we applied quota group weights is to ensure that program-level results are representative of the respective participant populations. This is necessary because – in both the residential and nonresidential sectors – attaining the completion quotas for the various quota groups results in overall samples that are not representative of the project population as a whole.
- For just the residential survey, we applied survey mode weights is to control for any possible survey mode effects that might arise from differences in the likelihood that a residential participant would complete the phone or web survey as a result of the different recruitment methods.

For each quota group, ADM created a Quota Group weight that was equal to that group’s share of the program population divided by that group’s share of the survey completions for that program, or:

(Equation 1)

$$\frac{\text{Quota group \% of population}}{\text{Quota group \% of survey completions}}$$

This assigns greater weight to observations for which the completions under-represent the population, and less weight to observations for which the completions over-represent the population.

Some analyses were performed just on respondents within a given cross-cutting quota group. Such participants were not distributed uniformly across the various measure-level, or exclusive, quota groups. Therefore, for those analyses, we calculated and applied a separate set of Quota Group weights for each cross-cutting quota group.

Survey results are reported separately for each program. Therefore, we calculated Quota Group weights separately for each program in both the residential and nonresidential sectors. In the residential sector,

Oregon Incentives, Existing Buildings - Washington, and Residential Solar PV are considered separate programs for the purpose of creating weights. Thus, the weights for the various quota groups within Oregon Incentives are based on the distribution of the sample and the population across just those groups. Since Existing Buildings - Washington and Residential Solar PV each have only one quota group, the Quota Group weight for each of those is by definition 1.0.

In the nonresidential sector, we calculated Quota Group weights separately for Existing Buildings - Oregon, Existing Buildings - Washington, Commercial Solar, Production Efficiency, and Multifamily. Again, as Existing Buildings - Washington and Commercial Solar each have only one quota group, the Quota Group weight for each of those is by definition 1.0.

For the residential survey, ADM created Mode weights based on both the mode of recruitment and the mode of survey completion. Recall that participants with available email contact information were in an email-first-then phone ("email-phone") recruitment condition. Participants with no available contact information were in a phone-only recruitment condition. The two recruitment modes did not correspond to two separate modes of survey completion: someone in the phone-only recruitment condition could complete the survey only by phone, but someone in the email-phone condition could complete the survey by phone or email.

The above arrangement complicates the creation of the weights. If it were simply a matter of weighting by recruitment mode, then the weight would be equal to the overall survey response rate divided by the response rate for that recruitment mode, or:

(Equation 2)

$$\frac{\text{Overall response rate}}{\text{Recruitment mode response rate}}$$

This assigns greater weight to observations recruited through the mode with the lower response rate (in this case, phone-only), and less weight to those recruited through the mode with the greater response rate (in this case, email-phone).

This, however, does not completely control for mode differences, as it would assign the same weight to all individuals in the email-phone recruitment condition regardless of whether they completed the survey by phone or web. We therefore calculated a second weight to adjust for the respective probabilities of completing the phone or web survey, given the email-phone recruitment. For each survey completion mode, we calculated the weight as:

(Equation 3)

$$\frac{\text{Overall email-phone response rate} / 2}{\text{Percentage of completions from email-phone recruitment}}$$

The overall response rate divided by two represents the mean response rate for each mode, where the denominator is all completions from the email-phone recruitment condition. We then multiplied this second weight by the overall recruitment mode weight (Equation 2) to generate a final Mode weight for each survey completion mode in the email-phone recruitment condition. For respondents in the phone-only recruitment condition, the Mode weight was equal to the recruitment mode weight (Equation 2).

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ADM weighted each residential survey response with the product of the Quota Group weight and the Mode weight. ADM weighted nonresidential survey responses only by the Quota Group weight.

Unless otherwise specified, all residential and nonresidential results reported below are based on analyses with weighted data.

3 Residential Survey Results

The following subsections provide information on the demographics and program experience of residential survey participants.

3.1 Residential Demographics

Residential respondents were largely the occupants of the property where the participation occurred, nearly all of whom were the owners (Table 7).⁵ The majority of those who were not occupants were the landlord.

Table 7: Occupancy of Home Where Participation Occurred, Residential Respondents

Response	Residential Oregon	Residential Washington	Residential Solar	Oregon (US Census) ¹	Customer Insights Survey ²
Occupancy					
	(n = 782)	(n = 180)	(n = 190)	n/a	(n = 3,707)
Occupant	94%	95%	97%	92%	98%
Not occupant	6%	5%	3%	8%	2%
Ownership (Occupants)					
	(n = 691)	(n = 164)	(n = 176)	n/a	(n = 3,640)
Rent	1%	1%	1%	38%	10%
Own	99%	99%	99%	62%	90%
Other	0%	0%	0%	n/a	0%
Relationship to Premise (Non-Occupants)					
	(n = 55)	(n = 8)	(n = 7)	n/a ³	n/a ³
Landlord	45%	74%	46%	n/a	n/a
Property manager	8%	11%	0%		
Other ⁴	48%	14%	54%		

¹ Percentages based on US Census Tables DP04 (Occupancy) and B25003 (Ownership). For Occupancy, we divided the number of occupied housing units by the total number of housing units in Energy Trust's Oregon territory.

² Counts of respondents are unweighted, but percentages are based on weighted data. Excludes "indirect participants" – i.e., renters who indirectly benefited from improvements to their buildings not tied directly to their units (e.g., insulation and central hot water or heating), as a result of their landlords' program participation, as they are not represented in the Fast Feedback survey.

³ No comparable data are available.

⁴ In most cases the respondent was a non-occupant owner, was in the process of selling the home, or recently had sold it.

⁵ We exclude "don't know" and "refused" from the denominator for all residential characteristics percentages to facilitate comparison with Census data.

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The distribution of self-identified race and ethnicity was similar across the three programs and the various quota groups, with a large majority of respondents reporting White or Caucasian race (Table 8 through Table 12). Reported income level was skewed toward higher incomes. The most commonly reported age bracket was 65 years and older and the most commonly reported size of household was two individuals.

Table 8: Demographics of Residential Respondents¹

Demographic Characteristic	Residential Oregon	Residential Washington	Residential Solar	Oregon (US Census) ²	Customer Insights Survey ³
Race/Ethnicity⁴					
	(n = 672)	(n = 155)	(n = 173)	n/a	(n = 2,717)
Asian alone	5%	7%	4%	5%	6%
Black alone	2%	1%	1%	2%	1%
Hispanic/Latino, any race	3%	5%	7%	13%	5%
Native American alone	0%	1%	1%	1%	1%
Other alone	2%	1%	2%	0%	1%
Two or more	2%	5%	3%	4%	3%
Persons of color – total	14%	19%	17%	25%	17%
White alone	86%	81%	83%	75%	83%
Income					
	(n = 586)	(n = 140)	(n = 167)	n/a	(n = 2,608)
Under \$30k	5%	3%	5%	5%	3%
\$30k to under \$50k	12%	13%	13%	12%	13%
\$50k to under \$70k	15%	13%	14%	15%	13%
\$70k to under \$100k	22%	19%	17%	22%	19%
\$100k to under \$200k	37%	38%	37%	37%	38%
\$200k+	9%	13%	14%	9%	13%
Age (Years)					
	(n = 688)	(n = 160)	(n = 177)	n/a	n/a
Less than 18	0%	0%	1%	20%	Not asked
18 to 24	0%	1%	1%		
25 to 34	11%	9%	4%		
35 to 44	19%	24%	27%	17%	
45 to 54	17%	9%	15%	18%	
55 to 64	20%	22%	14%	19%	
65 or older	33%	36%	38%	26%	

Continued on next page.

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Demographic Characteristic	Residential Oregon	Residential Washington	Residential Solar	Oregon (US Census) ²	Customer Insights Survey ³
Household Size (Number of People in Household)					
	(n = 724)	(n = 169)	(n = 180)	n/a	(n = 2,814)
One	14%	15%	13%	28%	14%
Two	44%	53%	50%	37%	44%
Three	17%	13%	16%	15%	17%
Four	16%	12%	10%	12%	15%
Five	6%	4%	10%	5%	6%
More than five	2%	1%	1%	3%	3%

¹ The denominators of all percentages exclude survey respondents who refused to answer that question.

² For race and ethnicity, we used the 2019 ACS 1-Year Estimates-Public Use Microdata Sample (PUMS), cross-tabulating race and Hispanic/Latino ethnicity to produce categories comparable to the survey data. The 2020 data were available but used “experimental” weights. We used ACS tables S1901 for income, S2502 for age, and B25009 for household size. Two Census income brackets – \$25,000 to \$34,999 and \$50,000 to \$74,999 – overlap the Fast Feedback brackets. We allocated shares of the percentages within those brackets proportionally to the Fast Feedback brackets. For example, the \$25,000 to \$34,999 bracket contains 10% of the population; we allocated 5% to the “Under \$30k” bracket and 5% to the “30k to under \$50k” bracket.

³Excludes “indirect participants” – i.e., renters who indirectly benefited from improvements to their buildings not tied directly to their units (e.g., insulation and central hot water or heating), as a result of their landlords’ program participation, as they are not represented in the Fast Feedback survey.

⁴ Native American includes Alaska Native, and Asian includes Asian Indian, Hawaiian, and Other Pacific Islanders.

Table 9: Race or Ethnicity by Residential Quota Group

Quota Group	Asian alone	Black alone	Hispanic/Latino, any race	Native American alone	Other alone	Two or more	Persons of Color - Total	White alone
Oregon Incentives (Exclusive Quotas)								
Smart Thermostats (n = 73)	8%	5%	3%	0%	2%	2%	18%	82%
Heat Pump Advanced Controls (n = 56)	0%	0%	3%	0%	0%	0%	3%	97%
Ceiling Insulation (n = 78)	1%	1%	6%	1%	0%	3%	13%	87%
Other Insulation (n = 71)	3%	0%	3%	2%	5%	5%	17%	83%
Ducted Heat Pumps (n = 85)	3%	0%	5%	1%	3%	1%	13%	87%
Ductless Heat Pumps (n = 59)	0%	2%	9%	0%	2%	4%	18%	82%
Central Air Conditioner (n = 61)	4%	0%	6%	2%	2%	0%	15%	85%
Windows (n = 67)	6%	0%	2%	0%	2%	2%	12%	88%
Gas Fireplaces (n = 73)	0%	0%	0%	2%	0%	2%	4%	96%
Gas Furnaces (n = 98)	3%	3%	4%	0%	1%	1%	12%	88%
Spa Covers (n = 59)	2%	2%	0%	0%	2%	4%	10%	90%
Residential WA & Solar PV (Exclusive Quotas)								
Residential - Washington (n = 184)	6%	1%	4%	0%	1%	5%	18%	82%
Residential Solar PV (n = 196)	3%	1%	7%	1%	2%	3%	17%	83%
Cross-Cutting Quotas								
Moderate Income Track (n = 96)	3%	3%	3%	0%	1%	3%	12%	88%
Rental Properties (n = 72)	0%	0%	3%	0%	3%	0%	7%	93%
Fixed-Price Promotions (n = 59)	4%	0%	7%	2%	0%	2%	15%	85%
Instant Incentives (n = 234)	2%	2%	4%	2%	1%	2%	12%	88%
Oregon Population								
US Census	4%	2%	5%	1%	0%	13%	25%	75%
Customer Insights Study (n = 3,707)	3%	1%	6%	1%	1%	5%	17%	83%

Table 10: Income by Residential Quota Group

Quota Group	Under \$30k	\$30k to <\$50k	\$50k to <\$70k	\$70k to <\$100k	\$100k to <\$200k	At Least \$200k
Oregon Incentives (Exclusive Quotas)						
Smart Thermostats (n = 73)	4%	12%	9%	19%	46%	11%
Heat Pump Advanced Controls (n = 56)	3%	13%	19%	32%	26%	6%
Ceiling Insulation (n = 78)	8%	15%	10%	29%	35%	3%
Other Insulation (n = 71)	10%	9%	17%	22%	31%	10%
Ducted Heat Pumps (n = 85)	30%	19%	18%	14%	17%	2%
Ductless Heat Pumps (n = 59)	11%	20%	29%	25%	13%	3%
Central Air Conditioner (n = 61)	3%	11%	12%	28%	30%	17%
Windows (n = 67)	2%	6%	14%	21%	41%	16%
Gas Fireplaces (n = 73)	0%	7%	15%	14%	59%	5%
Gas Furnaces (n = 98)	11%	26%	30%	17%	13%	2%
Spa Covers (n = 59)	0%	9%	13%	24%	40%	13%
Residential WA & Solar PV (Exclusive Quotas)						
Residential - Washington (n = 184)	3%	11%	16%	21%	37%	12%
Residential Solar PV (n = 196)	3%	13%	16%	20%	35%	13%
Cross-Cutting Quotas						
Moderate Income Track (n = 96)	17%	28%	27%	20%	8%	0%
Rental Properties (n = 72)	7%	15%	12%	22%	34%	10%
Fixed-Price Promotions (n = 59)	38%	23%	20%	12%	7%	0%
Instant Incentives (n = 234)	15%	15%	19%	22%	25%	5%
Oregon Population						
US Census	24%	18%	15%	17%	20%	6%
Customer Insights Study (n = 3,707)	9%	9%	14%	20%	30%	10%

Table 11: Age (Years) by Residential Quota Group

Quota Group	Less than18	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	At Least 65
Oregon Incentives (Exclusive Quotas)							
Smart Thermostats (n = 73)	0%	0%	12%	33%	15%	12%	29%
Heat Pump Advanced Controls (n = 56)	0%	0%	3%	14%	8%	22%	53%
Ceiling Insulation (n = 78)	0%	0%	14%	20%	14%	20%	32%
Other Insulation (n = 71)	0%	0%	13%	16%	21%	22%	27%
Ducted Heat Pumps (n = 85)	0%	1%	10%	10%	15%	22%	43%
Ductless Heat Pumps (n = 59)	0%	0%	9%	15%	29%	23%	24%
Central Air Conditioner (n = 61)	0%	0%	4%	15%	14%	20%	46%
Windows (n = 67)	0%	0%	9%	12%	21%	29%	29%
Gas Fireplaces (n = 73)	0%	0%	3%	17%	19%	15%	46%
Gas Furnaces (n = 98)	0%	0%	9%	14%	13%	15%	50%
Spa Covers (n = 59)	0%	0%	4%	6%	27%	22%	41%
Residential WA & Solar PV (Exclusive Quotas)							
Residential - Washington (n = 184)	0%	1%	9%	19%	13%	23%	36%
Residential Solar PV (n = 196)	1%	1%	7%	24%	13%	15%	41%
Cross-Cutting Quotas							
Moderate Income Track (n = 96)	0%	0%	10%	14%	21%	14%	41%
Rental Properties (n = 72)	0%	0%	7%	15%	15%	27%	35%
Fixed-Price Promotions (n = 59)	0%	2%	6%	7%	15%	30%	39%
Instant Incentives (n = 234)	0%	1%	10%	14%	13%	24%	38%
Oregon Population							
US Census	20%			17%	18%	19%	26%
Customer Insights Study (n = 7,257)	n/a – not asked						

