2024 Fast Feedback Survey
End of Year Report

Prepared for:
Energy Trust of Oregon

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Executive Summary

ADM Associates ("ADM") conducted the Energy Trust of Oregon 2024 Fast Feedback program participant survey from March through December 2024, which included program participants from January through December 2024. This report summarizes the analysis conducted by ADM and the results of the survey. The purpose of the analysis was to summarize Fast Feedback survey findings by program and quota group.

Residential Survey Summary

Results show high to very high overall satisfaction ratings[1] for most measures, but a moderate rating for Gas Fireplaces, and a very low rating for Windows. Moreover, overall satisfaction showed downward trends compared to previous end-of-year results for several measures, specifically: ceiling insulation, other insulation, windows, and gas fireplaces. *Table ES-1* shows mean overall program satisfaction[2] for each of two types of quota groups. "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 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[3] was high (85% or greater) for all quota groups except for smart thermostats, windows, gas fireplaces, and duct sealing measures. Factors influencing the purchase decision varied somewhat by measure type, but contractors and the energy efficiency rating were the most likely to be identified as influential when applicable.

Among participants who used a contractor, by far the most consistently identified way participants found that contractor was by word of mouth, followed by web searches.

[1]The bounds for rating thresholds used are: >95%, very high; >85%, high; >75%, moderate; and<75% low.

[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. See Section 1.1 for more details.

Table ES-1: Summary of Residential Overall Satisfaction and Program Influence

Quota Group	Number of Survey Respondents	Overall Satisfaction	Overall Influence
Exclusive Quota Groups			
Residential - Oregon	1,860	91%	90%
Smart Thermostats	63	88%	65%
Heat Pump Advanced Controls	55	88%	96%
Ceiling Insulation	73	88%	93%
Other Insulation	65	90%	91%
Ducted Heat Pumps	100	93%	94%
Ductless Heat Pumps	83	96%	98%
Central Air Conditioner	58	88%	91%
Windows	76	70%	76%
Gas Fireplaces	63	81%	78%
Gas Furnaces	70	94%	90%
Duct Sealing	48	99%	79%
Residential - Washington	173	94%	93%
Cross-Cutting Quota Groups			
Moderate Income Track	73	97%	89%
Rental Properties	72	88%	94%
Manufactured Home Promotions	64	99%	96%
Instant Incentives	372	95%	94%
No Cost Offers	35	89%	95%

Nonresidential Survey Summary

Results show high satisfaction ratings across all facets of program experience for all quota groups. Two groups (Agriculture and Grow lighting) had somewhat lower mean ratings than others. However, the group counts were too low to draw conclusions about such differences: none of the differences were statistically significant[4]. Results were generally similar to 2023, with some exceptions. For Existing Buildings, satisfaction with overall program experience increased from 2023 substantially for Healthcare and somewhat for Assembly/Religious, Office, Education, and Multifamily groups; it decreased moderately for the Restaurant group. For Production Efficiency, overall satisfaction increased slightly for Lighting and decreased significantly for Agriculture and Pumps and Motors.

The overall program influence was high to very high for all quota groups, except for commercial solar and agriculture which displayed moderate influence levels. The small sample sizes argue for using caution in comparing influence levels across the individual quota group level for the Production Efficiency program.

Table ES-2 and Table ES-3 show mean overall program influence and satisfaction for each program and quota group. Commercial solar and Existing Buildings Washington are exclusive quota groups with only one respondent appearing in each group. Again, each respondent appears in only one "exclusive" quota group but may appear in multiple cross-cutting quota groups.

[4] Attempts to reach sufficient response rates for individual quota groups and statistical significance are made on an annual basis.

Table ES-2: Summary of Nonresidential Overall Program Influence and Satisfaction: Commercial Solar & Existing Buildings

Quota Group	Number of Survey Respondents	Satisfaction		
		Overall Program Experience	Program Representative	Overall Influence
Exclusive Quota Groups				
Oregon Incentives	531	97%	99%	94%
Assembly/Religious	77	99%	99%	95%
Education	31	98%	98%	98%
Healthcare	33	100%	100%	98%
Multifamily	133	96%	99%	92%
Office	57	99%	99%	97%
Other Commercial	74	99%	97%	92%
Restaurant	40	91%	100%	98%
Retail	74	96%	99%	97%
Warehouse	12	96%	100%	100%
Commercial Solar	40	97%	98%	80%
Washington	3	100%	100%	100%
Cross-Cutting Quota Groups				
Direct Install (DI)	294	96%	98%	96%
Lighting (Non-DI)	26	100%	100%	96%
Small MF	105	97%	99%	91%
No Cost Offers	0	n/a	n/a	n/a

Table ES-3: Summary of Nonresidential Overall Program Influence and Satisfaction: Production Efficiency

Quota Group	Number of Survey Respondents	Overall Program Experience	Program Representative	Overall Influence
Exclusive Quota Groups				
Production Efficiency	170	90%	93%	91%
Agriculture	41	77%	79%	81%
Compressed air	3	100%	100%	100%
HVAC and controls	12	95%	94%	92%
Lighting	49	96%	99%	95%
Other industrial measures	44	95%	99%	96%
Pumps and motors	18	94%	94%	89%
Grow lighting	3	81%	81%	100%
Cross-Cutting Quota Groups				
Custom projects	25	100%	100%	91%
Standard projects	93	86%	90%	90%
Agriculture sector	76	81%	84%	86%
Food & beverage sector	16	97%	100%	100%
High tech sector	7	100%	100%	100%
Metals sector	4	100%	100%	100%
Wood & paper sector	13	100%	100%	100%

For the Existing Buildings program, services provided at no/low cost appeared to have the highest influence, followed by site assessment or walk-through survey . For the Production Efficiency program, Energy Trust-funded technical services, closely followed by Energy Trust incentive had the greatest influence. 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.

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 representative samples of customers who participated in Energy Trust residential and nonresidential programs in the prior month.

ADM Associates ("ADM") has conducted the 2024 Energy Trust Energy Trust Fast Feedback program participant satisfaction survey, covering customers who participated in Energy Trust programs from January through December 2024. Energy Trust set a goal of 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. Since 2023, Residential Solar information has been collected by a different survey instrument called Guild Quality that is administered by the Renewables program and hence it is not included in the Fast Feedback survey.

The second type of residential quota group is based on characteristics that may or may not apply to a project that are independent of the type of measure or location of the participant. We refer to these as "cross-cutting" quota groups. Thus, for example, someone may have received incentives for a variety of measures through the program's "Moderate Income" track or the "Manufactured Home Promotions" track.

For Existing Buildings, the exclusive quota groups are based primarily on building end-use or business type but also include quota for participants with commercial solar projects. The four Existing Buildings cross-cutting quota groups are related to measure implementation, a combination of measure type (lighting) and implementation or building type. For Production Efficiency, the exclusive quota groups are based primarily on application end-use or measure type. The seven Production Efficiency cross-cutting quotas are related to project track or market sub-sector.

Table 1 shows the quota groups and indicates which cross-cutting quota groups apply to which exclusive quota groups. This shows three cross-cutting groups that were included in the previous program year plus two new ones – Instant Incentives and No Cost Offers – added in 2024. The nonresidential survey also has separate sets of quota groups for each of the two programs (Existing Buildings and Production Efficiency). Existing Buildings and Production Efficiency have both exclusive quota groups and cross-cutting quota groups.

Table 1: Residential Survey Quota Groups

Exclusive Quota Groups	Cross-Cutting Quota Groups				
	Moderate Income Track	Rental Properties	Manufact-ured Home Promotions	Instant Incentives	No Cost Offers
Smart Thermostats	✓			✓	
Heat Pump Advanced Controls	✓			✓	
Ceiling Insulation	✓	✓		✓	
Other Insulation	✓	✓		✓	
Ducted Heat Pumps	✓	✓	✓	✓	✓
Ductless Heat Pumps	✓	✓	✓	✓	✓
Central Air Conditioner				✓	
Windows				✓	
Gas Fireplaces				✓	
Gas Furnaces	✓	✓		✓	
Duct Sealing					
Residential Washington		✓			

Table 2 shows the nonresidential survey quota groups.

Table 2: Nonresidential Survey Quota Groups

Existing Buildings Program	Production Efficiency Program
Exclusive Quota Groups	
Assembly/Religious Commercial Solar Education Healthcare Multifamily Office Other Commercial Restaurant Retail Warehouse	Agriculture Compressed Air HVAC and Controls Lighting Other Industrial Measures Pumps and Motors
Cross-Cutting Quota Groups	
Direct Install (DI) Lighting (Non-DI) Small and Medium Business Small Multifamily	Custom Projects Standard Projects Agriculture Sector Food & Beverage Sector High Tech Sector Metals Sector Wood & Paper Sector

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 2 provides a brief explanation of 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 3, 4, and 5 present the Fast Feedback summary findings for residential and nonresidential sectors. Each provides a summary of survey results, a description of respondent demographics or (for nonresidential respondents) both firmographics and demographics, a discussion of quota groups that showed significant changes in satisfaction over the past several years, and a discussion of groups that showed particularly high or low satisfaction this year. Section 6 presents our summary of results and conclusions.

The focus on changes and particularly high or low satisfaction in sections Three through Five marks a change from previous reports, which provided detailed survey findings broken out by quota group, followed by a summary and conclusions section. The detailed results are still provided in an appendix following the summary and conclusions.