Table 12: Household Size (Number of Members) by Residential Quota Group

Quota Group	One	Two	Three	Four	Five	More than five
Oregon Incentives (Exclusive Quotas)						
Smart Thermostats (n = 73)	13%	38%	19%	19%	10%	1%
Heat Pump Advanced Controls (n = 56)	13%	53%	11%	11%	9%	3%
Ceiling Insulation (n = 78)	8%	52%	13%	13%	7%	7%
Other Insulation (n = 71)	20%	45%	12%	15%	8%	0%
Ducted Heat Pumps (n = 85)	25%	48%	12%	11%	3%	1%
Ductless Heat Pumps (n = 59)	22%	37%	9%	19%	9%	4%
Central Air Conditioner (n = 61)	12%	52%	16%	18%	0%	2%
Windows (n = 67)	12%	49%	19%	14%	5%	2%
Gas Fireplaces (n = 73)	14%	56%	13%	13%	2%	2%
Gas Furnaces (n = 98)	24%	42%	18%	10%	3%	4%
Spa Covers (n = 59)	6%	55%	12%	20%	6%	2%
Residential WA & Solar PV (Exclusive Quotas)						
Residential - Washington (n = 184)	16%	53%	12%	12%	5%	1%
Residential Solar PV (n = 196)	12%	49%	17%	13%	6%	2%
Cross-Cutting Quotas						
Moderate Income Track (n = 96)	23%	34%	22%	12%	5%	4%
Rental Properties (n = 72)	24%	38%	16%	14%	4%	5%
Fixed-Price Promotions (n = 59)	31%	44%	12%	11%	2%	0%
Instant Incentives (n = 234)	20%	48%	10%	14%	5%	3%
Oregon Population						
US Census	28%	37%	15%	12%	5%	3%
Customer Insights Study (n = 3,707)	14%	44%	17%	15%	6%	3%

3.2 Residential Program Experience by Quota Group

Results generally show high overall program satisfaction and moderate to high overall program influence (Table 13).^{6,7}

Table 13: Key Satisfaction and Program Influence Ratings, by Quota Group

Quota Group	Satisfied with Overall Experience		Overall Program Influence	
	n	%	n	%
Oregon Incentives (Exclusive Quotas)				
Smart Thermostats	73	88%	73	88%
Heat Pump Advanced Controls	56	94%	50	76%
Ceiling Insulation	78	90%	77	91%
Other Insulation	71	95%	71	89%
Ducted Heat Pump	85	96%	85	91%
Ductless Heat Pump	59	94%	58	79%
Central Air Conditioner	61	86%	61	74%
Windows	67	88%	67	74%
Gas Fireplaces	73	87%	73	70%
Gas Furnaces	98	97%	96	94%
Spa Covers	59	79%	36	86%
Residential WA & Solar PV (Exclusive Quotas)				
Residential Solar PV	196	91%	196	96%
Residential - Washington	184	92%	184	93%
Oregon Residential - Combined	1,160	91%	1,160	94%
Cross-Cutting Quotas				
Moderate Income Track	96	99%	96	96%
Fixed-Price Promotions	59	100%	59	98%
Instant Incentives	234	97%	234	96%
Rental Properties	72	95%	72	97%

⁶ Satisfaction was defined as a rating of 4 or 5 on a scale from 1 (not at all satisfied) to 5 (very satisfied). “Don’t know” and “no response” were excluded from the denominators for all analyses to be consistent with previous years.

⁷ Influence was defined as a rating of 4 or 5 on a scale from 1 (did not have any influence) to 5 (had a great influence). “High” influence = a rating of 4 or 5; “Medium” influence = a rating of 3; “Low” influence = a rating of 1 or 2. “Don’t know” and “no response” were excluded from the denominators for all analyses. For each respondent, we calculated an “overall influence” rating that was equal to the highest influence rating that respondent provided for any of the following rated influence factors: the Energy Trust incentive, information and materials received from Energy Trust, the salesperson or retailer, the respondent’s contractor, information received from a solar workshop. It did not include the influence of the equipment’s efficiency rating.

The following subsections show results for key survey variables, separately for each quota group as well as for the participants comprising the cross-cutting quotas (moderate income track, fixed-price promotions, instant incentives, pay for performance).

Results generally show high or moderately high satisfaction ratings across all facets of program experience for all measures. In general, time taken to receive the incentive received the lowest satisfaction ratings, which typically were moderate to moderately high. In most cases, overall satisfaction remained consistent or showed a slight upward trend over time, although in some cases this year’s rating was slightly below that for 2020.

The factor having the greatest influence on the purchase decision varied somewhat by measure type, but contractors and the measure’s efficiency rating (where applicable) were the things that were most consistently identified as having high influence. Table 14 summarizes the common influencers for each measure type.

Table 14: Summary of Common Influencers by Measure Type

	Energy Trust ¹	Contractor	Salesperson or Retailer	Efficiency Rating
Smart Thermostat	✓			
Heat Pump Advanced Controls		✓	✓	
Insulation (Ceiling or Other)	✓	✓		
Heat Pump (Ducted or Ductless)	✓	✓		✓
Central Air Conditioner		✓		✓
Windows		✓		✓
Gas Fireplace			✓	✓
Gas Furnace	✓	✓	✓	✓
Spa Cover	✓		✓	
Solar PV	✓	✓		

¹The Energy Trust incentive and/or information or materials received from Energy Trust.

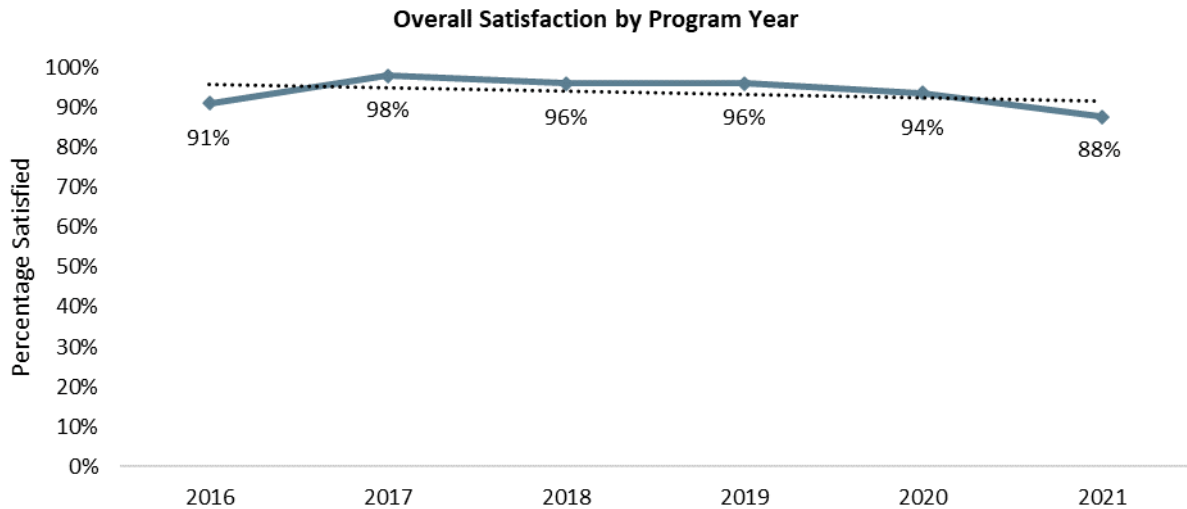
Word of mouth was by far the most consistently identified way in which participants found a contractor. It was the most commonly mentioned item for nearly every quota group. Web searches, use of an online referral or rating service (e.g., Yelp or Angie’s List), and contractor advertisements were also frequently identified for most quota groups.

3.2.1 Smart Thermostats

Smart thermostat participants ($n = 73$) showed high levels of satisfaction with all facets of the experience; overall satisfaction is consistent with that in previous years (Table 15 and accompanying chart).

Table 15: Satisfaction Ratings: Smart Thermostat

Satisfaction	Percent
Overall experience (n = 66)	88%
Performance of new measure (n = 62)	89%
Comfort of home after new measure (n = 62)	84%
Incentive application form (n = 61)	92%
Time it took to receive incentive (n = 56)	86%



The overall program influence on participant purchase decisions was high. The Energy Trust incentive was the most influential factor (Table 16).⁸

Table 16: Influence Ratings: Smart Thermostats

Influence Level	Overall Influence (n = 67)	Energy Trust Incentive (n = 65)	Energy Trust Information or Materials (n = 26)	Salesperson or Retailer (n = 35)
High	80%	76%	44%	19%
Medium	6%	6%	10%	4%
Low	6%	9%	7%	27%
Don't know/no answer	8%	10%	39%	49%

None of the smart thermostat participants used a contractor to install their thermostat.

⁸ An error in the definition of the question logic for the influence question resulted in the exclusion of smart thermostat participants from that question for the first six months of the year. We corrected this error, and this report includes information on influence ratings for this measure for the last six months of the year.

3.2.2 Heat Pump Advanced Controls

This is the second year in which this measure has been included in the Fast Feedback survey. Participants ($n = 56$) showed moderately high to high levels of satisfaction with all facets of the experience (Table 17). Overall satisfaction was about the same as in last year's survey (94%).

Table 17: Satisfaction Ratings: Heat Pump Advanced Controls

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 52)	94%
Performance of new measure (n = 55)	93%
Comfort of home after new measure (n = 34)	93%
Incentive application form (n = 12)	83%
Time it took to receive incentive (n = 13)	77%
Contractor Satisfaction	
Overall experience (n = 47)	94%
Quality of installation work (n = 34)	93%
Information about incentives (n = 38)	91%
Communication (n = 46)	92%
Assistance with application (n = 13)	100%

The overall program influence on participant purchase decisions was moderately high. Contractors and a salesperson or retailer were the most influential factors (Table 18). Of the 10 respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure, about one-third were not able to provide a rating on the influence of the information provided.

Table 18: Influence Ratings: Heat Pump Advanced Controls

Influence Level	Overall Influence (n = 47)	Energy Trust Incentive (n = 38)	Energy Trust Information or Materials (n = 10)	Salesperson or Retailer (n = 25)	Contractor (n = 33)
High	73%	48%	32%	64%	77%
Medium	7%	16%	15%	4%	6%
Low	16%	31%	23%	21%	14%
DK/no answer	5%	6%	30%	11%	3%

Respondents most commonly found their contractor through word of mouth, followed by a web search (Table 19).

Table 19: Where Respondent Found the Contractor: Heat Pump Advanced Controls

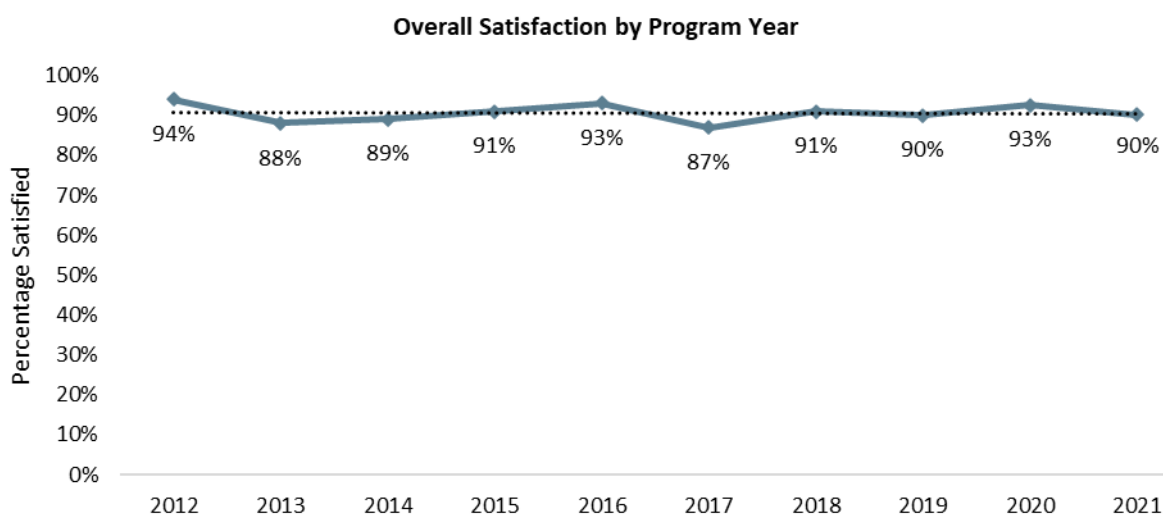
Contractor Source (n = 34)	Percent
Word of mouth	39%
Online service	6%
Web search	32%
Advertisement	16%
Energy Trust website	3%
Energy Trust referral	6%
Not applicable	6%
Don't know	0%
Prefer not to answer	0%

3.2.3 Ceiling Insulation

Ceiling insulation participants ($n = 78$) showed high levels of satisfaction with all facets of the experience except the amount of time it took to receive the incentive; overall satisfaction is consistent with that in previous years (Table 20 and accompanying chart).

Table 20: Satisfaction Ratings: Ceiling Insulation

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 72)	90%
Performance of new measure (n = 68)	96%
Comfort of home after new measure (n = 70)	93%
Incentive application form (n = 54)	89%
Time it took to receive incentive (n = 58)	58%
Contractor Satisfaction	
Overall experience (n = 67)	97%
Quality of installation work (n = 68)	91%
Information about incentives (n = 63)	89%
Communication (n = 67)	89%
Assistance with application (n = 53)	89%



The overall program influence on participant purchase decisions was high. The most influential factors were the Energy Trust incentive and a contractor (Table 21). Of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure, more than one-third were not able to provide a rating on the influence of the information provided.

Table 21: Influence Ratings: Ceiling Insulation

Influence Level	Overall Influence (n = 76)	Energy Trust Incentive (n = 72)	Energy Trust Information or Materials (n = 32)	Contractor (n = 70)
High	90%	77%	38%	64%
Medium	4%	10%	13%	8%
Low	5%	11%	8%	20%
Don't know/no answer	1%	3%	41%	8%

The most commonly reported ways that these respondents found their contractor was via word of mouth or a web search (Table 22).

Table 22: Where Respondent Found the Contractor: Ceiling Insulation

Contractor Source (n = 78)	Percent
Word of mouth	35%
Online service	9%
Web search	22%
Advertisement	9%
Energy Trust website	16%
Energy Trust referral	7%
Not applicable	9%
Don't know	0%
Prefer not to answer	0%

3.2.4 Other Insulation

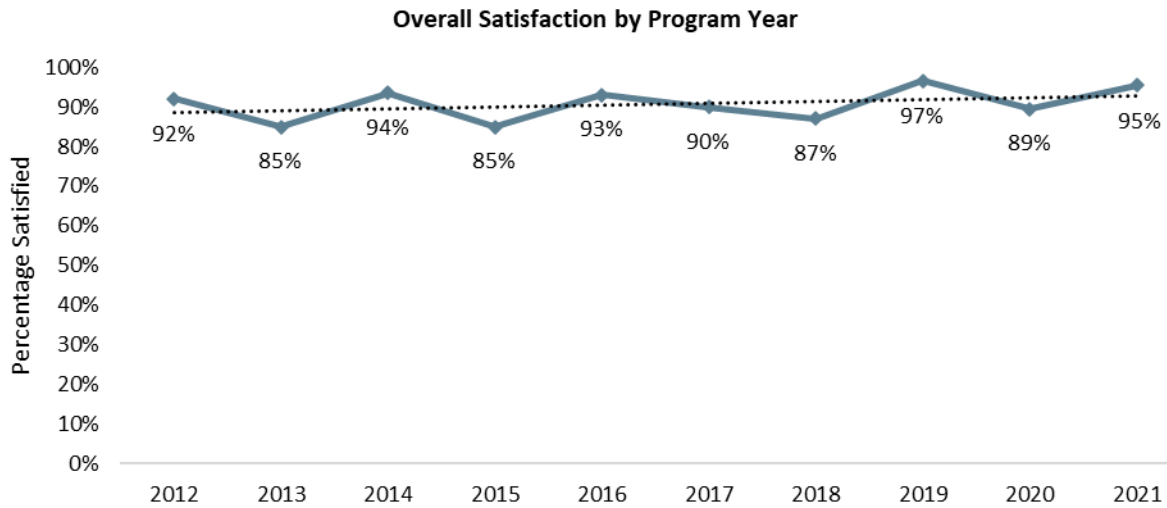
Other insulation participants ($n = 71$) showed high levels of satisfaction with all facets of the experience except the time it took to receive the incentive; overall satisfaction has remained generally consistent over time (Table 23 and accompanying chart).⁹

Table 23: Satisfaction Ratings: Other Insulation

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 66)	95%
Performance of new measure (n = 66)	98%
Comfort of home after new measure (n = 66)	97%
Incentive application form (n = 62)	93%
Time it took to receive incentive (n = 64)	60%
Contractor Satisfaction	
Overall experience (n = 62)	92%
Quality of installation work (n = 63)	95%
Information about incentives (n = 61)	92%
Communication (n = 61)	90%
Assistance with application (n = 56)	89%

⁹ "Other insulation" consists of wall insulation and floor insulation. In previous years, the survey assessed satisfaction for each of these separately. To provide a point of comparison for this year, we took the mean of the overall satisfaction ratings for wall insulation and floor insulation for the previous years.

Satisfaction	Percent
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The overall program influence on participant purchase decisions was high. The most influential factors were the contractor and the Energy Trust incentive (Table 24). Of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure, about one-fifth were not able to provide a rating on the influence of the information provided.

Table 24: Influence Ratings: Other Insulation

Influence Level	Overall Influence (n = 71)	Energy Trust Incentive (n = 70)	Energy Trust Information or Materials (n = 41)	Contractor (n = 64)
High	89%	65%	47%	65%
Medium	4%	13%	20%	10%
Low	7%	22%	12%	16%
Don't know/no answer	0%	0%	21%	9%

Respondents most commonly reported finding their contractor through word of mouth, followed by a web search (Table 25).

Table 25: Where Respondent Found the Contractor: Other Insulation

Contractor Source (n = 71)	Percent
Word of mouth	32%
Online service	14%
Web search	27%
Advertisement	1%
Energy Trust website	19%
Energy Trust referral	13%
Not applicable	10%
Don't know	1%
Prefer not to answer	0%

3.2.5 Ducted Heat Pump

Ducted heat pump participants ($n = 85$) showed moderately high to high levels of satisfaction with all facets of the experience; overall satisfaction shows a slight upward trend over time, which has leveled off in the past few years (Table 26 and accompanying chart).

Table 26: Satisfaction Ratings: Ducted Heat Pump

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 75)	96%
Performance of new measure (n = 80)	99%
Comfort of home after new measure (n = 80)	99%
Incentive application form (n = 19)	84%
Time it took to receive incentive (n = 15)	67%
Contractor Satisfaction	
Overall experience (n = 76)	97%
Quality of installation work (n = 77)	97%
Information about incentives (n = 70)	94%
Communication (n = 75)	99%
Assistance with application (n = 16)	94%

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The overall program influence on participant purchase decisions was high. The energy efficiency rating and a contractor showed the greatest influence, with the Energy Trust incentive also showing moderately high influence (Table 27). Half of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 27: Influence Ratings: Ducted Heat Pump

Influence Level	Overall Influence (n = 84)	Energy Trust Incentive (n = 76)	Energy Trust Information or Materials (n = 23)	Contractor (n = 79)	Energy Efficiency Rating (n = 79)
High	90%	77%	39%	84%	86%
Medium	1%	8%	2%	3%	8%
Low	7%	12%	7%	11%	4%
Don't know/no answer	1%	3%	52%	3%	1%

Word of mouth was most commonly reported as where the respondent found the contractor (Table 28).

Table 28: Where Respondent Found the Contractor: Ducted Heat Pump

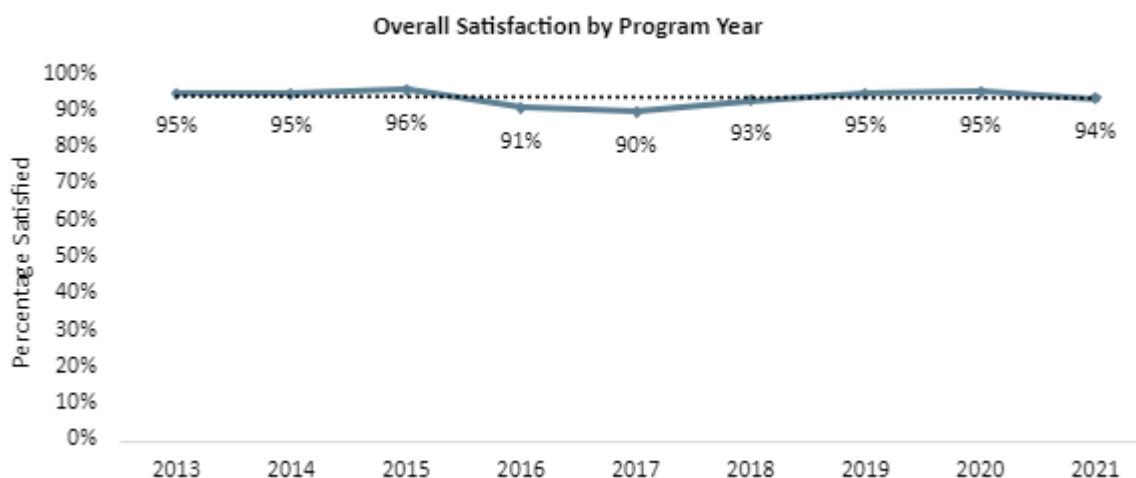
Contractor Source (n = 85)	Percent
Word of mouth	41%
Online service	4%
Web search	14%
Advertisement	15%
Energy Trust website	13%
Energy Trust referral	10%
Not applicable	6%
Don't know	2%
Prefer not to answer	0%

3.2.6 Ductless Heat Pump

Ductless heat pump participants ($n = 59$) showed high levels of satisfaction with all facets of the experience except the time it took to receive the incentive; overall satisfaction was consistent with previous years (Table 29 and accompanying chart).

Table 29: Satisfaction Ratings: Ductless Heat Pump

Satisfaction	Percent
Measure Satisfaction	
Overall experience ($n = 54$)	94%
Performance of new measure ($n = 57$)	96%
Comfort of home after new measure ($n = 56$)	98%
Incentive application form ($n = 32$)	90%
Time it took to receive incentive ($n = 28$)	68%
Contractor Satisfaction	
Overall experience ($n = 57$)	98%
Quality of installation work ($n = 57$)	100%
Information about incentives ($n = 51$)	91%
Communication ($n = 57$)	90%
Assistance with application ($n = 29$)	96%



The overall program influence on participant purchase decisions was moderately high. The heat pump’s efficiency rating and a contractor showed the greatest influence, with the Energy Trust incentive also having moderate high influence (Table 30). More than one-third of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 30: Influence Ratings: Ductless Heat Pump

Influence Level	Overall Influence (n = 58)	Energy Trust Incentive (n = 56)	Energy Trust Information or Materials (n = 18)	Contractor (n = 56)	Energy Efficiency Rating (n = 55)
High	79%	65%	30%	75%	79%
Medium	2%	8%	19%	4%	10%
Low	19%	27%	12%	20%	10%
Don't know/no answer	0%	0%	39%	0%	1%

Word of mouth was most commonly reported as where the respondent found the contractor, followed by a web search (Table 31).

Table 31: Where Respondent Found the Contractor: Ductless Heat Pump

Contractor Source (n = 59)	Percent
Word of mouth	45%
Online service	8%
Web search	23%
Advertisement	6%
Energy Trust website	19%
Energy Trust referral	12%
Not applicable	4%
Don't know	0%
Prefer not to answer	0%

3.2.7 Central Air Conditioner

This is the second year in which this measure has been included in the Fast Feedback survey. Participants with this measure (n = 61) showed high levels of satisfaction with all facets of the experience except the time it took to receive the incentive (Table 32). Overall satisfaction was slightly lower than in last year's survey (92%).

Table 32: Satisfaction Ratings: Central Air Conditioner

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 53)	86%
Performance of new measure (n = 49)	100%
Comfort of home after new measure (n = 53)	100%
Incentive application form (n = 34)	85%
Time it took to receive incentive (n = 32)	61%

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Satisfaction	Percent
Contractor Satisfaction	
Overall experience (n = 56)	92%
Quality of installation work (n = 56)	92%
Information about incentives (n = 48)	80%
Communication (n = 56)	92%
Assistance with application (n = 33)	72%

The overall program influence on participant purchase decisions was moderately high. The air conditioner’s energy efficiency rating and contractors showed the greatest influence (Table 33). One-third of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 33: Influence Ratings: Central Air Conditioner

Influence Level	Overall Influence (n = 58)	Energy Trust Incentive (n = 54)	Energy Trust Information or Materials (n = 17)	Contractor (n = 54)	Energy Efficiency Rating (n = 55)
High	70%	37%	41%	69%	78%
Medium	10%	26%	8%	9%	9%
Low	14%	32%	17%	15%	6%
Don't know/no answer	5%	6%	33%	7%	7%

Word of mouth and web search were most commonly reported as where the respondent found the contractor (Table 34).

Table 34: Where Respondent Found the Contractor: Central Air Conditioner

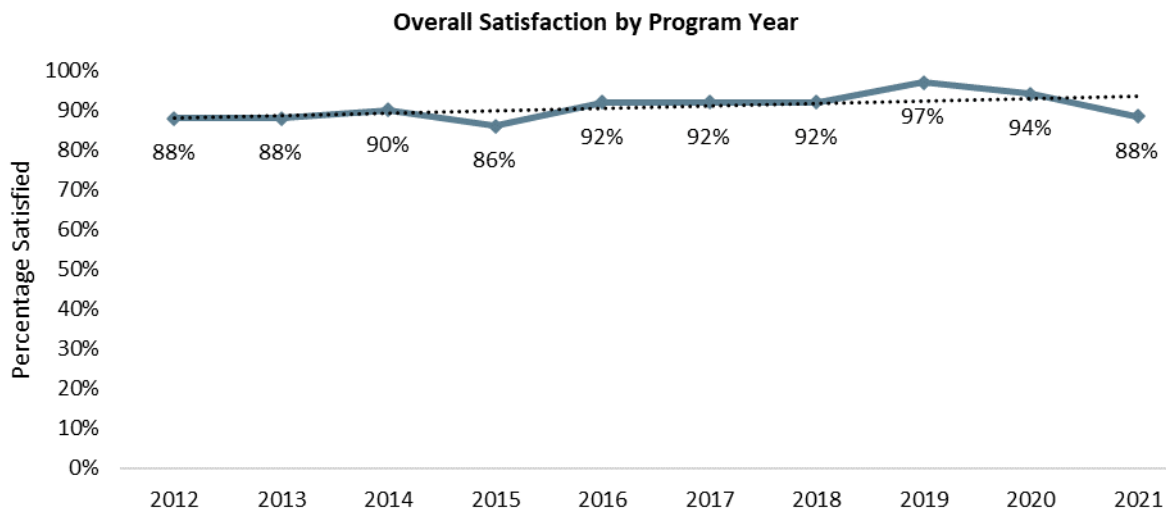
Contractor Source (n = 61)	Percent
Word of mouth	36%
Online service	9%
Web search	31%
Advertisement	10%
Energy Trust website	9%
Energy Trust referral	2%
Not applicable	12%
Don't know	3%
Prefer not to answer	0%

3.2.8 Windows

Windows participants ($n = 67$) showed high levels of satisfaction with all facets of the experience except the time it took to receive the incentive; overall satisfaction had showed a slight upward trend over time but is slightly lower this year than in last year’s survey (Table 35 and accompanying chart).