2 Methods and Survey Response

This section describes the survey modes and experimental conditions, the availability of contact information, 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 each unique participant, where "unique participant" is any participant 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. The tool used a combination of name, phone number, and email to identify a unique participant, as any given field may have different information in two or more records, but the totality of information given indicates a common participant – e.g., two records may give different names but the same mobile phone number or email address. On the other hand, two individuals may have the same name or even the same email address.[5] The tool created a new ID number for each unique participant and applied that ID number to all instances of that participant.

If a given unique participant had multiple records, the tool selected one record for inclusion in the sample frame using a weighted random number. The weight was based on each quota group's frequency relative to the target number of completions needed for that group; those that appeared with the least relative frequency had the highest weights. Adding the random element prevented a less-frequent quota group from always having a higher weight – and, therefore, always being selected – than one with greater frequency.

Once a record was selected for each unique, eligible participant, the tool used a separate random number to order all records selected into the sample frame. Finally, the tool selected records until there were at least five records for each quota group (including cross-cutting quota groups) for each targeted completion, or a census of records in cases with fewer than five records.

[5] 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.

2.2 Survey Fielding

ADM administered the residential survey via email, 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.

ADM administered the nonresidential survey somewhat differently from the residential survey. In previous years, the nonresidential survey had been administered as a phone-only survey. However, when contacted for the survey, some nonresidential participants asked to be sent a link to the survey to complete it online. In the end, relatively few participants completed the survey online, but to accommodate those who preferred taking the survey online, we changed the survey to include email recruitment with online completion. Unlike the residential survey, however, we launched email recruitment only a few days before starting the phone survey. The recruitment email indicated that we would follow up by phone within the next few days. We tracked online completions and updated the call lists regularly to minimize phone contacts to those who completed the survey online.

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 and nonresidential sectors, participants were somewhat more likely to have phone than email information. But in the nonresidential sector there was less difference in the availability of phone versus email 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* = 14,531)	Nonresidential Sector (*n* = 3,527)
Phone	99%	97%
Email	77%	95%
Both	76%	92%
Either	100%	100%

2.4 Number of Respondents

Table 4 shows the total number of residential survey responses by quota group. ADM has completed the residential survey with 927 respondents so far in 2024. Residential responses met or exceeded 12-month quotas for 10 of the 12 exclusive quota groups and came within one completion of meeting the other two. Responses met four of the five cross-cutting goals, falling short of No Cost Offers. ADM made multiple contact attempts with all available participants in these quota groups.

Table 4. Number of Residential Responses by Mode and Quota Group

Measure Group	Web	Phone	Total	12-Month Quota
Oregon Incentives (Exclusive Quotas)				
Subtotal: Oregon Incentives	558	196	754	680
Smart Thermostats	55	8	63	64
Heat Pump Advanced Controls	33	22	55	56
Ceiling Insulation	61	12	73	68
Other Insulation	55	10	65	64
Ducted Heat Pumps	63	37	100	68
Ductless Heat Pumps	49	34	83	64
Central Air Conditioner	43	15	58	56
Windows	71	5	76	68
Gas Fireplaces	56	7	63	60
Gas Furnaces	38	32	70	64
Duct Sealing	34	14	48	48
Residential WA (Exclusive Quota)				
Residential-Washington	147	26	173	168
Cross-Cutting Quotas[1]				
Moderate Income Track[1]	46	27	73	64
Rental Properties	33	39	72	64
Manufactured Home Promotions	37	27	64	64
Instant Incentives	226	146	372	68
No Cost Offers	22	13	35	44
Residential Total				
Program Total[2]	705	222	**927**	**956**

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

[2] The Program Total includes both Oregon and Washington.

The overall residential survey response rate was 20%. The response rate for those contacted by email with phone follow up was 20%, and the response rate for those contacted only by phone was 19%. The overall email-phone response rates were significantly less than the 2023 end-of-year percentages (30% vs 20%), while the phone-only rate was somewhat lower compared to 2023 (24% vs 20%). Most surveys were completed online (86%) rather than by phone (14%). The comparable split in 2023 was 70% online and 30% by phone.

despite ADM making multiple contact attempts to all available participants in these quota groups.

Table 5 shows the number of nonresidential survey responses by quota group. As in previous years, low participation have made the nonresidential survey a challenge, particularly for the Production Efficiency groups. The survey achieved 6 of 10 quota group targets for Existing Buildings (including Commercial Solar) and 5 of 7 quota group targets for Production Efficiency. Overall, Existing Buildings did not meet the total

12-month quota (574 vs 633) and Production Efficiency achieved just over half of the 12-month quota (170 vs 307), despite ADM making multiple contact attempts to all available participants in these quota groups.

Table 5. Number of Nonresidential Responses by Quota Group

Measure Group	Web	Phone	Total	12-Month Quota
Existing Buildings[1]				
Oregon Incentives (Exclusive Quotas)				
Assembly/Religious	45	32	77	42
Education	20	11	31	48
Healthcare	19	14	33	32
Multifamily	67	66	133	64
Office	38	19	57	49
Other Commercial	29	45	74	52
Restaurant	14	26	40	41
Retail	40	34	74	51
Warehouse	3	9	12	36
Oregon Incentives	275	256	531	0
Commercial Solar (Exclusive Quota)				
Commercial Solar	20	20	40	50
Washington	1	2	3	0
Cross-Cutting Quotas				
Direct Install (DI)	163	131	294	60
Lighting (Non-DI)	12	14	26	56
Small MF	47	58	105	61
No Cost Offers	0	0	0	17
Total: Existing Buildings	**296**	**278**	**574**	**633**
Production Efficiency				
Agriculture	10	31	41	39
Compressed Air	1	2	3	12
HVAC and Controls	4	8	12	17
Lighting	17	32	49	40
Other Industrial Measures	9	35	44	36
Pumps and Motors	9	9	18	16
Grow Lighting	2	1	3	33

Measure Group	Web	Phone	Total	12-Month Quota
Cross-Cutting Quotas				
Custom Projects	7	18	25	40
Standard Projects	26	67	93	44
Agriculture Sector	22	54	76	51
Food & Beverage Sector	5	11	16	26
High Tech Sector	4	3	7	18
Metals Sector	1	3	4	7
Wood & Paper Sector	3	10	13	20
Total: Production Efficiency	**50**	**120**	**170**	307

[1.] Existing Buildings-Washington had no responses and thus was excluded.

ADM achieved an overall nonresidential survey response rate of 34% (the same as 2023 but somewhat less than the rates of 41% in 2022 and 55% in 2021). Overall response rates for the Production Efficiency (38%) group was somewhat higher than Existing buildings (33%) group (Table 6).

Table 6: Nonresidential Response Rates

Non Residential Response rates	Existing Buildings	Production Efficiency	Total
Overall	33%	38%	34%
Email with phone follow-up	36%	44%	37%
Phone only	25%	26%	25%

2.5 Language of Survey and Language Barriers

All surveys were offered in English and Spanish. Of all completed surveys, only seven residential (all of whom being heat pump customers) and two nonresidential respondents did their surveys in Spanish. We encountered no reports of language barriers preventing survey participation in either sector.

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 analysis performed across quota groups, we applied quota group weights 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 to control for any possible survey mode effects due to differences in the likelihood of participation between a phone or web survey, because 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)

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

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

In the nonresidential sector, we calculated Quota Group weights separately for Existing Buildings-Oregon, Commercial Solar, and Production Efficiency. Again, as both Commercial Solar and Existing Buildings: Washington are each considered to be one quota group respectively, their Quota Group weight by definition is 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 email 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)

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

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)

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

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).

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. We excluded "don't know" and "refused" responses from the calculation of all satisfaction and influence percentages.

3.1 Residential Summary

Results for most measures show moderately high to high overall program satisfaction and program influence (Table 7).[6,7] Notable outliers were very low overall satisfaction for windows and overall program influence for smart thermostats.

Table 7: Residential Program Overall Satisfaction and Influence, by Quota Group

Quota Group	Satisfaction with Overall Experience		Overall Program Influence	
	n	%	*n*	%
Oregon Incentives (Exclusive Quotas)				
Residential-Oregon	844	90%	896	89%
Smart Thermostats	62	88%	62	65%
Heat Pump Advanced Controls	48	88%	53	96%
Ceiling Insulation	72	88%	72	93%
Other Insulation	60	90%	64	91%
Ducted Heat Pumps	90	93%	98	94%
Ductless Heat Pumps	80	96%	73	98%
Central Air Conditioner	45	88%	54	91%
Windows	68	70%	75	76%
Gas Fireplaces	61	81%	63	78%
Gas Furnaces	57	94%	68	90%
Duct Sealing	45	99%	45	79%

Continued

[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. 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.

Quota Group	Satisfaction with Overall Experience		Overall Program Influence	
	n	%	*n*	%
Residential Oregon & Residential Washington (Exclusive Quotas)				
Residential-Washington	156	94%	169	93%
Cross-Cutting Quotas				
Moderate Income Track	62	97%	72	89%
Rental Properties	66	88%	67	94%
Manufactured Home Promotions	58	99%	59	96%
Instant Incentives	319	95%	346	94%
No Cost Offers	33	89%	33	95%

3.2 Residential Demographics

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

Residential respondents were largely the occupants of the property where the participation occurred, most (98%) of whom were the owners.[8] The majority of those who were not occupants were the landlord (Table 8). Given this respondent distribution it is important to note that the quantity of responses from renters is too small to accurately represent renters' perspectives.