Table 35: Satisfaction Ratings: Windows

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 63)	88%
Performance of new measure (n = 65)	97%
Comfort of home after new measure (n = 65)	98%
Incentive application form (n = 55)	85%
Time it took to receive incentive (n = 56)	58%
Contractor Satisfaction	
Overall experience (n = 66)	92%
Quality of installation work (n = 66)	87%
Information about incentives (n = 59)	84%
Communication (n = 66)	87%
Assistance with application (n = 57)	86%



The overall program influence on participant purchase decisions was moderately high. The windows’ energy efficiency rating by far showed the greatest influence, but contractors showed moderately high influence level (Table 36). More than one-third respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 36: Influence Ratings: Windows

Influence Level	Overall Influence (n = 64)	Energy Trust Incentive (n = 61)	Energy Trust Information or Materials (n = 17)	Contractor (n = 63)	Energy Efficiency Rating (n = 64)
High	72%	41%	18%	66%	86%
Medium	14%	20%	18%	17%	6%
Low	11%	33%	25%	12%	3%
Don't know/no answer	3%	5%	40%	5%	5%

Word of mouth was most commonly reported as where the respondent found the contractor, followed by the contractor’s advertising and a web search (Table 37).

Table 37: Where Respondent Found the Contractor: Windows

Contractor Source (n = 67)	Percent
Word of mouth	38%
Online service	9%
Web search	25%
Advertisement	31%
Energy Trust website	3%
Energy Trust referral	5%
Not applicable	0%
Don't know	2%
Prefer not to answer	0%

3.2.9 Gas Fireplaces

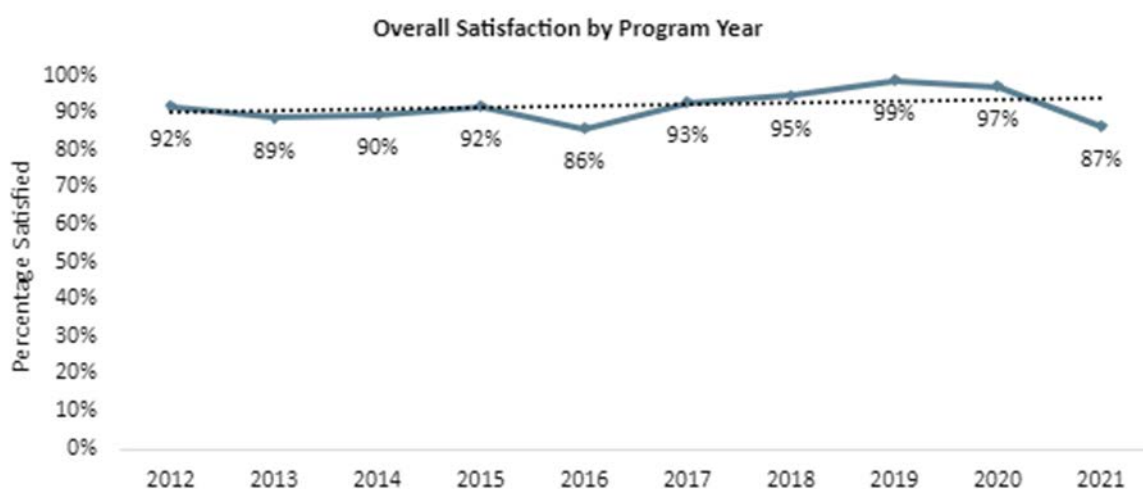
Gas fireplace participants (n = 73) showed high levels of satisfaction with all facets of the experience except the time it took to receive the incentive; overall satisfaction shows a slight upward trend over time through 2020 but dips somewhat in 2021 (Table 38 and accompanying chart).

Table 38: Satisfaction Ratings: Gas Fireplaces

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 71)	87%
Performance of new measure (n = 70)	97%
Comfort of home after new measure (n = 70)	97%
Incentive application form (n = 68)	90%
Time it took to receive incentive (n = 71)	65%

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Satisfaction	Percent
Contractor Satisfaction	
Overall experience (n = 67)	86%
Quality of installation work (n = 68)	86%
Information about incentives (n = 65)	74%
Communication (n = 67)	80%
Assistance with application (n = 65)	80%



The overall program influence on participant purchase decisions was moderately high. The fireplace’s energy efficiency rating showed the greatest influence, followed closely by a salesperson or retailer (Table 39). Almost half of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 39: Influence Ratings: Gas Fireplaces

Influence Level	Overall Influence (n = 73)	Energy Trust Incentive (n = 73)	Energy Trust Information or Materials (n = 20)	Salesperson or Retailer (n = 59)	Contractor (n = 64)	Energy Efficiency Rating (n = 68)
High	70%	32%	20%	60%	36%	74%
Medium	17%	23%	12%	14%	20%	7%
Low	13%	45%	26%	23%	32%	15%
DK/no answer	0%	0%	42%	3%	12%	5%

Word of mouth was most commonly reported as where the respondent found the contractor (Table 40).

Table 40: Where Respondent Found the Contractor: Gas Fireplaces

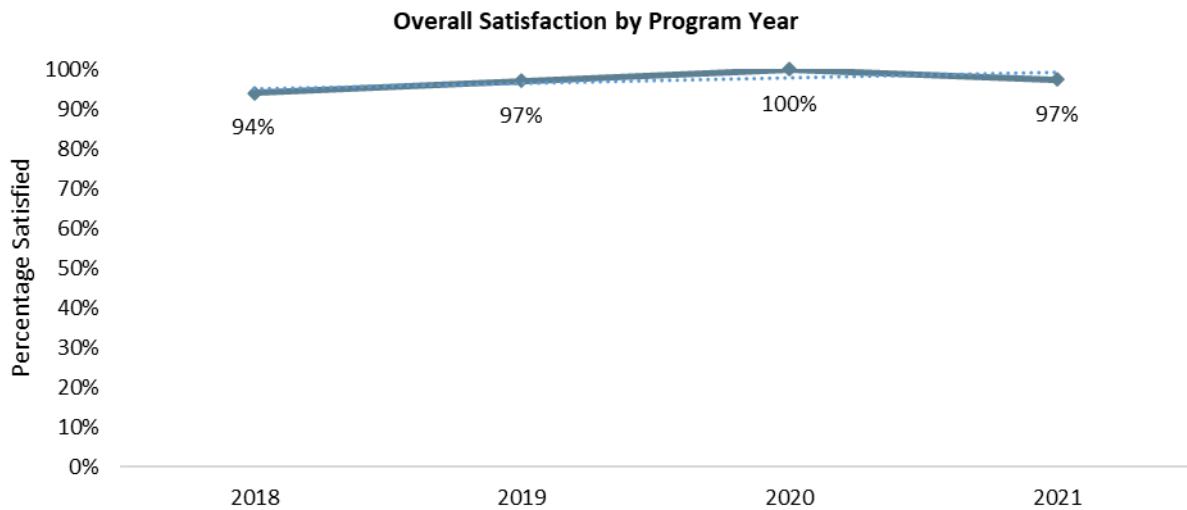
Contractor Source (n = 73)	Percent
Word of mouth	37%
Online service	6%
Web search	19%
Advertisement	6%
Energy Trust website	7%
Energy Trust referral	15%
Not applicable	19%
Don't know	1%
Prefer not to answer	0%

3.2.10 Gas Furnaces

Gas furnace participants ($n = 98$) showed high levels of satisfaction with all facets of the experience; overall satisfaction had shown a slight upward trend over time but this year's level is slightly below that of last year's survey (Table 41 and accompanying chart).

Table 41: Satisfaction Ratings: Gas Furnaces

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 88)	97%
Performance of new measure (n = 91)	99%
Comfort of home after new measure (n = 91)	99%
Incentive application form (n = 57)	98%
Time it took to receive incentive (n = 56)	94%
Contractor Satisfaction	
Overall experience (n = 95)	96%
Quality of installation work (n = 96)	99%
Information about incentives (n = 89)	91%
Communication (n = 94)	98%
Assistance with application (n = 61)	94%



The overall program influence on participant purchase decisions was high. Contractors and the furnace’s energy efficiency rating showed the greatest influence; the Energy Trust incentive and information or materials from Energy Trust also showed moderately high influence (Table 42). One-quarter of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 42: Influence Ratings: Gas Furnaces

Influence Level	Overall Influence (n = 93)	Energy Trust Incentive (n = 89)	Energy Trust Information or Materials (n = 31)	Salesperson or Retailer (n = 2)	Contractor (n = 92)	Energy Efficiency Rating (n = 89)
High	91%	76%	59%	67%	87%	86%
Medium	2%	10%	5%	0%	5%	4%
Low	4%	12%	10%	0%	4%	4%
DK/no answer	3%	2%	26%	33%	4%	6%

Word of mouth was most commonly reported as where the respondent found the contractor (Table 43).

Table 43: Where Respondent Found the Contractor: Gas Furnaces

Contractor Source (n = 98)	Percent
Word of mouth	41%
Online service	7%
Web search	16%
Advertisement	6%
Energy Trust website	12%
Energy Trust referral	9%
Not applicable	11%
Don't know	4%
Prefer not to answer	0%

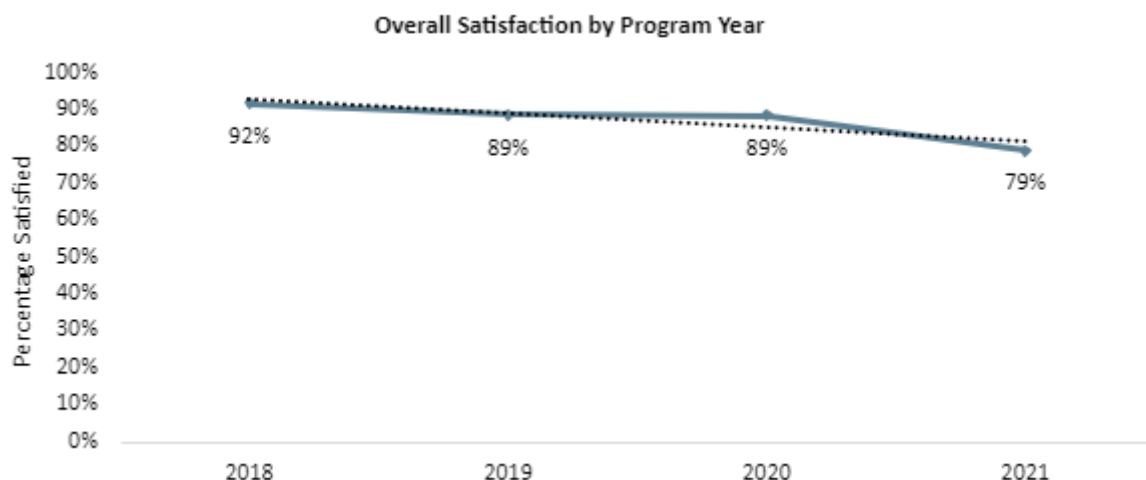
3.2.11 Spa Covers

Spa cover participants ($n = 59$) showed moderately high to high levels of satisfaction with all facets of the experience except the time it took to receive the incentive; overall satisfaction shows a slight *downward* trend over time (Table 44 and accompanying chart). None of these participants used a contractor to install their spa cover.¹⁰

Table 44: Satisfaction Ratings: Spa Covers

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 54)	79%
Performance of new measure (n = 51)	98%
Incentive application form (n = 54)	81%
Time it took to receive incentive (n = 50)	59%

¹⁰ An error in the definition of the question logic for the influence question resulted in the exclusion of spa cover participants from this question. We have corrected this error, and the year-end report will include information on influence ratings for this measure.



The overall program influence on participant purchase decisions was high. Contractors showed the greatest influence, followed by the furnace’s efficiency rating; the Energy Trust incentive and information or materials from Energy Trust also showed moderate influence (Table 42). Half of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 45: Influence Ratings: Spa Covers

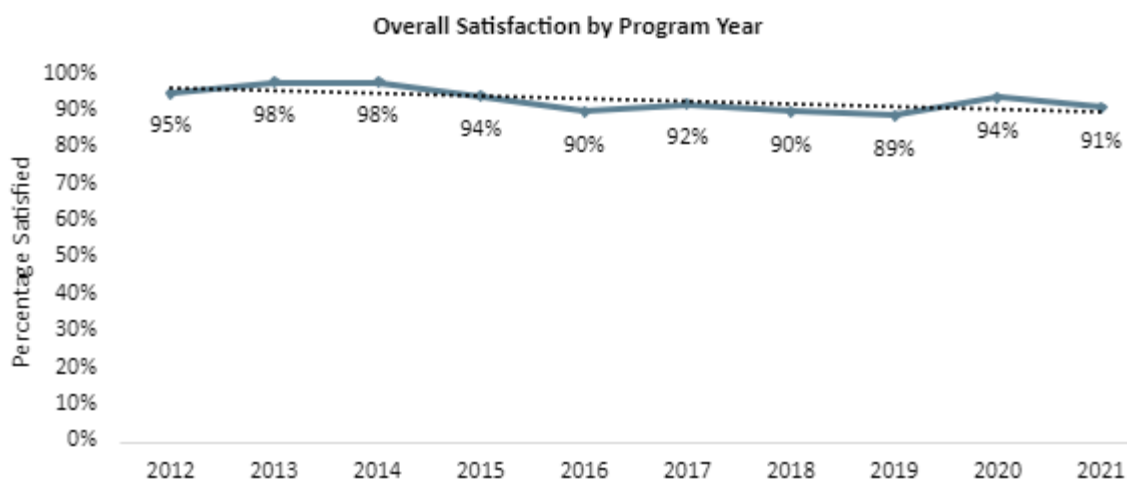
Influence Level	Overall Influence (n = 36)	Energy Trust Incentive (n = 35)	Energy Trust Information or Materials (n = 10)	Salesperson or Retailer (n = 32)
High	86%	81%	38%	63%
Medium	11%	11%	10%	20%
Low	3%	6%	0%	9%
DK/no answer	0%	3%	52%	9%

3.2.12 Residential Solar PV

Residential solar PV participants (n = 196) showed high levels of satisfaction with all facets of the experience; overall satisfaction is consistent with that in previous years (Table 46 and accompanying chart).