Table 8: Occupancy of Home Where Participation Occurred, Residential Respondents

Response	Residential Oregon	Residential Washington	Oregon (US Census)	2022 Customer Awareness and Participation Study[1]
Occupancy[2]				
	(n = 753)	(n = 173)	n/a[2]	(n = 1,641)
Occupant	77%	100%	n/a	100%
Not occupant	23%	<1%		0%
Ownership (Occupants)				
	(n = 653)	(n = 172)	n/a[3]	(n = 1,635)
Own	98%	100%	64%	67%
Rent, other	1%	<1%	36%	31%

Continued

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

Response	Residential Oregon	Residential Washington	Oregon (US Census)	2022 Customer Awareness and Participation Study[1]
Relationship to Premise (Non-Occupants)				
	(n = 98)	(n = 1)	n/a[2]	n/a[2]
Landlord	79%	0%	n/a	n/a
Property manager	4%	0%		
Other[4]	17%	100%		

[1] https://www.energytrust.org/wp-content/uploads/2023/04/Energy-Trust-of-Oregon_CAP-Study-Report-2022_Final-wSR.pdf.

[2] No comparable data are available. The Census data on occupancy status of dwellings are not an appropriate comparison for survey occupancy status. The former is based on whether or not a dwelling is occupied. The latter is based on whether respondents occupy or do not occupy a specific dwelling that was treated through Energy Trust programs. The "not occupant" percentage is *not* the percentage of dwellings that are not occupied but the percentage of survey respondents that do not occupy the treated dwelling. The latter includes owners who rent to someone else, and so it includes occupied dwellings.

[3] Ownership percentages are based on US Census Table DP04, 2023 5-year (most recent) estimates.

[4] One respondent reported the respondent's mother was the owner; the other reported having sold the house.

The distribution of self-identified race and ethnicity was similar across Oregon and Washington and the various quota groups, with majority (≥84%) of respondents reporting White race (Table 9 through Table 13). There was an even distribution of reported income levels. The most commonly reported age bracket was 65 and older and the most commonly reported size of household was three individuals.

Table 9: Demographics of Residential Respondents[1]

Demographic Characteristic	Residential Oregon	Residential Washington	Total Residential (weighted)	Oregon (US Census)[2]
Race/Ethnicity[3]				
	(n = 688)	(n = 162)	(n = 850)	n/a
Asian only	2%	6%	2%	4%
Black only	1%	<1%	1%	2%
Hispanic/Latino, any race	7%	2%	6%	14%
Native American only	1%	<1%	1%	1%
Other only	3%	<1%	3%	<1%
Two or more	4%	8%	4%	6%
Persons of color – total[4]	17%	16%	17%	28%
White only	83%	84%	83%	72%

Continued

Demographic Characteristic	Residential Oregon	Residential Washington	Total Residential (weighted)	Oregon (US Census)[2]
Income				
	(n = 484)	(n = 114)	(n = 598)	n/a
Under $30k	10%	4%	10%	17%
$30k to under $50k	22%	6%	21%	14%
$50k to under $70k	18%	16%	18%	13%
$70k to under $100k	17%	18%	17%	17%
$100k to under $200k	25%	32%	26%	29%
$200k+	8%	25%	9%	12%
Age (Years)				
	(n = 718)	(n = 162)	(n = 880)	n/a
Less than 18	0%	0%	0%	19%
18 to 24	0%	0%	0%	
25 to 34	7%	4%	7%	
35 to 44	12%	13%	12%	18%
45 to 54	14%	15%	14%	17%
55 to 64	21%	18%	21%	18%
65 or older	45%	50%	45%	28%
Household Size (Number of People in Household)				
	(n = 719)	(n = 168)	(n = 887)	n/a
One	3%	2%	3%	28%
Two	22%	17%	22%	37%
Three	38%	53%	39%	15%
Four	21%	13%	21%	12%
Five	11%	10%	11%	5%
Six or more	5%	5%	5%	3%

[1]Denominators for percentages exclude nonrespondents.

[2]We used the 2023 American Community Survey tables DP05 (race/ethnicity), S1901 (Income), S2502 (Age), and B25009 (Household Size). For Census brackets that overlap the Fast Feedback brackets, we allocated the percentages within those brackets proportionally to the Fast Feedback brackets.

[3] Native American includes Alaska Native; Asian includes Asian Indian, Hawaiian, and Other Pacific Islanders.

[4] Includes persons providing two or more racial/ethnic identifications.

Table 10: Race or Ethnicity by Residential Quota Group

Quota Group	Asian or Asian Indian Only	Black or African American Only	Hispanic, Latino, or Spanish Only	Native American or Alaska Native Only	Other Only	Two or more	White or European Only	Persons of Color-Total[1]
Oregon Incentives (Exclusive Quotas)								
Overall (n = 850)	2%	1%	7%	1%	3%	5%	90%	10%
Smart Thermostats (n = 60)	5%	0%	0%	0%	5%	9%	80%	20%
Heat Pump Advanced Controls (n = 48)	0%	0%	6%	4%	2%	1%	86%	14%
Ceiling Insulation (n = 67)	3%	0%	10%	0%	5%	6%	75%	25%
Other Insulation (n = 59)	6%	0%	4%	0%	4%	8%	78%	22%
Ducted Heat Pumps (n = 88)	1%	2%	13%	2%	1%	2%	80%	20%
Ductless Heat Pumps (n = 73)	0%	2%	7%	0%	1%	1%	88%	12%
Central Air Conditioner (n = 53)	2%	0%	2%	0%	7%	2%	86%	14%
Windows (n = 74)	8%	0%	1%	1%	3%	3%	83%	17%
Gas Fireplaces (n = 61)	5%	2%	1%	0%	0%	2%	89%	11%
Gas Furnaces (n = 61)	0%	0%	4%	1%	4%	5%	87%	13%
Duct Sealing (n = 44)	0%	0%	9%	0%	3%	3%	86%	14%
Residential WA (Exclusive Quota)								
Residential-Washington (n = 162)	6%	<1%	2%	<1%	<1%	8%	84%	16%
Cross-Cutting Quotas								
Moderate Income Track (n = 69)	0%	1%	4%	1%	4%	7%	83%	17%
Rental Properties (n = 59)	1%	0%	3%	1%	2%	1%	92%	8%
Manufactured Home Promotions (n = 56)	0%	1%	6%	1%	0%	1%	90%	10%
Instant Incentives (n = 324)	2%	1%	7%	1%	2%	3%	85%	15%
No Cost Offers (n = 33)	0%	4%	34%	1%	0%	0%	60%	40%
Oregon Population								
US Census	4%	2%	14%	1%	<1%	6%	72%	28%

[1] Includes persons providing two or more racial/ethnic identifications.

Table 11: 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)						
Overall (n = 598)	10%	22%	19%	18%	27%	10%
Smart Thermostats (n = 45)	4%	4%	4%	35%	25%	30%
Heat Pump Advanced Controls (n = 24)	14%	11%	34%	19%	22%	0%
Ceiling Insulation (n = 50)	2%	23%	18%	15%	33%	10%
Other Insulation (n = 44)	12%	10%	0%	34%	30%	14%
Ducted Heat Pumps (n = 60)	17%	24%	21%	22%	10%	6%
Ductless Heat Pumps (n = 43)	24%	36%	9%	7%	21%	3%
Central Air Conditioner (n = 32)	3%	6%	9%	20%	43%	19%
Windows (n = 60)	0%	13%	20%	15%	32%	20%
Gas Fireplaces (n = 48)	10%	10%	10%	24%	27%	19%
Gas Furnaces (n = 42)	8%	26%	26%	11%	28%	1%
Duct Sealing (n = 36)	44%	34%	7%	12%	3%	0%
Residential WA (Exclusive Quota)						
Residential-Washington (n = 114)	4%	6%	16%	18%	32%	25%
Cross-Cutting Quotas						
Moderate Income Track (n = 49)	14%	25%	30%	17%	14%	0%
Rental Properties (n = 29)	2%	18%	2%	21%	52%	5%
Manufactured Home Promotions (n = 34)	21%	45%	13%	15%	6%	0%
Instant Incentives (n = 206)	9%	20%	16%	17%	26%	11%
No Cost Offers (n = 21)	52%	44%	4%	0%	0%	0%
US Census						
US Census	17%	14%	13%	17%	29%	12%

Table 12: Age (Years) by Residential Quota Group

Quota Group	Less than 18	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	At Least 65
Oregon Incentives (Exclusive Quotas)							
Overall (n = 880)	0%	0%	8%	14%	16%	24%	50%
Smart Thermostats (n = 61)	0%	0%	15%	21%	28%	15%	21%
Heat Pump Advanced Controls (n = 53)	0%	0%	2%	9%	10%	22%	57%
Ceiling Insulation (n = 70)	0%	0%	12%	10%	15%	17%	45%
Other Insulation (n = 64)	0%	0%	7%	11%	26%	26%	30%
Ducted Heat Pumps (n = 96)	0%	0%	8%	12%	23%	20%	38%
Ductless Heat Pumps (n = 78)	0%	0%	5%	4%	15%	22%	54%
Central Air Conditioner (n = 50)	0%	0%	1%	12%	18%	18%	50%
Windows (n = 73)	0%	0%	2%	22%	18%	23%	34%
Gas Fireplaces (n = 60)	0%	0%	0%	14%	6%	32%	48%
Gas Furnaces (n = 66)	0%	0%	7%	15%	5%	22%	50%
Duct Sealing (n = 47)	0%	0%	0%	4%	11%	23%	63%
Residential WA (Exclusive Quota)							
Residential-Washington (n = 162)	0%	0%	4%	13%	15%	18%	50%
Cross-Cutting Quotas							
Moderate Income Track (n = 71)	0%	0%	8%	14%	9%	14%	54%
Rental Properties (n = 68)	0%	0%	3%	6%	15%	33%	42%
Manufactured Home Promotions (n = 63)	0%	0%	3%	3%	24%	25%	46%
Instant Incentives (n = 351)	0%	0%	6%	9%	18%	24%	42%
No Cost Offers (n = 34)	0%	0%	1%	23%	13%	13%	50%
Oregon Population							
US Census	19%			18%	17%	18%	28%