Table 46: Satisfaction Ratings: Residential Solar PV

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 169)	91%
Performance of new measure (n = 175)	97%
Contractor Satisfaction	
Overall experience (n = 179)	96%
Quality of installation work (n = 178)	98%
Information about incentives (n = 176)	91%
Communication (n = 179)	90%



The overall program influence on participant purchase decisions was high. Contractors showed the greatest influence, followed by the Energy Trust incentive (Table 47). One-quarter of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 47: Influence Ratings: Residential Solar PV

Influence Level	Overall Influence (n = 194)	Energy Trust Incentive (n = 189)	Energy Trust Information or Materials (n = 90)	Contractor (n = 180)	Information from Solar Workshop (n = 43)
High	91%	74%	52%	84%	15%
Medium	3%	12%	12%	8%	2%
Low	5%	10%	9%	7%	14%
DK/no answer	1%	3%	26%	2%	69%

Respondents most commonly found the contractor from word of mouth and a web search (Table 48).

Table 48: Where Respondent Found the Contractor: Residential Solar PV

Contractor Source (n = 196)	Percent
Word of mouth	30%
Online service	7%
Web search	27%
Advertisement	15%
Energy Trust website	15%
Energy Trust referral	18%
Not applicable	5%
Don't know	2%
Prefer not to answer	0%

3.2.13 Residential - Washington

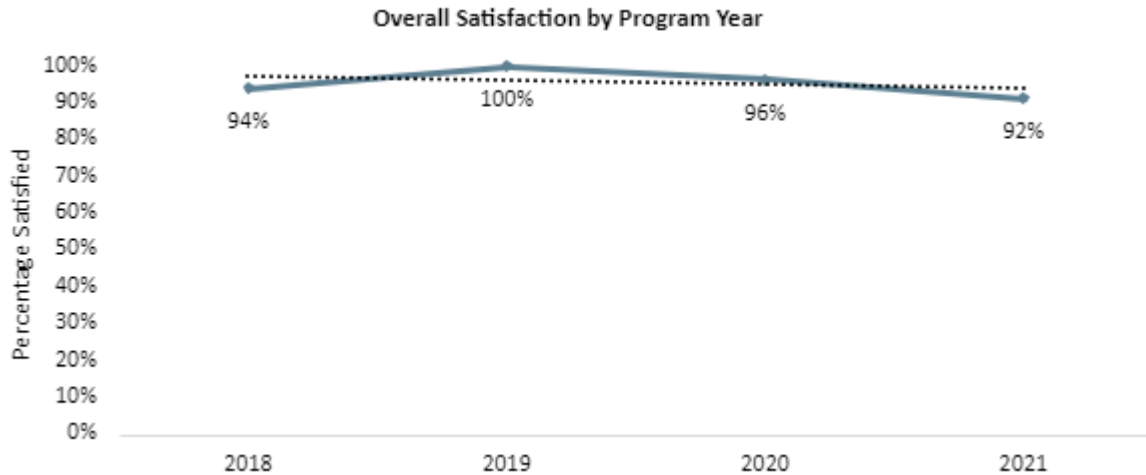
Residential Washington participants ($n = 184$) installed five types of measures, the most common of which were smart thermostats ($n = 72$) and gas furnaces ($n = 60$). Fewer installed windows ($n = 29$), gas fireplaces ($n = 12$), and ceiling insulation ($n = 5$).

These participants showed moderately high to high levels of satisfaction with all facets of the experience; overall experience shows a slight upward trend over time (Table 49 and accompanying chart).

Table 49: Satisfaction Ratings: Residential - Washington

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 167)	92%
Performance of new measure (n = 170)	95%
Comfort of home after new measure (n = 168)	96%
Incentive application form (n = 143)	94%
Time it took to receive incentive (n = 143)	75%
Contractor Satisfaction	
Overall experience (n = 101)	93%
Quality of installation work (n = 101)	96%
Information about incentives (n = 93)	90%
Communication (n = 101)	88%
Assistance with application (n = 69)	84%

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The overall program influence on participant purchase decisions was high. The measure’s energy efficiency rating showed the greatest influence, followed by contractors and the Energy Trust incentive (Table 50). Nearly half of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 50: Influence Ratings: Residential - Washington

Influence Level	Overall Influence (n = 179)	Energy Trust Incentive (n = 173)	Energy Trust Information or Materials (n = 53)	Salesperson or Retailer (n = 47)	Contractor (n = 102)	Energy Efficiency Rating (n = 96)
High	84%	67%	37%	13%	75%	83%
Medium	5%	9%	8%	5%	9%	7%
Low	9%	22%	12%	37%	12%	6%
DK/no answer	2%	3%	43%	45%	4%	4%

Word of mouth was most commonly reported as where the respondent found the contractor, followed by a web search (Table 51).

Table 51: Where Respondent Found the Contractor: Residential - Washington

Contractor Source (n = 107)	Percent
Word of mouth	40%
Online service	10%
Web search	22%
Advertisement	12%
Energy Trust website	5%
Energy Trust referral	6%
Not applicable	11%
Don't know	1%
Prefer not to answer	0%

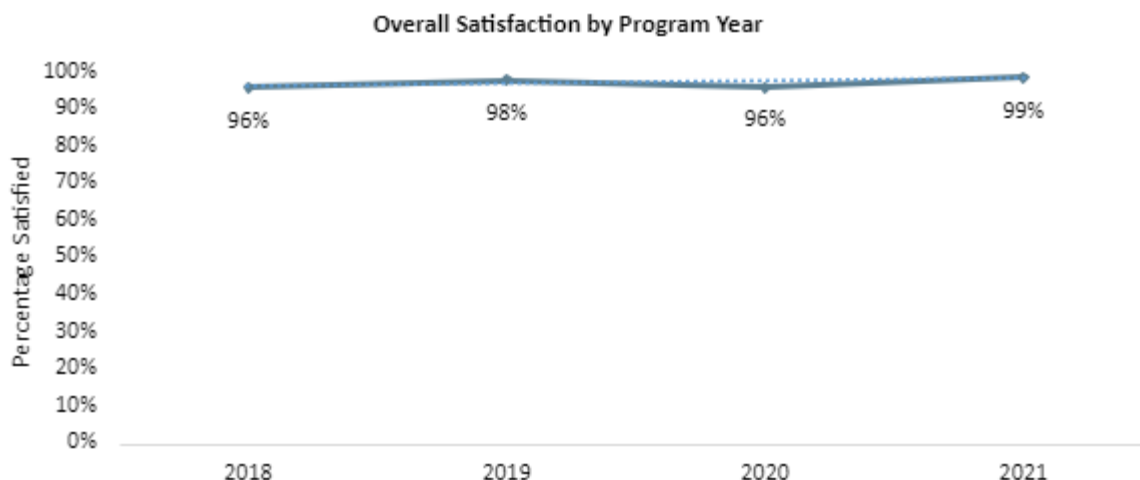
3.2.14 Moderate Income Track

Moderate Income Track participants ($n = 96$) installed five types of measures, the most common of which were gas furnaces ($n = 65$) and ductless heat pumps ($n = 16$). Fewer installed other insulation ($n = 9$), ceiling insulation ($n = 3$), ducted heat pumps ($n = 2$), and a central air conditioner ($n = 1$).

These participants showed high levels of satisfaction with all facets of the experience; overall satisfaction shows a slight upward trend over time (Table 52 and accompanying chart).

Table 52: Satisfaction Ratings: Moderate Income Track

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 86)	99%
Performance of new measure (n = 91)	98%
Comfort of home after new measure (n = 91)	96%
Incentive application form (n = 85)	99%
Time it took to receive incentive (n = 77)	94%
Contractor Satisfaction	
Overall experience (n = 93)	97%
Quality of installation work (n = 95)	97%
Information about incentives (n = 92)	94%
Communication (n = 94)	98%
Assistance with application (n = 89)	96%



The overall program influence on participant purchase decisions was high. Contractors showed the greatest influence, followed closely by the measure’s energy efficiency rating; the Energy Trust incentive also showed a moderately high level of influence (Table 53). One-fifth of respondents who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 53: Influence Ratings: Moderate Income Track

Influence Level	Overall Influence (n = 94)	Energy Trust Incentive (n = 94)	Energy Trust Information or Materials (n = 38)	Salesperson or Retailer (n = 2)	Contractor (n = 93)	Energy Efficiency Rating (n = 79)
High	91%	76%	58%	67%	88%	84%
Medium	2%	10%	9%	0%	4%	7%
Low	5%	12%	11%	0%	5%	3%
DK/no answer	2%	2%	22%	33%	3%	7%

Word of mouth was most commonly reported as where the respondent found the contractor, followed by a contractor’s advertisement (Table 54).

Table 54: Where Respondent Found the Contractor: Moderate Income Track

Contractor Source (n = 96)	Percent
Word of mouth	36%
Online service	5%
Web search	19%
Advertisement	8%
Energy Trust website	12%
Energy Trust referral	13%
Not applicable	12%
Don't know	2%
Prefer not to answer	0%

3.2.15 Fixed-Price Promotions

Fixed Price Promotions participants ($n = 59$) installed either ducted ($n = 54$) or ductless heat pumps ($n = 5$). These participants showed high levels of satisfaction with all facets of the experience (Table 55). Overall satisfaction was slightly higher than that shown in 2020 results (96%).

Table 55: Satisfaction Ratings: Fixed Price Promotions

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 53)	100%
Performance of new measure (n = 55)	98%
Comfort of home after new measure (n = 55)	98%
Contractor Satisfaction	
Overall experience (n = 51)	98%
Quality of installation work (n = 52)	98%
Information about incentives (n = 47)	100%
Communication (n = 51)	100%

The overall program influence on participant purchase decisions was high. The Energy Trust incentive showed the greatest influence on participant purchase decisions, followed by measure's energy efficiency rating and the Energy Trust information and materials (Table 56). Half of those who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 56: Influence Ratings: Fixed Price Promotions

Influence Level	Overall Influence (n = 58)	Energy Trust Incentive (n = 54)	Energy Trust Information or Materials (n = 19)	Contractor (n = 53)	Energy Efficiency Rating (n = 52)
High	98%	98%	52%	93%	86%
Medium	0%	2%	0%	0%	9%
Low	0%	0%	0%	2%	3%
Don't know/no answer	2%	0%	48%	4%	3%

Respondents most commonly reported finding the contractor through word of mouth (Table 57).

Table 57: Where Respondent Found the Contractor: Fixed Price Promotions

Contractor Source (n = 59)	Percent
Word of mouth	37%
Online service	4%
Web search	12%
Advertisement	19%
Energy Trust website	18%
Energy Trust referral	12%
Not applicable	4%
Don't know	2%
Prefer not to answer	0%

3.2.16 Instant Incentives

Instant Incentives participants ($n = 234$) installed nine types of measures, the most common of which were ducted heat pumps ($n = 66$), gas furnaces ($n = 32$) and ductless heat pumps ($n = 26$). Fewer installed air conditioners ($n = 23$), ceiling insulation ($n = 17$), smart thermostats ($n = 6$), windows ($n = 5$), and other insulation ($n = 4$).

These participants showed high levels of satisfaction with all facets of the experience (Table 58). The overall satisfaction level was about the same as that found in the 2020 survey (96%).

Table 58: Satisfaction Ratings: Instant Incentives

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 198)	95%
Performance of new measure (n = 212)	93%
Comfort of home after new measure (n = 205)	90%

Satisfaction	Percent
Contractor Satisfaction	
Overall experience (n = 202)	95%
Quality of installation work (n = 203)	95%
Information about incentives (n = 169)	93%
Communication (n = 199)	91%

The overall program influence on participant purchase decisions was moderately high. The equipment efficiency ratings showed the greatest influence, followed by a contractor, the Energy Trust incentive, and the Energy Trust information or materials (Table 59). One-third of those who reported that they or a household member visited the Energy Trust website or spoke with an Energy Trust representative about the measure were not able to provide a rating on the influence of the information provided.

Table 59: Influence Ratings: Instant Incentives

Influence Level	Overall Influence (n = 220)	Energy Trust Incentive (n = 184)	Energy Trust Information or Materials (n = 68)	Salesperson or Retailer (n = 18)	Contractor (n = 207)	Energy Efficiency Rating (n = 170)
High	86%	72%	46%	59%	82%	83%
Medium	3%	12%	10%	5%	6%	8%
Low	9%	14%	8%	17%	10%	7%
DK/no answer	3%	2%	35%	20%	2%	2%

Word of mouth was most commonly reported as where the respondent found the contractor, followed by a web search (Table 60).

Table 60: Where Respondent Found the Contractor: Instant Incentives

Contractor Source (n = 220)	Percent
Word of mouth	39%
Online service	10%
Web search	20%
Advertisement	13%
Energy Trust website	15%
Energy Trust referral	8%
Not applicable	6%
Don't know	2%
Prefer not to answer	0%

3.2.17 Rental Properties

Rental Properties participants (n = 72) installed five types of measures, the most common of which were gas furnaces (n = 31), ceiling insulation (n = 15), and ductless heat pumps (n = 10). Fewer respondents installed other insulation (n = 7), a ducted heat pump (n = 3), and heat pump advanced controls (n = 2).

These participants showed high levels of satisfaction with all facets of the experience except the time it took to receive incentives, which was the lowest satisfaction rating for any program element given by any group (Table 61).¹¹

Table 61: Satisfaction Ratings: Rental Properties

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 67)	94%
Performance of new measure (n = 62)	98%
Comfort of home after new measure (n = 63)	100%
Incentive application form (n = 22)	95%
Time it took to receive incentive (n = 22)	42%
Contractor Satisfaction	
Overall experience (n = 65)	97%
Quality of installation work (n = 65)	98%
Information about incentives (n = 59)	92%
Communication (n = 64)	93%
Assistance with application (n = 19)	92%

The overall program influence on participant purchase decisions was high. The Energy Trust incentive and the measure’s energy efficiency rating showed the greatest influence, followed by contractors; Energy Trust information or materials showed moderate influence (Table 62).

Table 62: Influence Ratings: Rental Properties

Influence Level	Overall Influence (n = 70)	Energy Trust Incentive (n = 65)	Energy Trust Information or Materials (n = 27)	Contractor (n = 67)	Energy Efficiency Rating (n = 47)
High	89%	85%	41%	76%	85%
Medium	3%	9%	15%	8%	5%
Low	8%	7%	10%	13%	10%
Don't know/no answer	0%	0%	33%	3%	1%

Word of mouth was most commonly reported as how the respondent found the contractor, followed by a web search (Table 63).