Table 13: Household Size (Number of Members) by Residential Quota Group

Quota Group	One	Two	Three	Four	Five	At Least Six
Overall (n = 905)	3%	23%	41%	22%	12%	5%
Smart Thermostats (n = 63)	2%	11%	52%	12%	15%	6%
Heat Pump Advanced Controls (n = 52)	6%	10%	51%	23%	8%	1%
Ceiling Insulation (n = 71)	1%	12%	53%	17%	6%	7%
Other Insulation (n = 65)	2%	18%	37%	16%	24%	1%
Ducted Heat Pumps (n = 97)	0%	30%	33%	18%	10%	2%
Ductless Heat Pumps (n = 78)	2%	36%	42%	6%	8%	2%
Central Air Conditioner (n = 58)	0%	12%	41%	17%	17%	8%
Windows (n = 75)	3%	27%	31%	24%	9%	5%
Gas Fireplaces (n = 62)	8%	18%	49%	19%	5%	1%
Gas Furnaces (n = 67)	5%	17%	26%	30%	13%	7%
Duct Sealing (n = 48)	0%	30%	49%	12%	2%	7%
Residential WA (Exclusive Quota)						
Residential-Washington (n = 169)	2%	17%	53%	13%	10%	5%
Cross-Cutting Quotas						
Moderate Income Track (n = 70)	0%	20%	39%	23%	6%	8%
Rental Properties (n = 67)	8%	16%	28%	19%	21%	4%
Manufactured Home Promotions (n = 63)	0%	42%	33%	16%	6%	2%
Instant Incentives (n = 359)	2%	23%	41%	17%	12%	2%
No Cost Offers (n = 35)	0%	23%	40%	13%	7%	0%
Oregon Population						
US Census	28%	37%	15%	12%	5%	3%

3.3 Residential Groups Experiencing Significant Changes

We examined whether any measure quota groups saw substantive changes in overall program satisfaction over the past five years. Specifically, the 2024 end-of-year satisfaction levels were compared to the end-of-year levels for 2020 through 2023. We determined that a substantive increase in satisfaction occurred if either of the following conditions were true:

1. The 2024 value represents an increase of 5 percentage points from 2023.
2. The 2024 value represents an increase of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or increases in satisfaction since 2021.

Similarly, we determined that a substantive decrease in satisfaction occurred if either of the following conditions were true:

1. The 2024 value represents a decrease of 5 percentage points from 2023.
2. The 2024 value represents a decrease of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or decreases in satisfaction since 2021.

By the above criteria, no Residential groups showed a substantive increase in satisfaction. Four groups showed substantive decreases in satisfaction levels (Table 14). The largest decrease was in the Windows measure group, which went down 21% in 2024, followed by Smart Thermostats (down 8%), Gas Fireplaces (down 6%), and Ceiling Insulation (down 5%). The lowest satisfaction levels observed were in the Windows (70%), followed by Gas fireplaces (81%) groups.

Table 14: Residential Group Showing Decrease in Overall Satisfaction

Measure Group	2020	2021	2022	2023	2024
Smart Thermostats	94%	88%	95%	96%	88%
Ceiling Insulation	94%	90%	94%	93%	88%
Windows	94%	89%	93%	91%	70%
Gas Fireplaces	96%	87%	93%	87%	81%

Figure 1: Residential Group Showing Decrease in Overall Satisfaction: Smart Thermostats

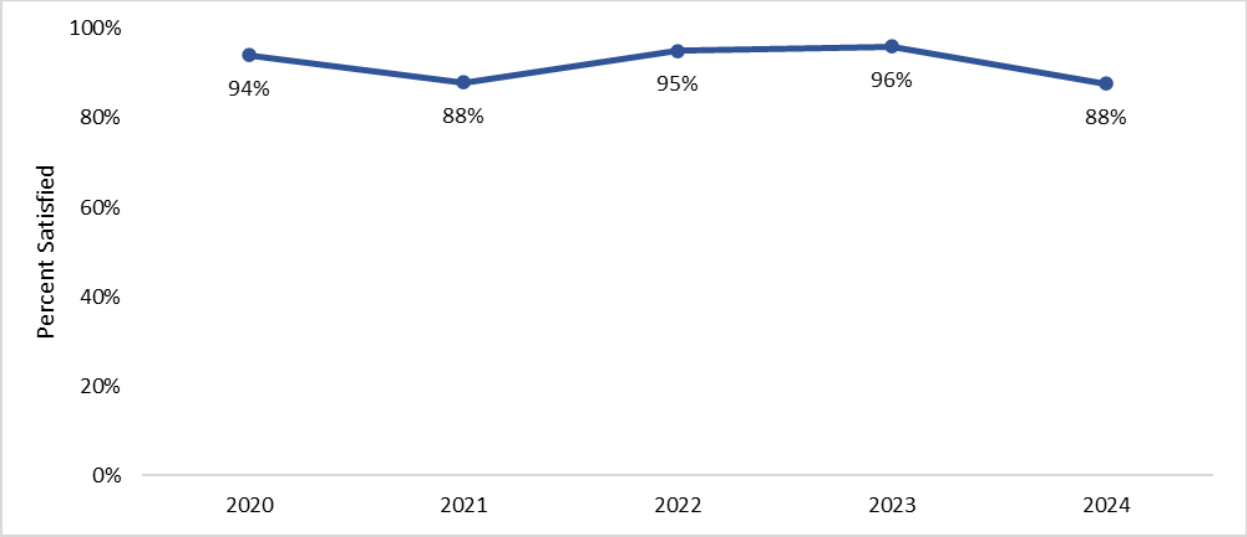


Figure 2: Residential Group Showing Decrease in Overall Satisfaction: Ceiling Insultation

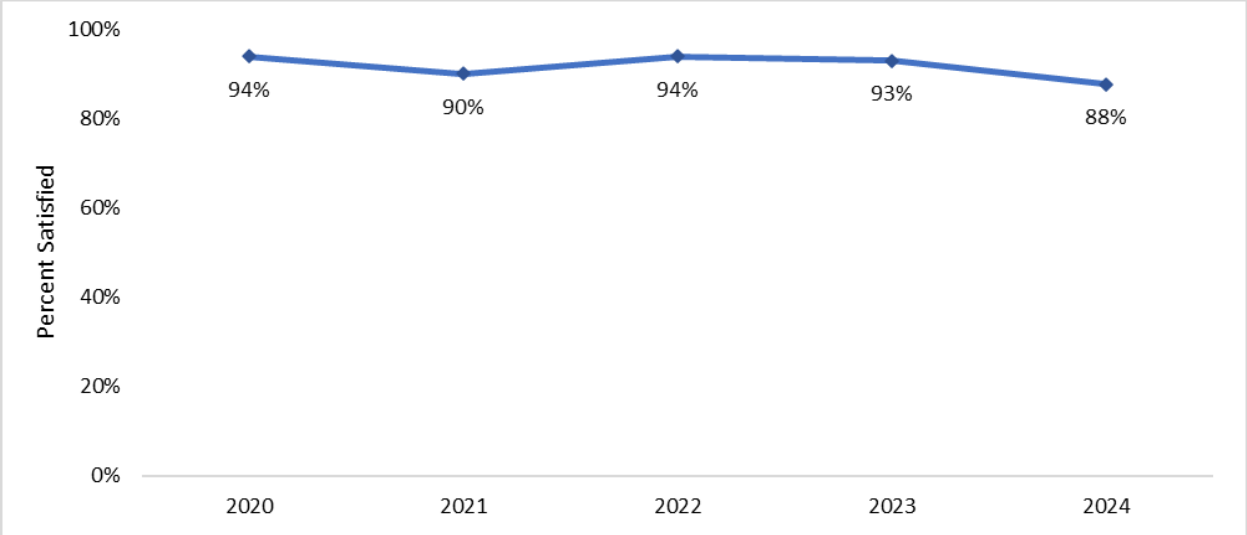


Figure 3: Residential Group Showing Decrease in Overall Satisfaction: Windows

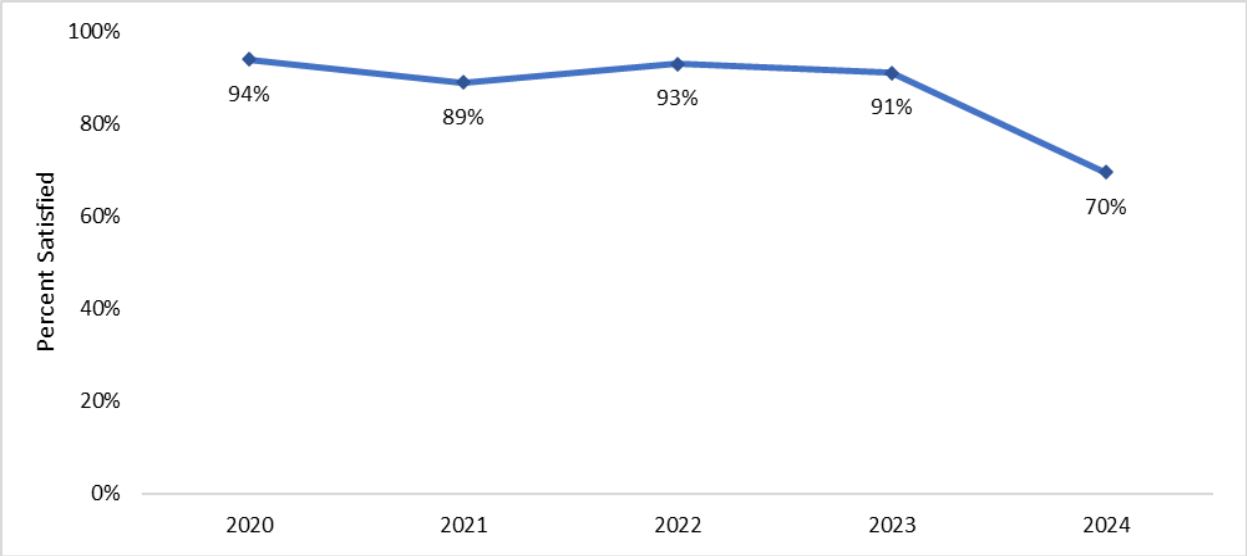
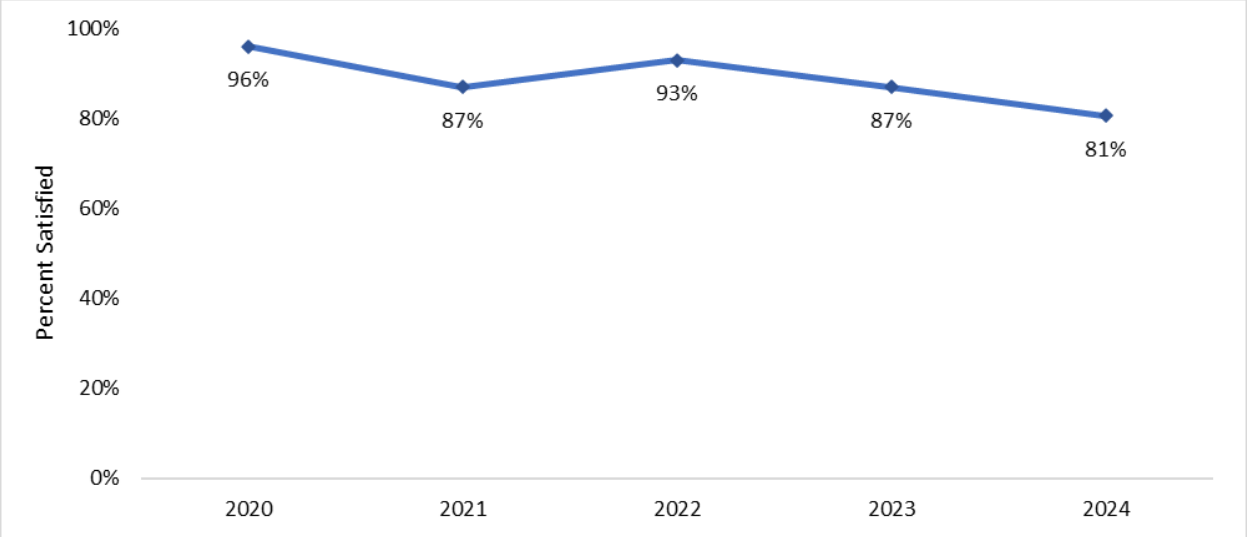


Figure 4: Residential Group Showing Decrease in Overall Satisfaction: Gas Fireplaces



3.4 Residential Groups with Especially High and Low Satisfaction Levels

We examined whether overall program satisfaction was unusually high or low for any exclusive or cross-cutting quota groups. Specifically, we identified groups for which overall satisfaction fell into one of the following three categories, based on the percentage of respondents that reported satisfaction:

1. Very high satisfaction: 97% or greater.
2. Low satisfaction: at least 85% but less than 90%.
3. Very low satisfaction: less than 85%.

As Table 15 shows, one exclusive quota group (Duct Sealing) and two cross-cutting groups (Moderate Income Track, and Manufactured Home Promotions) showed very high satisfaction levels. By contrast, four exclusive quota groups (Smart Thermostats, HPACs, Ceiling Insulation, and Central Air Conditioner) had low satisfaction levels and two (Windows, and Gas Fireplaces) had very low satisfaction levels.

Table 15: Residential Groups with Especially High and Low Satisfaction Levels

Quota Group	Quota Type	n	%
Very High Satisfaction			
Duct Sealing	Exclusive	45	99%
Moderate Income Track	Cross-cutting	62	97%
Manufactured Home Promotions	Cross-cutting	58	99%
Low Satisfaction			
Smart Thermostats	Exclusive	62	88%
Heat Pump Advanced Controls	Exclusive	48	88%
Ceiling Insulation	Exclusive	72	88%
Other Insulation	Exclusive	60	90%
Central Air Conditioner	Exclusive	45	88%
Very Low Satisfaction			
Windows	Exclusive	68	70%
Gas Fireplaces	Exclusive	61	81%

4 Nonresidential Survey Results: Commercial

The following subsections provide information on the firmographics, demographics, and program experience of nonresidential survey participants in the commercial sector (i.e., the Existing Buildings Program, including Commercial Solar). We excluded "don't know" and "refused" responses from the calculation of all satisfaction and influence percentages.

4.1 Commercial Summary

For Oregon Incentives, Existing Buildings Washington, and Commercial Solar, satisfaction levels were very high for overall program experience and interaction with program representative (Table 16).

Table 16: Nonresidential Results Summary: Commercial

Existing Buildings	Satisfaction		Overall Influence
	Overall Program Experience	Interaction with Program Representative	
Oregon Incentives (n = 252)	99%	99%	95%
Commercial Solar (n = 22)	95%	100%	90%
Existing Buildings-Washington (n = 1)	100%	100%	100%

4.2 Commercial Firmographics and Demographics

In reporting firmographic and demographic responses, we excluded "no response" from the denominator of percentages. The tables show the percentages and counts of all respondents that answered the various questions and the percentage that each answer makes up of all answers given. Results are shown for four subgroups:

- Commercial-Oregon: All Oregon respondents other than those with Solar PV or Multifamily projects.
- Multifamily: All Oregon respondents with Multifamily projects.
- Commercial Solar: All respondents with Solar PV projects.
- Commercial-Washington: All Washington respondents not classified as above.

Commercial-Oregon and Commercial Solar respondents most commonly reported that their firm or organization owned the property or properties that participated in the respective program – this was particularly the case for the Commercial Solar participants. However, this was not the case with Commercial-Washington[9] respondents, with 59% reporting their participating firm or organization as leasing (Table 17).

[9]As there were only two respondents for Existing Buildings – Washington for this item, valid representative significance could not be determined.

Table 17: Participating Firm or Organization's Ownership of Participating Property or Properties[1]

Ownership	Commercial-Oregon	Commercial Solar	Commercial-Washington
Responding %	99%	100%	100%
Responding n	(n = 392)	(n = 40)	(n = 2)
Own	59%	95%	41%
Lease	39%	3%	59%
Other	2%	1%	0%

[1]Not asked of Multifamily respondents.

Of Commercial-Oregon and Commercial Solar participants that reported leasing the participating property, about half said their firm or organization had authority to make any type of upgrade decision (Table 18). The single Commercial-Washington participant said their firm or organization had authority to make any type of upgrade decision. About one in eight Commercial-Oregon participants reported they did not have the authority to make upgrades at all.

Table 18: Participating Firm or Organization's Authority for Upgrade Decisions (Participants Who Reported Leasing Building Only)[1]

Level of Authority for Upgrades	Commercial-Oregon	Commercial Solar	Commercial-Washington
Responding %	98%	100%	100%
Responding n	(n = 139)	(n = 2)	(n = 1)
Any type of upgrade	51%	59%	100%
Only some types of upgrades	37%	41%	0%
None	12%	0%	0%

[1]Not asked of Multifamily respondents.

Most (73%) Multifamily respondents reported they were the property manager or landlord of the property that received services; the remaining respondents (27%) reported they were a resident of the property. Only those reporting they were the property manager or landlord were asked additional firmographic questions.

Participants in all categories reported a range of company sizes, in terms of number of employees, but skewed somewhat toward fewer employees, with one to five employees being by far most common (Table 19).

Table 19: Number of Oregon Employees

Number of Employees	Commercial-Oregon	Multifamily[1]	Commercial Solar	Commercial-Washington
Responding %	94%	86%	88%	100.0%
Responding n	(n = 371)	(n = 59)	(n = 35)	(n = 2)
1 to 5	45%	82%	46%	100%
6 to 9	15%	6%	8%	0%
10 to 19	12%	1%	7%	0%
20 to 99	17%	4%	13%	0%
100 to 499	7%	4%	10%	0%
500 or more	4%	2%	16%	0%

[1]Asked only of Multifamily respondents who reported they were the property manager or landlord, not of property residents.

Overall, about half (49%) of the respondents were an owner, but that percentage was highest among the Multifamily respondents and lowest among the Commercial-Oregon respondents. A substantial share of Commercial-Oregon, Commercial Solar, and Commercial-Washington respondents were in an executive or decision-making role or were a manager of some sort (Table 20).