¹¹ Satisfaction was not previously reported for this group; therefore, we cannot show a trend over time.

Table 63: Where Respondent Found the Contractor: Rental Properties

Contractor Source (n = 72)	Percent
Word of mouth	49%
Online service	7%
Web search	20%
Advertisement	4%
Energy Trust website	13%
Energy Trust referral	7%
Not applicable	5%
Don't know	0%
Prefer not to answer	0%

4 Nonresidential Survey Results

The following subsections provide information on the firmographics, demographics, and program experience of nonresidential survey participants. All results are shown separately for Existing Buildings - Oregon, Existing Buildings - Washington, Commercial Solar, Multifamily, and Production Efficiency participants. Some program experience results are additionally broken out further.

Recall from Section 2.4 that there were only four Existing Buildings – Washington respondents. This is too few to provide precise results. Therefore, while we show responses for these respondents, our discussion of results focuses on the Existing Buildings - Oregon, Commercial Solar, Multifamily, and Production Efficiency groups, which had sufficient respondents for precise results.

4.1 Nonresidential Firmographics and Demographics

Respondents most commonly reported that their firm or organization owns the property or properties that participated in the respective program – except that half of Existing Buildings participants from Washington reported they lease the property (Table 64).

Table 64: Participating Firm or Organization’s Ownership of Participating Property or Properties (Existing Buildings, Commercial Solar, and Production Efficiency Only)

Response	Existing Buildings - Oregon (n = 292)	Existing Buildings - Washington (n = 4)	Commercial Solar (n = 49)	Production Efficiency (n = 151)
Owns	60%	50%	94%	74%
Leases	33%	50%	4%	20%
Other	4%	0%	0%	2%
Don't know	2%	0%	2%	2%
No response	0%	0%	0%	1%

Half or more of those who reported leasing the participating property said their firm or organization had authority to make any type of upgrade decision, while about one-third said they were authorized to make certain types of upgrades (Table 65).¹²

¹² This was somewhat more common for Production Efficiency than for Existing Buildings, but the difference did not quite achieve statistical significance ($z = 1.75$, $.05 < p < .10$).

*Table 65: Participating Firm or Organization’s Authority for Upgrade Decisions
(Existing Buildings and Production Efficiency Participants Who Reported Leasing Building Only)*

Level of Authority for Upgrades	Existing Buildings - Oregon (n = 292)	Existing Buildings - Washington (n = 4)	Commercial Solar (n = 49)	Production Efficiency (n = 151)
Any type of upgrade	57%	100%	50%	56%
Only some types of upgrades	35%	0%	50%	37%
No authority for upgrade decisions	2%	0%	0%	3%
Don't know	6%	0%	0%	3%
No response	0%	0%	0%	0%

Participants in all programs reported a range of company sizes, in terms of number of employees, but skewed somewhat toward fewer employees (Table 66).

Table 66: Number of Oregon Employees

Response	Existing Buildings - Oregon (n = 292)	Existing Buildings - Washington (n = 4)	Commercial Solar (n = 49)	Multifamily (n = 94)	Production Efficiency (n = 151)
1 to 5	19%	0%	51%	37%	18%
6 to 9	9%	25%	6%	5%	8%
10 to 19	10%	50%	16%	9%	10%
20 to 99	25%	0%	12%	12%	23%
100 to 499	14%	0%	6%	8%	19%
500 or more	11%	25%	4%	10%	15%
Don't know	9%	0%	4%	17%	5%
No response	2%	0%	0%	2%	1%

About half the respondents were an owner or someone in an executive or decision-making role, while about one-quarter were a manager of some sort (Table 67).

Table 67: Respondent’s Position in Firm or Organization

Response ¹	Existing Buildings - Oregon (n = 292)	Existing Buildings - Washington (n = 4)	Commercial Solar (n = 49)	Multifamily (n = 94)	Production Efficiency (n = 151)
Owner	41%	75%	67%	33%	33%
Executive or decision-maker	16%	25%	22%	18%	12%
Manager	29%	0%	8%	38%	40%
Employee	10%	0%	0%	4%	11%
Other	1%	0%	0%	3%	2%
Don't know	1%	0%	2%	3%	1%
No response	2%	0%	0%	1%	1%

¹ This table shows the response options provided in the survey. About one-fifth of responses selected “Other.” We recoded most of those into one of the other categories. We coded any response with *owner* (e.g., owner/manager) as *Owner*; any with *officer*, *director*, or similar indication, as *Executive or decision-maker*; any response with *manager* (including *property manager*), *lead*, or *supervisor* as *Manager*; and any job title that did not indicate any of these as *employee*. The few remaining “other” responses either were unclear or did not have enough detail to re-categorize.

The survey asked respondents that were the owner of the participating firm or a resident of a participating multifamily property to identify their race or ethnicity. Somewhat less than half of respondents declined to identify their race or ethnicity. Of those who provided an identity, most identified themselves as White or European (Table 68). Most of the remainders either said they were Hispanic/Latino/Spanish or Asian/Asian Indian or did not identify their race or ethnicity.

Table 68: Respondent Race or Ethnicity (Business Owners and Multifamily Residents Only)

Race/Ethnicity ¹	Existing Buildings - Oregon (n = 292)	Existing Buildings - Washington (n = 4)	Commercial Solar (n = 49)	Multifamily - Landlords ² (n = 94)	Production Efficiency (n = 151)
No response	46%	67%	19%	24%	35%
Provided Race/Ethnicity					
Asian alone	0%	0%	0%	0%	0%
Black alone	4%	0%	0%	2%	0%
Hispanic/Latino, any race	9%	0%	4%	15%	3%
Native American alone	0%	0%	0%	0%	0%
Other alone	0%	0%	0%	0%	0%
Two or more	1%	0%	0%	2%	0%
White or European alone	86%	100%	96%	80%	97%

¹ Native American includes Alaska Native, and Asian includes Asian Indian, Hawaiian, and Other Pacific Islanders.

² In addition, seven Multifamily respondents reported that they were residents of the property in question, rather than the property manager or landlord. Of those seven respondents, six identified as white and the other identified as multiracial (white and Native American).

Existing Buildings and Multifamily participants identified themselves as Hispanic/Latino more frequently than did other participants.¹³

4.2 Nonresidential Program Experience by Program Track and Quota Group

The following subsections show results for key survey variables by program track and quota group. Results generally show high satisfaction ratings across all facets of program experience for all quota groups. In nearly all cases, satisfaction with the overall program experience and with interactions with program representatives remained consistent or showed a slight upward trend over time.

Respondents across all quota groups reported influence from multiple factors, with no single factor showing consistently greater influence than any other.

4.2.1 Existing Buildings - Oregon

Existing Buildings - Oregon participants ($n = 292$) showed high levels of satisfaction and reported moderately high to high overall program influence across quota groups (Table 69). The small sample sizes for specific quota groups, particularly for some groups, argue against comparing the groups on the three metrics.

Table 69: Key Satisfaction and Influence Metrics by Quota Group: Existing Buildings - Oregon

Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Existing Buildings - Oregon Overall (n = 292)	92%	92%	92%
End-Use Quotas (Exclusive Quotas)			
Assembly/Religious (n = 9)	89%	100%	100%
Auto Services (n = 17)	81%	90%	100%
Education (n = 30)	97%	96%	83%
Government (n = 11)	82%	78%	80%
Grocery (n = 17)	94%	79%	88%
Healthcare (n = 0)	n/a	n/a	n/a
Higher Education (n = 3)	100%	100%	100%
Hospitality (n = 15)	87%	93%	100%
Office (n = 34)	94%	93%	100%
Other Commercial (n = 20)	95%	100%	90%
Recreation (n = 1)	100%	100%	100%
Restaurant (n = 66)	92%	94%	90%

¹³ The difference between Multifamily and Production Efficiency was statistically significant ($z = 2.70, p < .007$). That between Multifamily and Commercial Solar was near significant ($z = 1.92, p < .06$). The difference between Multifamily and Existing Buildings – Oregon approached significance ($z = 1.61, p < .11$).

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Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Retail (n = 40)	90%	86%	95%
Warehouse (n = 29)	86%	92%	93%
Cross-Cutting Quotas			
Direct Install (DI) (n = 8)	74%	74%	100%
Lighting (Non-DI) (n = 155)	90%	91%	93%

Looking at Existing Buildings - Oregon as a group, participants showed high levels of satisfaction with all facets of the experience (Table 70).

Table 70: Satisfaction by Program Element: Existing Buildings - Oregon

Program Element	Percent
Program-Level Satisfaction by Program Element	
Overall experience with Energy Trust (n = 292)	92%
Interaction with Energy Trust representative (n = 292)	92%
Incentive application process (n = 292)	86%
Information and materials from Energy Trust (n = 292)	89%
Site assessment or walk-through survey (n = 0)	n/a
Energy Trust-funded technical services (n = 108)	89%
The scheduling process to receive services (n = 0)	n/a
Turnaround time to receive your incentive (n = 292)	70%
Performance of the measure (n = 292)	96%
The vendor or installation contractor, if applicable (n = 292)	94%
Overall Experience by Program Track	
Custom (n = 2)	100%
Lighting (n = 160)	89%
Standard (n = 127)	94%
Direct Install (n = 8)	75%
Interaction with Program Representative by Program Track	
Custom (n = 2)	100%
Lighting (n = 160)	91%
Standard (n = 127)	93%
Direct Install (n = 8)	75%

Satisfaction with the overall program experience and with interactions with program representatives show slight upward trends over time.

Time Trend in Key Satisfaction Indicators: Existing Buildings - Oregon

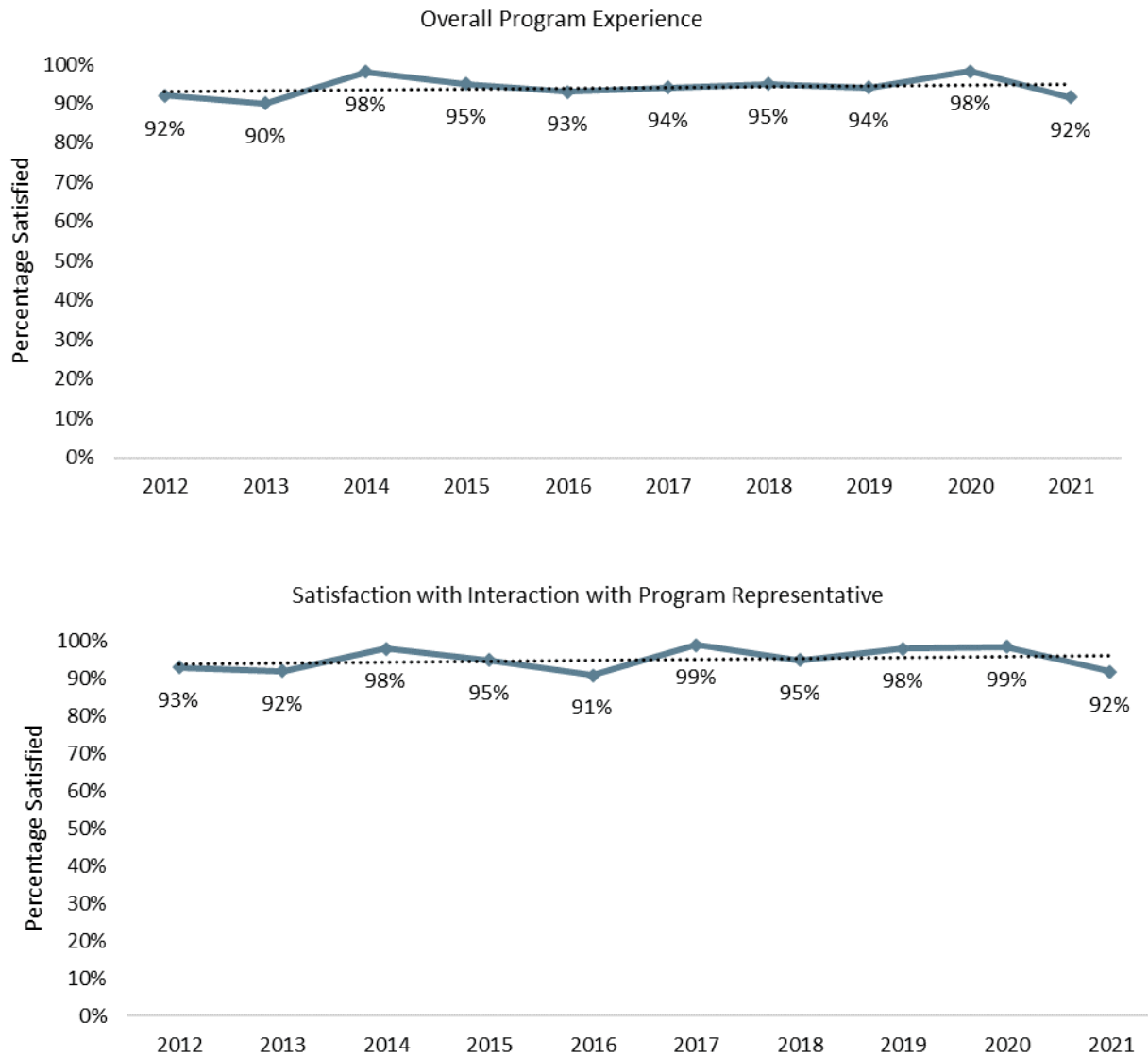


Table 71 shows reported influence from multiple factors, broken out by quota group.¹⁴ The Energy Trust incentive and vendors/installation contractors had the highest overall influence, while Energy Trust information and materials and an Energy Trust program representative had the least overall influence.