Table 20: Respondent's Position in Firm or Organization

Title or Role	Commercial-Oregon	Multifamily[1]	Commercial Solar	Commmcercial-Washington
Responding %	100%	100%	100%	100%
Responding n	(n = 396)	(n = 69)	(n = 40)	(n = 2)
Owner	44%	73%	61%	59%
Executive or decision-maker	10%	6%	11%	41%
Manager	18%	7%	10%	0%
Employee	6%	1%	2%	0%
Other	0%	0%	0%	0%

[1]Asked only of Multifamily respondents who reported they were the property manager or landlord, not of property residents.

Respondents' businesses represented a range of ownership structures, with one-half of Multifamily and Commercial-Washington participants being individual or sole proprietorships, including LLCs (Table 21). One third of Commercial-Oregon (34%) and Commercial Solar (34%) participants and one quarter of Multifamily (26%) participants reported their business ownership structure as "other." One quarter of Commercial-Oregon participants reported their business ownership structure as an LLC with multiple employees.

Table 21: Business Ownership Structure

Ownership Structure	Commercial-Oregon	Multifamily[1]	Commercial Solar	Commercial-Washington
Responding %	99%	100.0%	100.0%	100.0%
Responding n	(n = 392)	(n = 69)	(n = 40)	(n = 2)
Individual/sole proprietor/LLC	18%	50%	32%	59%
C Corporation	5%	1%	6%	0%
S Corporation	17%	5%	12%	0%
Partnership	1%	2%	7%	0%
Trust/estate	<1%	1%	0%	0%
LLC with multiple employees	24%	16%	9%	41%
Corporation NOS	1%	0%	2%	0%
Nonprofit/religious/fraternal	14%	1%	9%	0%
Government/public	6%	0%	14%	0%
Not applicable[2]	1%	11%	0%	0%
Unknown	7%	8%	7%	0%
Not answered	4%	4%	1%	0%

[1] Asked only of Multifamily respondents who reported they were the property manager or landlord, not of property residents.

[2]Respondent reported the property was a private dwelling, rented out not as part of a business, or simply indicated the question was not applicable.

Respondents who reported they were the owner, executive or decision-maker of their business were asked the primary language of their business. This includes Multifamily respondents who reported being the landlord or property manager of the property that received services. In addition, Multifamily respondents who reported being the tenant of the Multifamily residence in question were asked the primary language of their home. Nearly all respondents reported that English was the primary language spoken in their business or at the Multifamily residence in question (Table 22). Spanish was the only other specific language identified, representing 1% of the Commercial-Oregon respondents. However, a significant amount of Multifamily participants (15%) reported the primary language spoken in their business as “Other.”

Table 22: Primary Language of Business or Multifamily Residence

Primary Language	Commercial-Oregon	Multifamily	Commercial Solar	Commercial-Washington
Responding %	100%	96%	94%	100%
Responding n	(n = 212)	(n = 109)	(n = 30)	(n = 2)
English	98%	84%	98%	100%
Spanish	1%	0%	0%	0%
French	0%	0%	0%	0%
Mandarin	0%	0%	0%	0%
Vietnamese	0%	0%	0%	0%
Tagalog	<1%	0%	0%	0%
Armenian	0%	0%	0%	0%
Korean	0%	0%	0%	0%
Russian	0%	0%	0%	0%
Persian	0%	<1%	0%	0%
Other	1%	15%	2%	0%

Finally, Commercial Solar respondents were more likely to identify as male than female, while Multifamily and Commercial-Oregon respondents were split roughly in half between male and female. Around 1% of Multifamily participants reported another gender identity (Table 23**Error! Reference source not found.**). No respondents reported being transgender.

Table 23: Respondent's Gender Identity

Gender	Commercial-Oregon	Multifamily	Commercial Solar	Commercial-Washington
Responding %	93%	88%	94%	100%
Responding n	(n = 199)	(n = 101)	(n = 30)	(n = 2)
Female	47%	43%	14%	0%
Male	53%	56%	86%	100%
Non-binary/third gender	0%	1%	0%	0%
Transgender	0%	0%	0%	0%

4.3 Commercial Groups Experiencing Significant Changes

We examined whether any exclusive quota groups saw substantive changes in overall program satisfaction over the past five years. Specifically, the 2024 end-of-year satisfaction levels were compared to the end-of-year levels for 2020 through 2023. We determined that a substantive increase in satisfaction occurred if either of the following conditions were true:

1. The 2024 value represents an increase of 5 percentage points from 2023.
2. The 2024 value represents an increase of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or increases in satisfaction since 2021.

Similarly, we determined that a substantive decrease in satisfaction occurred if either of the following conditions were true:

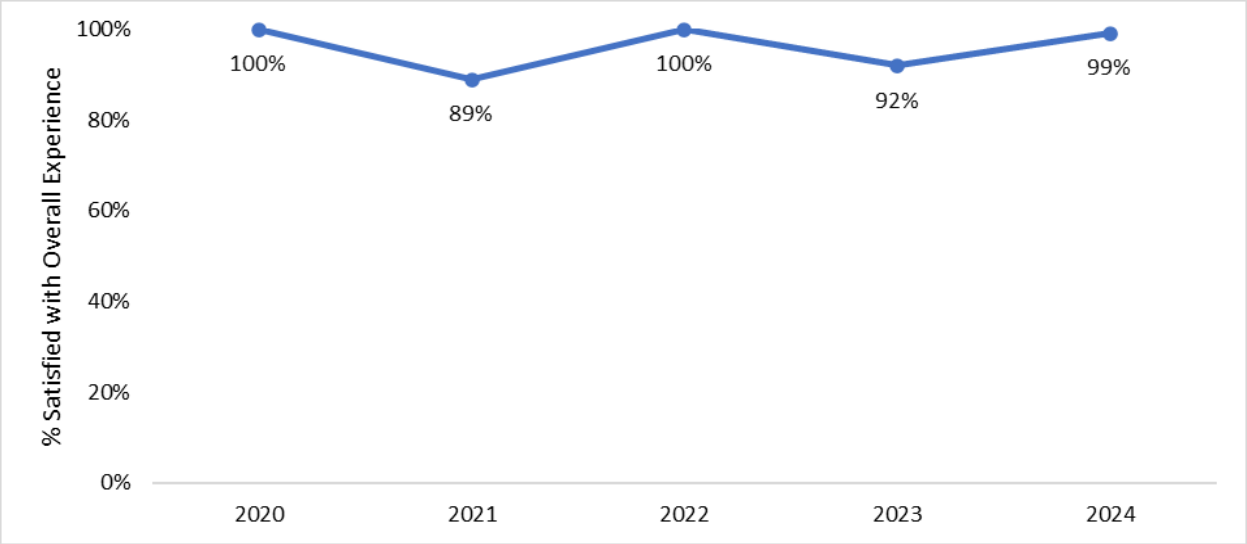
1. The 2024 value represents a decrease of 5 percentage points from 2023.
2. The 2024 value represents a decrease of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or decreases in satisfaction since 2021.

By the above criteria, three groups saw substantive increases in overall satisfaction levels: Assembly/Religious, Education, and Healthcare (Table 24, Figure 5 through **Error! Reference source not found.**). For all three groups, the increase met the first of the two criteria: at least 5 percentage points increase from 2023.

Table 24 Non-Residential Group Showing increase in Overall Satisfaction

Measure Group	2020	2021	2022	2023	2024
Existing Buildings-Assembly/Religious	100%	89%	100%	92%	99%
Existing Buildings-Education	100%	97%	97%	92%	98%
Existing Buildings-Healthcare	90%	94%	100%	82%	100%

Figure 5: Commercial Groups Experiencing Significant Changes: Existing Buildings-Assembly/Religious



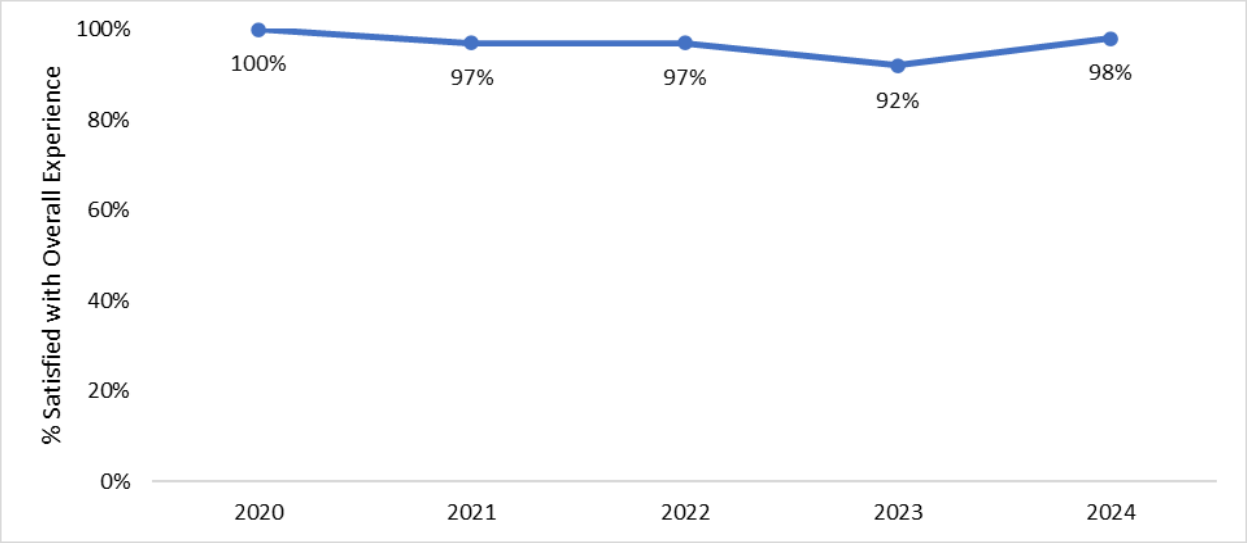
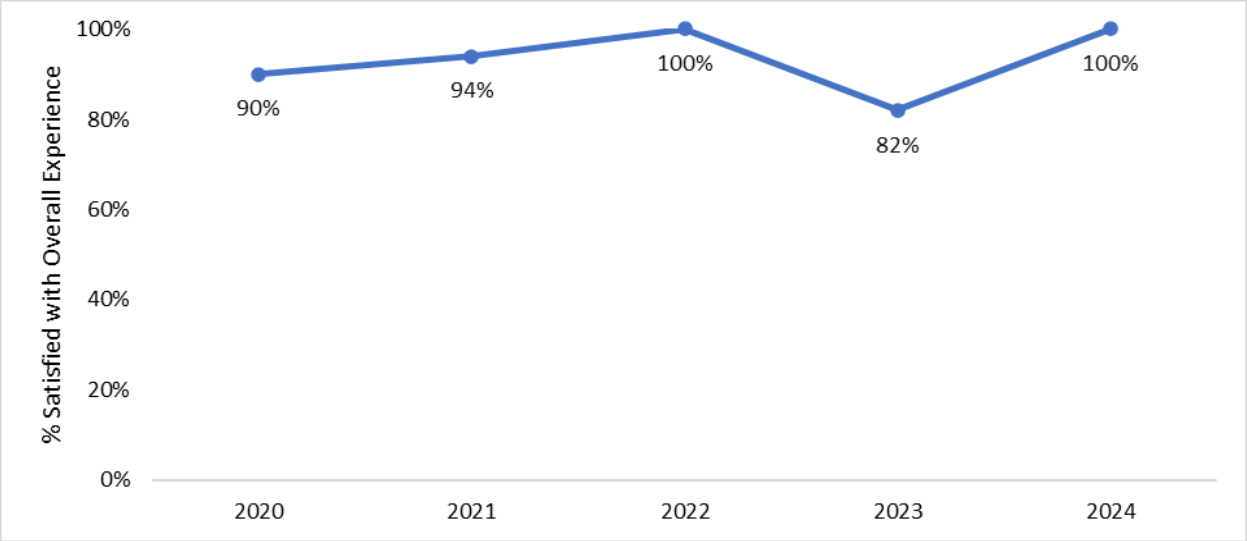


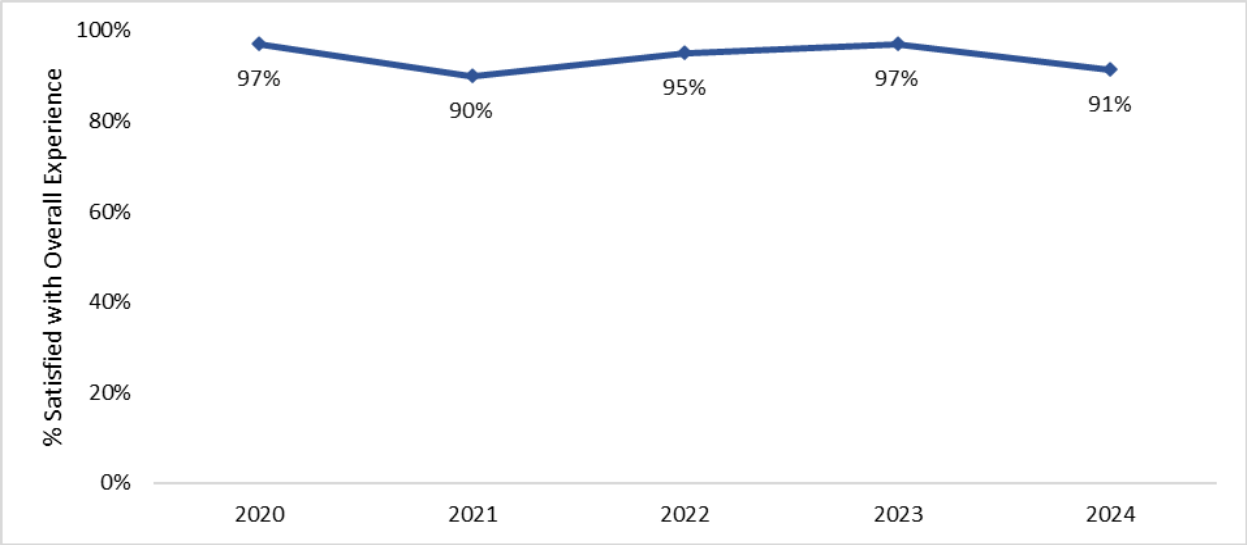
Figure 6: Commercial Groups Experiencing Significant Changes: Existing Buildings-Education

Figure 7: Commercial Groups Experiencing Significant Changes: Existing Buildings-Healthcare



One group – Restaurant– saw a substantive *decrease* in overall satisfaction levels (Figure 8). The decrease for this group also satisfied the first of the two criteria: at least 5 percentage points decrease from 2023.

Figure 8: Commercial Groups Experiencing Significant Changes: Existing Buildings – Restaurant



4.4 Commercial Groups with Especially High and Low Satisfaction Levels

We examined whether overall program satisfaction was especially high or low for any exclusive or cross-cutting quota groups. Specifically, we identified groups for which overall satisfaction fell into one of the following three categories, based on the percentage of respondents that reported satisfaction:

1. Very high satisfaction: 97% or greater.
2. Low satisfaction: at least 85% but less than 90%.
3. Very low satisfaction: less than 85%.

Table 25 shows that satisfaction was very high for Oregon Incentives (across all subgroups) as well as for seven exclusive quota groups (Assembly/Religious, Education, Healthcare, Office, Multifamily, Other Commercial, and Washington) and one cross-cutting group (Lighting non-DI). No group showed low or very low satisfaction.

Table 25: Commercial Group with Very High Satisfaction Levels: Existing Buildings[1]

Quota Group	Quota Type	n	%
Oregon Incentives	Exclusive	252	99%
Assembly/Religious	Exclusive	77	99%
Education	Exclusive	31	98%
Healthcare	Exclusive	33	100%
Office	Exclusive	57	99%
Other Commercial	Exclusive	74	99%
Commercial Solar	Exclusive	40	97%
Washington	Exclusive	3	100%
Lighting (Non-DI)	Cross-cutting	26	100%

[1]No groups had low or very low satisfaction.

5 Nonresidential Survey Results: Industrial/Agricultural

The following subsections provide information on the firmographics, demographics, and program experience of nonresidential survey participants in the industrial and agricultural sector (i.e., the Production Efficiency Program). We excluded "don't know" and "refused" responses from the calculation of all satisfaction and influence percentages.

5.1 Industrial/Agricultural Summary

Satisfaction with overall program experience and interaction with program representative as well as overall program influence were high for both the Production Efficiency program overall, and for the Industrial segment of it. However, only moderate overall satisfaction (for both program experience and representative interaction) and overall influence was observed in the Agriculture segment (Table 26).

Table 26: Industrial/Agricultural Summary

Production Efficiency	Satisfaction		Overall Influence
	Overall Program Experience	Interaction with Program Representative	
Production Efficiency (n = 170)	90%	93%	91%
Industrial (n = 38)	95%	98%	95%
Agriculture (n = 41)	77%	79%	81%

5.2 Industrial/Agricultural Firmographics and Demographics

In reporting firmographic and demographic responses, we excluded "no response" from the denominator of percentages. The tables show the percentages and counts of all respondents that answered the various questions and the percentage that each answer makes up of all answers given.

Respondents most commonly reported that their firm or organization owned the property or properties that participated in the respective program – this was the case for both the Industrial and Agricultural subsectors (Table 27).

Table 27: Participating Firm or Organization's Ownership of Participating Property or Properties (Industrial and Agricultural)

Ownership	Industrial	Agricultural	Total
Responding %	97%	100.0%	98%
Responding n	(n = 123)	(n = 41)	(n = 164)
Own	70%	92%	76%
Lease	29%	8%	23%
Other	1%	0%	1%

Of those participants who reported leasing the participating property, most said their firm or organization had authority to make any type of upgrade decision (Table 28).

Table 28: Participating Firm or Organization's Authority for Upgrade Decisions (Industrial and Agricultural Participants Who Reported Leasing Building Only)

Level of Authority for Upgrades	Industrial	Agricultural	Total
Responding %	98%	86%	96%
Responding n	(n = 42)	(n = 6)	(n = 48)
Any type of upgrade	66%	62%	66%
Only some types of upgrades	25%	38%	26%
None	9%	0%	8%

Participants in both subsectors reported a range of company sizes, in terms of the number of employees. Responses were more evenly distributed among Industrial respondents than for Agricultural respondents, who appeared to exhibit more of a bimodal distribution (Table 29).