Comparisons across quota groups and influencers are challenging because many of the sample sizes are small and because the influence levels for the various influence factors do not vary consistently across

¹⁴ Influence was defined as a rating of 4 or 5 on a scale from 1 (did not have any influence) to 5 (had a great influence). “Don’t know” and “no response” were excluded from the denominators for all analyses to be consistent with previous years. As with the residential survey, we calculated an “overall influence” rating for each respondent that was equal to the highest influence rating that respondent provided for any rated influence factor.

quota groups. ADM conducted analyses to identify factors that are relatively more important influencers for some groups than others by identifying the factors that had higher-than-expected influence ratings for each quota group.¹⁵ This analysis identified influence ratings for three quota groups that appeared to be higher than expected:

- The 67% influence that Energy Trust information and materials had in the Education quota group exceeded what would be expected from the mean influence ratings for that group and that factor.
- The 81% Energy Trust incentive influence for the Restaurant quota group exceeded what would be expected from the mean influence ratings for that group and that factor.
- The 77% Energy Trust program representative influence for the Retail quota group exceeded what would be expected from the mean influence ratings for that group and that factor.

It does not seem obvious that the information and materials influence rating for the Education group is higher than expected. That influence rating is lower than the mean for that quota group and is only slightly higher than the mean, across groups, for that influence factor. However, this analysis assesses whether the influence rating in question departs from what would be expected based on the entire profile for a given quota group relative to other groups and the entire profile for a given influence factor. The 67% influence rating is slightly higher than the weighted mean influence of 63% that information and materials had across all groups. The ratio of the Education group influence rating to the weighted mean rating is 1.01. However, the mean ratio across all other influencers for the Education group is 0.97, with a standard deviation of 0.04. The ratio of 1.01 was at least one standard deviation greater than the mean ratio of 0.97. Thus, the influence of Energy Trust information and materials on the Education group is relatively high for that influence factor, all things considered.

¹⁵ The method is explained in the table note to Table 71.

Table 71: Influencers by Quota Group: Existing Buildings – Oregon¹

Quota Group	Energy Trust Incentive		Information and Materials		Energy Trust Program Representative		Site Assessment or Walk-Through Survey		Energy Trust-Funded Technical Services		Vendor or Installation Contractor		Weighted Mean %, All Influence Factors
	n	%	n	%	n	%	n	%	n	%	n	%	
Assembly/Religious	9	100%	9	56%	9	71%	2	n/a	4	100%	9	88%	76.9%
Auto Services	17	100%	17	69%	17	91%	1	n/a	7	100%	17	64%	81.8%
Education	30	77%	30	67%	30	71%	1	n/a	18	72%	30	87%	74.5%
Government	11	70%	11	44%	11	44%	1	n/a	6	40%	11	78%	55.8%
Grocery	17	75%	17	65%	17	67%	6	n/a	11	67%	17	76%	65.2%
Healthcare	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	n/a
Higher Education	3	67%	3	67%	3	67%	1	n/a	2	100%	3	33%	60.0%
Hospitality	15	100%	15	71%	15	82%	6	n/a	8	67%	15	92%	77.1%
Office	34	79%	34	63%	34	73%	0	n/a	11	90%	34	94%	78.1%
Other Commercial	20	85%	20	72%	20	83%	0	n/a	6	100%	20	76%	80.7%
Recreation	1	100%	1	0%	1	0%	1	n/a	1	n/a	1	0%	16.7%
Restaurant	66	81%	66	63%	66	58%	24	n/a	29	67%	66	64%	61.4%
Retail	40	82%	40	57%	40	77%	6	n/a	21	77%	40	78%	71.4%
Warehouse	29	90%	29	64%	29	52%	10	n/a	20	67%	29	82%	66.4%
Total/Wtd. Mean	292	83.3%	292	63.2%	292	68.3%	59	0.0%	144	73.5%	292	77.2%	n/a
Direct Install (DI)	8	100%	8	100%	8	100%	0	n/a	4	100%	8	85%	96.7%
Non-DI Lighting	155	83%	155	66%	155	73%	1	n/a	61	79%	155	87%	77.2%

¹Shaded cells indicate influence percentages that are higher than expected, given the mean influence rating for that quota group and influence factor, calculated as follows. For each influence factor, we calculated a weighted mean level of influence, across the various quota groups (excluding cross-cutting groups since they are counted in the totals for the other quota groups). Then, for each quota group and each influence factor, we calculated the ratio of the that factor’s influence (for that quota group) to the mean influence for that factor (across quota groups; weighted by the number of observations in each group). For example, the Energy Trust Incentive influence was 81% for the Restaurant group and had a weighted mean influence of about 83% across groups; thus, the ratio the Energy Trust Incentive’s influence in the Restaurant group to its weighted mean influence across groups was .81/.83, or 0.98. We calculated the mean and standard deviation of these *ratios* across each quota group (we did not weight these as they were based on indices that already were weighted; these are not shown in the above table). This tells us how much, on average, a given quota group’s influence ratings stand out from the average. For example, the mean ratio for the Restaurant group was 0.86, indicating that, on average, across all influencers, respondents in the restaurant group did not report as much influence as did other respondents. For each quota group, we then identified every ratio that exceeded the mean ratio for that group by at least one standard deviation. This tells us which percentages were higher than would be expected based on that quota group’s overall profile. We excluded influence ratings associated with a sample size of less than 30.

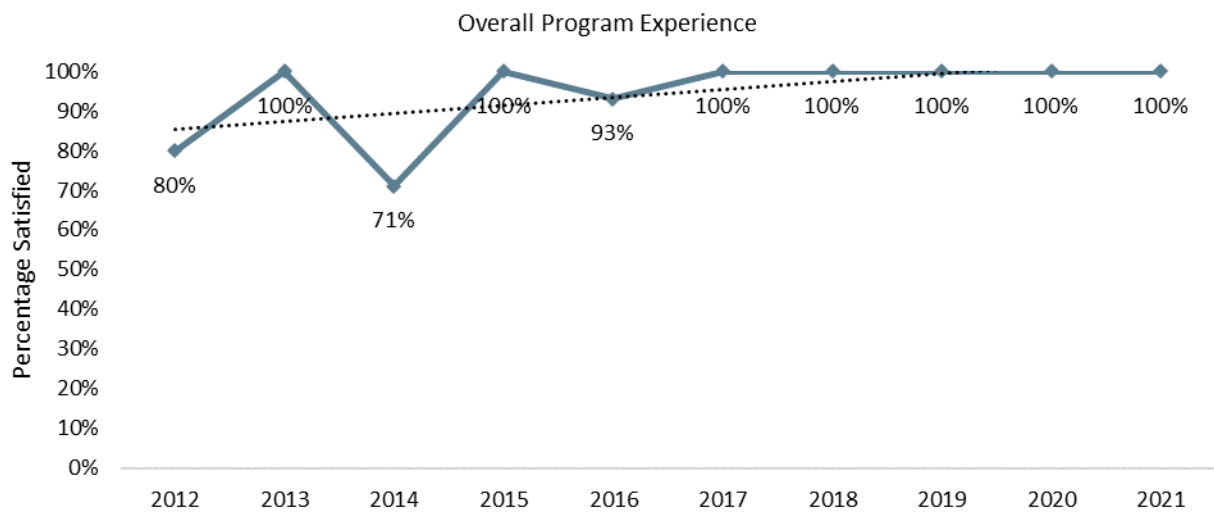
4.2.2 Existing Buildings - Washington

Existing Buildings - Washington participants ($n = 4$) showed high satisfaction with key program elements and reported moderately high overall program influence; the very small sample size argues against generalizing these findings or comparing satisfaction levels with previous years (Table 72 and accompanying charts).

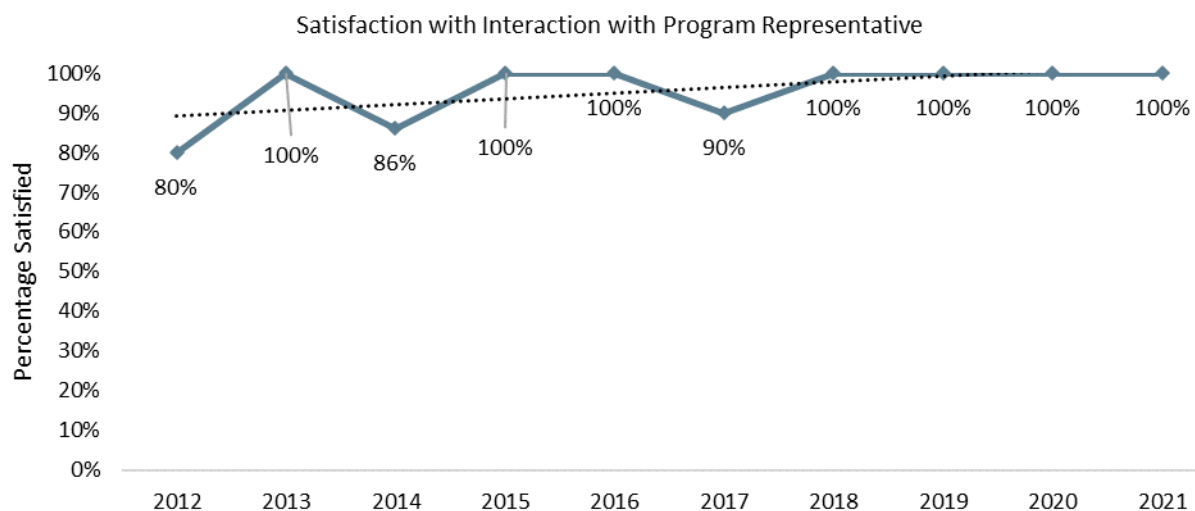
Table 72: Key Satisfaction and Influence Metrics by Quota Group: Existing Buildings - Washington

Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Existing Buildings - Washington (n = 4)	100%	100%	75%

Time Trend in Key Satisfaction Indicators: Existing Buildings - Washington



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These participants showed high levels of satisfaction with most facets of the experience; again, the very small sample size argues against generalizing results or comparing across items (Table 73).

Table 73: Satisfaction by Program Element: Existing Buildings - Washington

Program Element	Percent
Overall experience with Energy Trust (n = 4)	100%
Interaction with Energy Trust representative (n = 4)	100%
Incentive application process (n = 4)	100%
Information and materials from Energy Trust (n = 4)	100%
Turnaround time to receive your incentive (n = 4)	100%
Performance of the measure (n = 4)	100%
The vendor or installation contractor, if applicable (n = 4)	100%

Respondents reported influence from multiple factors (Table 74). The very small sample size argues against comparing the levels of influence among items.

Table 74: Influencers: Existing Buildings - Washington

Influencer	Percent
Combined influence metric (n = 4)	75%
The Energy Trust Incentive (n = 4)	75%
Information and materials from Energy Trust (n = 4)	50%
The Energy Trust program representative (n = 4)	75%
Energy Trust-funded technical services (n = 2)	0%
The vendor or installation contractor, if applicable (n = 4)	75%

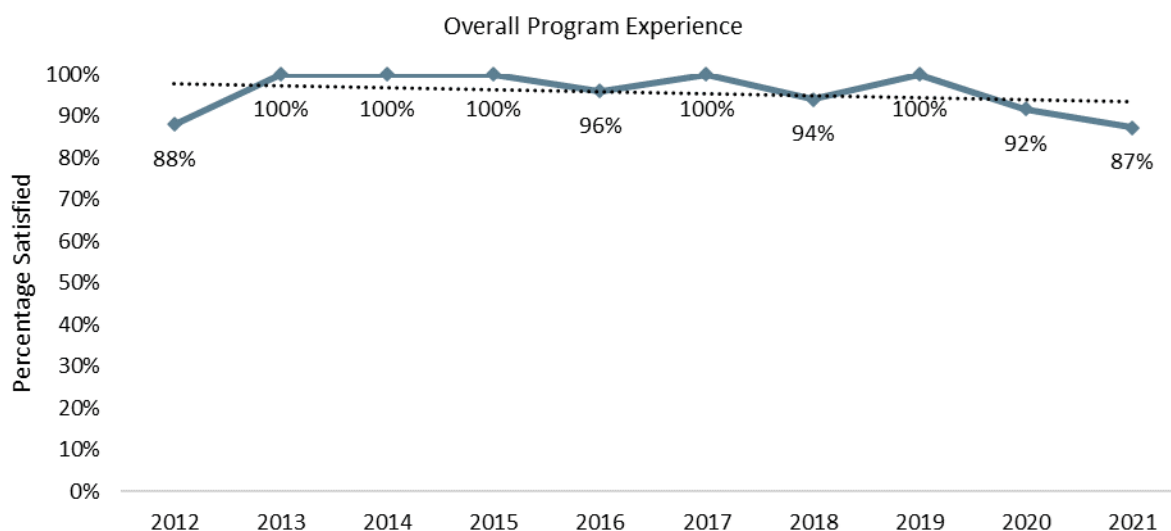
4.2.3 Commercial Solar

Commercial Solar participants ($n = 49$) showed high satisfaction with key program elements and reported high overall program influence (Table 75 and accompanying chart).

Table 75: Key Satisfaction and Influence Metrics by Quota Group: Existing Buildings - Washington

Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Commercial Solar PV ($n = 49$)	87%	88%	86%

Time Trend in Key Satisfaction Indicators: Commercial Solar PV



These participants showed high levels of satisfaction with all facets of the experience (Table 76).

Table 76: Satisfaction by Program Element: Commercial Solar

Program Element	Percent
Overall experience with Energy Trust ($n = 49$)	87%
Interaction with Energy Trust representative ($n = 49$)	88%
Incentive application process ($n = 49$)	92%
Information and materials from Energy Trust ($n = 49$)	84%
Energy Trust-funded technical services ($n = 10$)	86%
Performance of the measure ($n = 49$)	90%
The vendor or installation contractor, if applicable ($n = 49$)	91%

Respondents reported influence from multiple factors (Table 77). The vendor or installation contractor and the Energy Trust incentive had the highest influence ratings.

Table 77: Influencers: Commercial Solar

Influencer	Percent
Combined influence metric (n = 49)	86%
The Energy Trust Incentive (n = 49)	77%
Information and materials from Energy Trust (n = 49)	61%
The Energy Trust program representative (n = 49)	60%
Energy Trust-funded technical services (n = 23)	63%
The vendor or installation contractor, if applicable (n = 49)	80%

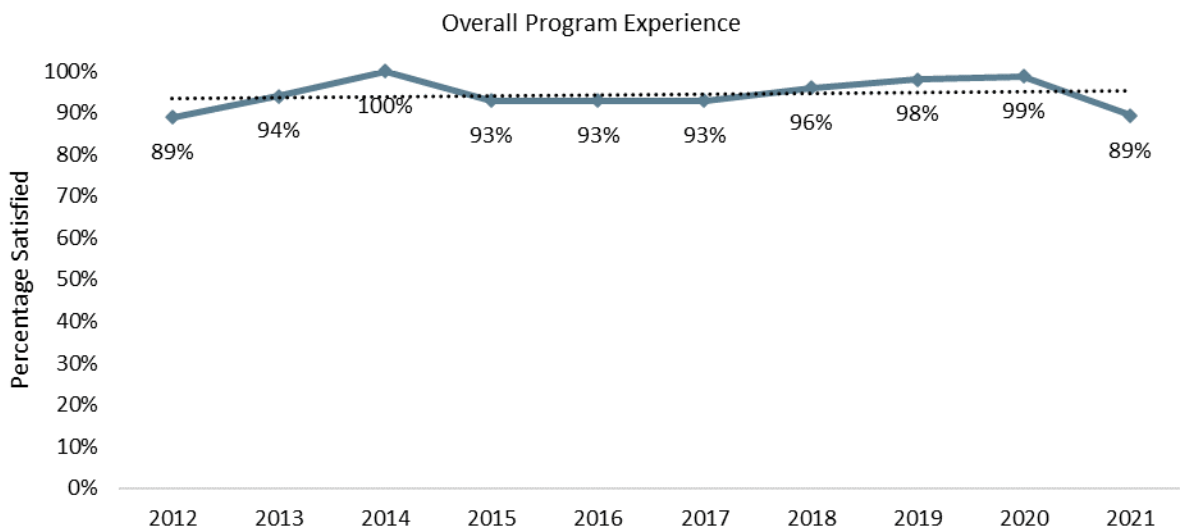
4.2.4 Multifamily

Multifamily participants ($n = 94$) showed high satisfaction with key program elements and reported moderately high to high overall program influence across quota groups; satisfaction with the overall program experience and with interactions with program representatives had shown slight upward trends time but the satisfaction ratings for the current year are somewhat lower than those found in the 2020 survey (Table 78 and accompanying charts).

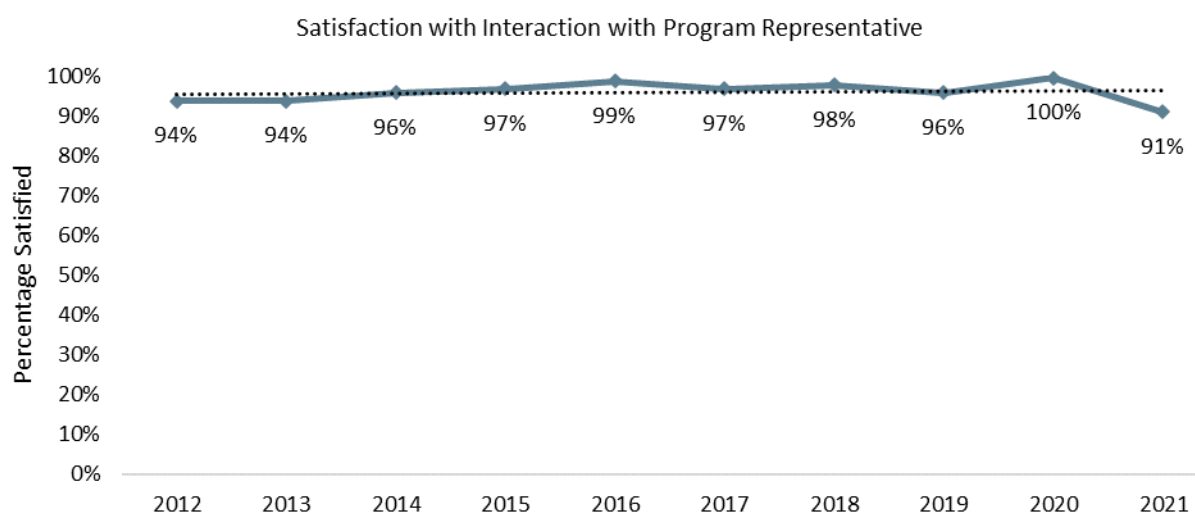
Table 78: Key Satisfaction and Influence Metrics by Quota Group: Multifamily

Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Multifamily Overall (n = 94)	89%	91%	89%
Appliances (n = 9)	89%	88%	89%
Direct Install (n = 10)	100%	100%	90%
Hot Water (n = 2)	50%	100%	50%
HVAC (n = 30)	86%	92%	89%
Insulation and Windows (n = 34)	91%	85%	94%
Lighting (n = 8)	88%	100%	86%
Other Measures (n = 1)	100%	100%	100%

Time Trend in Key Satisfaction Indicators: Multifamily



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Looking at Multifamily participants as a group, they showed high levels of satisfaction with all facets of the experience (Table 79).

Table 79: Satisfaction by Program Element: Multifamily

Program Element	Percent
Program Level Satisfaction by Program Element	
Overall experience with Energy Trust (n = 94)	89%
Interaction with Energy Trust representative (n = 94)	91%
Incentive application process (n = 94)	90%
Information and materials from Energy Trust (n = 94)	91%
Site assessment or walk-through survey (n = 37)	97%
Energy Trust-funded technical services (n = 21)	100%
Turnaround time to receive your incentive (n = 94)	82%
Performance of the measure (n = 94)	94%
The vendor or installation contractor, if applicable (n = 94)	93%
Overall Experience by Program Track	
Custom (n = 0)	n/a
Lighting (n = 8)	88%
Standard (n = 74)	88%
Direct Install (n = 10)	100%
Interaction with Program Representative by Program Track	
Custom (n = 0)	n/a
Lighting (n = 8)	100%
Standard (n = 74)	88%
Direct Install (n = 10)	100%

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Table 80 shows reported influence from multiple factors, broken out by quota group. No single item was consistently more influential than any other across the groups, not did any influence factor have a higher-than-expected influence rating for any quota group.¹⁶

¹⁶ See note to Table 71 for an explanation of the method.

Table 80: Influencers by Quota Groups: Multifamily¹

Quota Group	Energy Trust Incentive		Information and Materials		Energy Trust Program Representative		Site Assessment or Walk-Through Survey		Energy Trust-Funded Technical Services		Vendor or Installation Contractor		Weighted Mean %, All Influence Factors
	n	%	n	%	n	%	n	%	n	%	n	%	
Appliances	9	89%	9	56%	9	75%	5	80%	5	80%	9	71%	74.3%
Direct Install	10	80%	10	40%	10	60%	8	17%	8	33%	10	25%	43.8%
Hot Water	2	0%	2	50%	2	0%	1	0%	1	n/a	2	50%	20.0%
HVAC	30	70%	30	52%	30	62%	11	83%	9	83%	30	52%	62.7%
Insulation and Windows	34	74%	34	43%	34	58%	16	45%	11	75%	34	60%	58.5%
Lighting	8	86%	8	86%	8	50%	4	67%	1	n/a	8	60%	68.1%
Other Measures	1	100%	1	100%	1	100%	1	100%	0	n/a	1	100%	100.0%
Products	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	
Total/Weighted Mean	94	74.4%	94	51.3%	94	59.6%	46	55.3%	35	64.0%	94	55.2%	60.0%

¹Shaded cells indicate influence percentages that are higher than expected, given the mean influence rating for that quota group and influence factor. The method for identifying higher-than-expected percentages is explained in the note to Table 71.

4.2.5 Production Efficiency

Production Efficiency participants ($n = 151$) showed high satisfaction with key program elements and reported moderately high to high overall program influence across quota groups; satisfaction with the overall program experience is consistent with that in previous years, while satisfaction with interactions with program representatives – although high – is slightly below the trend over the last several years (Table 81 and accompanying charts).

Table 81: Key Satisfaction and Influence Metrics by Quota Group: Production Efficiency

Quota Group	Satisfaction Metric		Overall Influence Metric
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
End-Use Quotas (Exclusive Quotas)			
Production Efficiency Overall ($n = 151$)	97%	94%	94%
Agriculture ($n = 7$)	100%	100%	71%
Compressed air ($n = 0$)	n/a	n/a	n/a
HVAC and controls ($n = 5$)	100%	80%	100%
Lighting ($n = 30$)	100%	88%	97%
Other industrial measures ($n = 67$)	96%	97%	97%
Pumps and Motors ($n = 34$)	94%	100%	88%
Refrigeration ($n = 9$)	100%	89%	88%
Cross-Cutting Quotas			
Custom projects ($n = 30$)	100%	100%	100%
Standard projects ($n = 92$)	95%	95%	90%
Agriculture sector ($n = 67$)	95%	97%	88%
Food & beverage sector ($n = 15$)	100%	100%	94%
High tech sector ($n = 6$)	100%	100%	100%
Metals sector ($n = 5$)	100%	100%	100%
Wood & paper sector ($n = 17$)	100%	100%	100%

Time Trend in Key Satisfaction Indicators: Production Efficiency



Looking at Production Efficiency participants as a group, they showed high levels of satisfaction with all facets of the experience (Table 82).

Table 82: Satisfaction by Program Element: Production Efficiency

Program Element	Percent
Program Level Satisfaction by Program Element	
Overall experience with Energy Trust (n = 151)	97%
Interaction with Energy Trust representative (n = 151)	94%
Incentive application process (n = 151)	97%
Information and materials from Energy Trust (n = 151)	90%

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Program Element	Percent
Energy Trust-funded technical services (n = 91)	93%
Turnaround time to receive your incentive (n = 151)	84%
Performance of the measure (n = 151)	96%
The vendor or installation contractor, if applicable (n = 151)	97%
Overall Experience by Program Track	
Custom (n = 30)	100%
Lighting (n = 29)	100%
Standard (n = 6)	100%
Small Industrial (n = 86)	94%
Interaction with Program Representative by Program Track	
Custom (n = 30)	100%
Lighting (n = 29)	88%
Standard (n = 6)	100%
Small Industrial (n = 86)	94%

Table 83 shows reported influence from multiple factors, broken out by quota group. No single item was consistently more influential than any other across the groups. ADM identified two cases in which the Energy Trust incentive had a higher-than-expected influence rating: the 95% influence in the Other Industrial Measures quota group and the 82% influence in the Pumps and Motors quota group.¹⁷

¹⁷ See note to Table 71 for an explanation of the method.

Table 83: Influencers by Quota Group: Production Efficiency¹

Quota Group	Energy Trust Incentive		Information and materials		Energy Trust program representative		Energy Trust-funded technical services		Vendor or installation contractor		Weighted Mean %, All Influence Factors
	n	%	n	%	n	%	n	%	n	%	
Agriculture	7	67%	7	50%	7	40%	3	n/a	7	40%	40.5%
Compressed Air	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	n/a
HVAC and Controls	5	80%	5	60%	5	60%	4	67%	5	80%	64.1%
Lighting	29	89%	29	67%	29	75%	16	75%	29	78%	76.9%
Other Industrial Measures	67	95%	67	74%	67	79%	43	87%	67	84%	80.0%
Pumps and Motors	34	82%	34	76%	34	82%	28	88%	34	82%	77.2%
Refrigeration	9	63%	9	63%	9	63%	8	100%	9	88%	65.5%
Total/Wtd Mean	151	87.4%	151	70.6%	151	75.7%	102	83.1%	151	80.4%	n/a
Custom Projects	30	92%	30	75%	30	90%	27	88%	30	83%	83.3%
Standard Projects	92	85%	92	70%	92	70%	59	87%	92	80%	72.5%
Agriculture Sector	67	83%	67	62%	67	64%	38	79%	67	72%	68.1%
Food & Beverage Sector	15	94%	15	76%	15	84%	12	100%	15	88%	82.2%
High Tech Sector	6	84%	6	59%	6	75%	6	59%	6	59%	63.0%
Metals Sector	5	100%	5	100%	5	100%	3	100%	5	100%	100.0%
Wood & Paper Sector	17	85%	17	87%	17	95%	13	100%	17	93%	90.3%

¹Shaded cells indicate influence percentages that are higher than expected, given the mean influence rating for that quota group and influence factor. The method for identifying higher-than-expected percentages is explained in the note to Table 71.

5 Summary and Conclusions

Both residential and nonresidential participants were generally satisfied with their program experience, particularly, nonresidential ones. In nearly all cases, overall program satisfaction remained consistent or showed a slight upward trend over time. These findings indicate that Energy Trust continues to do a good job administering and managing its programs.

Factors influencing the purchase decisions in the residential sector varied somewhat by measure type. In general, contractors (or, for retail products, salespersons) and efficiency ratings are important influencers across measure types. The importance of contractors is well known from multiple years of evaluation, and it points to the value of maintaining strong and consistent outreach to contractors, including through the trade ally network as well as other means. The consistent importance of efficiency ratings confirms that at least some customers pay attention to those ratings and points to the value of continuing to push for clear efficiency labeling on products. It also indicates that trade allies should market products using those ratings.

In the residential sector, the Energy Trust incentive and Energy Trust information or materials were commonly identified influencers for certain measures. The incentive was often mentioned as an influencer for heat pumps (ducted and ductless), ceiling insulation, furnaces, and solar PV. This could suggest at least two interpretations: 1) these are measures respondents recognize as valuable but still feel that the energy savings alone may not offset the upfront cost; and 2) contractors may be using the incentive as a selling point for these measures.

Energy Trust information or materials were commonly mentioned with regard to heat pumps and fireplaces. This may suggest that customers may not find other information on these measures sufficiently enlightening to inform their decision – or, at least, not as valuable as the Energy Trust information. It also may be possible that contractors use Energy Trust information to market these measures.

Among participants who used a contractor, by far the most consistently identified way participants found that contractor was by word of mouth. Web searches, use of an online referral or rating service (e.g., Yelp or Angie’s List), and contractor advertisements were also frequently identified for most quota groups. The problem with “word of mouth” is that it does not tell us how the respondent’s source originally learned about the contractor. Most likely, it was from one of the other common sources. However, it might be valuable to investigate whether certain sources are more likely than others to generate word of mouth.

The nonresidential results generally show high satisfaction ratings across all facets of program experience for all quota groups. In nearly all cases, satisfaction with the overall program experience and with interactions with program representatives remained consistent or showed a slight upward trend over time.

Respondents across all quota groups reported influence from multiple factors, with no single factor showing consistently greater influence than any other across quota groups within a program.