Table 29: Number of Oregon Employees

Number of Employees	Industrial	Agricultural	Total
Responding %	94%	95%	95%
Responding n	(n = 12)	(n = 39)	(n = 159)
1 to 5	13%	28%	17%
6 to 9	10%	4%	8%
10 to 19	25%	12%	22%
20 to 99	21%	43%	27%
100 to 499	20%	13%	18%
500 or more	11%	0%	8%

Nearly three-quarters of Agricultural respondents reported being an owner. Industrial respondents also most commonly reported being an owner, but a substantial share also reported being a manager of some sort (Table 30).

Table 30: Respondent's Position in Firm or Organization

Title or Role	Industrial	Agricultural	Total
Responding %	100%	100%	100%
Responding n	(n = 127)	(n = 41)	(n = 168)
Owner	37%	72%	47%
Executive or decision-maker	3%	6%	4%
Manager	29%	6%	22%
Employee	1%	1%	1%
Other	0%	0%	0%

Respondents' businesses represented a range of ownership structures. Both Industrial and Agricultural respondents most commonly were from LLCs with multiple employees. Nearly half of all Agricultural, and over a third of all Industrial businesses, were either an S or C corporation. The third most often reported ownership structure for both segments was "other" (Table 31).

Table 31: Business Ownership Structure

Ownership Structure	Industrial	Agricultural	Total
Responding %	100%	100%	100%
Responding n	(n = 35)	(n = 12)	(n = 47)
Individual/sole proprietor/LLC	6%	9%	7%
C Corporation	12%	20%	15%
S Corporation	25%	26%	25%
Partnership	3%	0%	2%
Trust/estate	0%	2%	<1%
LLC, multiple employees	35%	32%	34%
Nonprofit/religious/fraternal	0%	0%	0%
Government/public	3%	0%	2%
Corporation NOS	6%	4%	5%
Not applicable[1]	1%	2%	1%
Unknown	7%	2%	6%
Not answered	1%	5%	2%

[1] Respondent simply indicated the question was not applicable but did not provide an explanation why.

A large majority of respondents reported that English was the primary language spoken in their business. Spanish was identified as the primary language by 1% of respondents. Three percent of Industrial respondents reported their primary workplace language as "other" (Table 32) .

Table 32: Primary Language of Business

Primary Language	Industrial	Agricultural	Total
Responding %	96%	93%	95%
Responding n	(n = 54)	(n = 28)	(n = 82)
English	96%	99%	97%
Spanish	1%	1%	1%
French	0%	0%	0%
Mandarin	0%	0%	0%
Vietnamese	0%	0%	0%
Tagalog	0%	0%	0%
Armenian	0%	0%	0%
Korean	0%	0%	0%
Russian	0%	0%	0%
Persian	0%	0%	0%
Other	3%	0%	1%

Finally, both industrial and agricultural respondents were much more likely to identify as male than female (Table 33). No respondents reported identifying as transgender or another gender identity.

Table 33: Respondent's Gender Identity

Gender	Industrial	Agricultural	Total
Responding %	91%	80%	87%
Responding n	(n = 51)	(n = 24)	(n = 75)
Female	8%	18%	12%
Male	92%	82%	88%
Non-binary/third gender	0%	0%	0%
Transgender	0%	0%	0%

5.3 Industrial/Agricultural Groups Experiencing Significant Changes

We examined whether any measure quota groups saw substantive changes in overall program satisfaction over the past five years. Specifically, the 2024 end-of-year satisfaction levels were compared to the end-of-year levels for 2020 through 2023. We determined that a substantive increase in satisfaction occurred if either of the following conditions were true:

1. The 2024 value represents an increase of 5 percentage points from 2023.
2. The 2024 value represents an increase of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or increases in satisfaction since 2021.

Similarly, we determined that a substantive decrease in satisfaction occurred if either of the following conditions were true:

1. The 2024 value represents a decrease of 5 percentage points from 2023.

2. The 2024 value represents a decrease of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or decreases in satisfaction since 2021.

By the above criteria, substantive increases in satisfaction levels were observed for one quota group, Pumps and Motors (Figure 11). Substantive decreases in satisfaction levels were observed in two groups, HVAC and Controls and Agriculture (Figure 9 and Figure 10: Industrial/Agricultural Groups Experiencing Significant Changes: Production Efficiency – HVAC and Controls***Error! Reference source not found.***). All observed satisfaction level changes met the first of the two criteria: at least 5 percentage points difference from 2023 (Table 34:Production Efficiency group with Satisfaction Level Changes).

Table 34:Production Efficiency group with Satisfaction Level Changes

Measure Group	2020	2021	2022	2023	2024
Satisfaction Decrease					
Production Efficiency-Agriculture	98%	100%	93%	83%	77%
Production Efficiency-HVAC and controls	95%	96%	100%	100%	95%
Satisfaction Increase					
Production Efficiency-Pumps and motors	100%	82%	97%	100%	94%

A substantive decrease in satisfaction levels was observed for two quota groups: HVAC and Controls and Agriculture. These decreases satisfied the first criterion: at least 5 percentage points from 2023, but not the second (Figure 9 and Figure 10).

Figure 9: Industrial/Agricultural Groups Experiencing Significant Changes: Production Efficiency-Agriculture

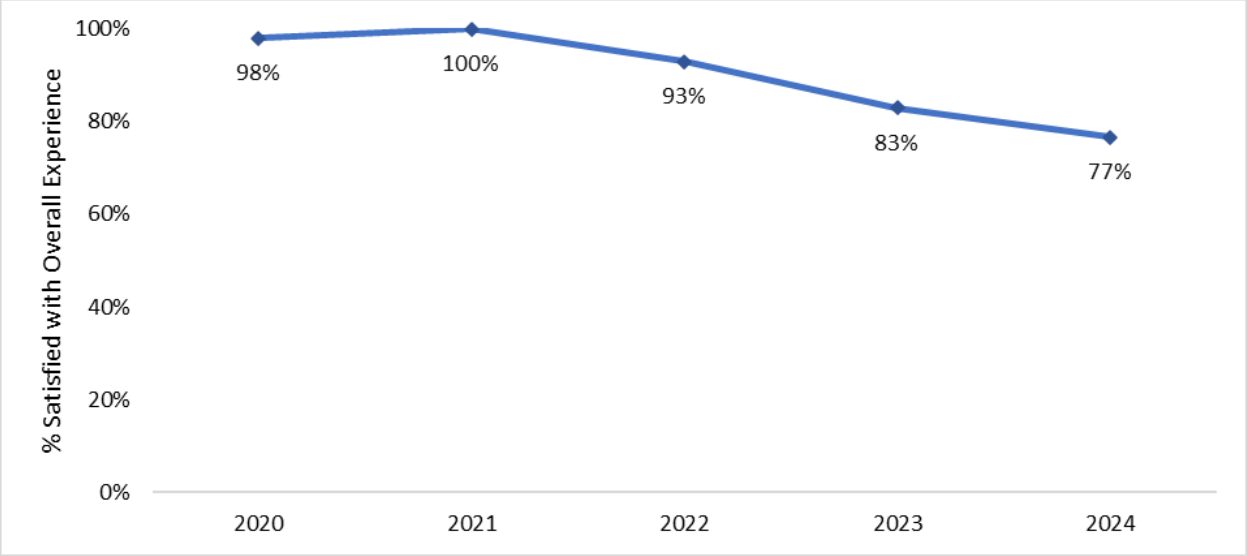
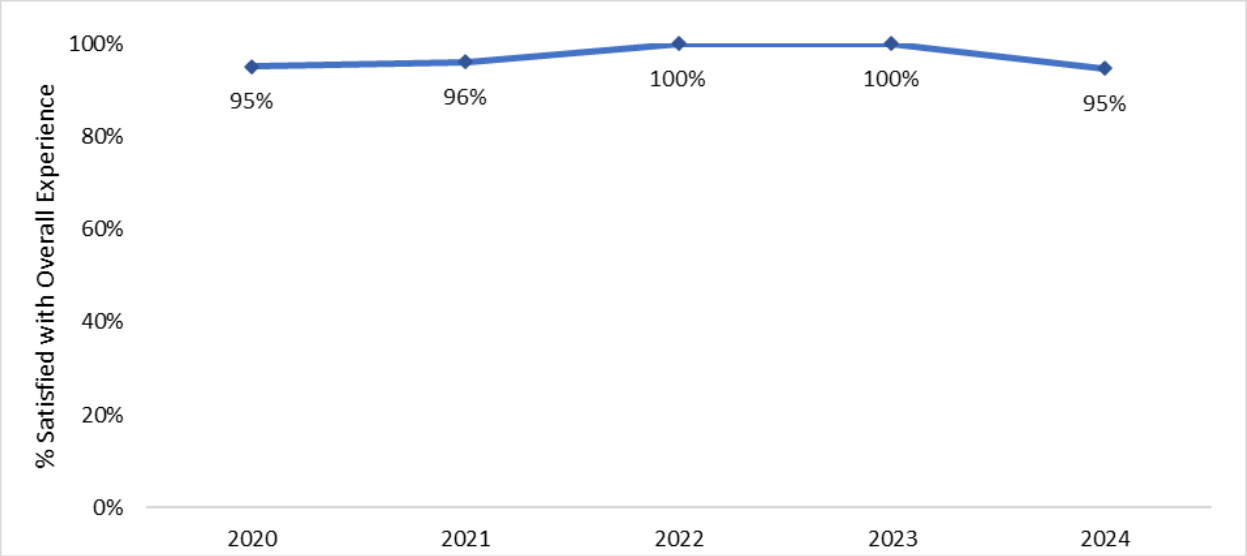
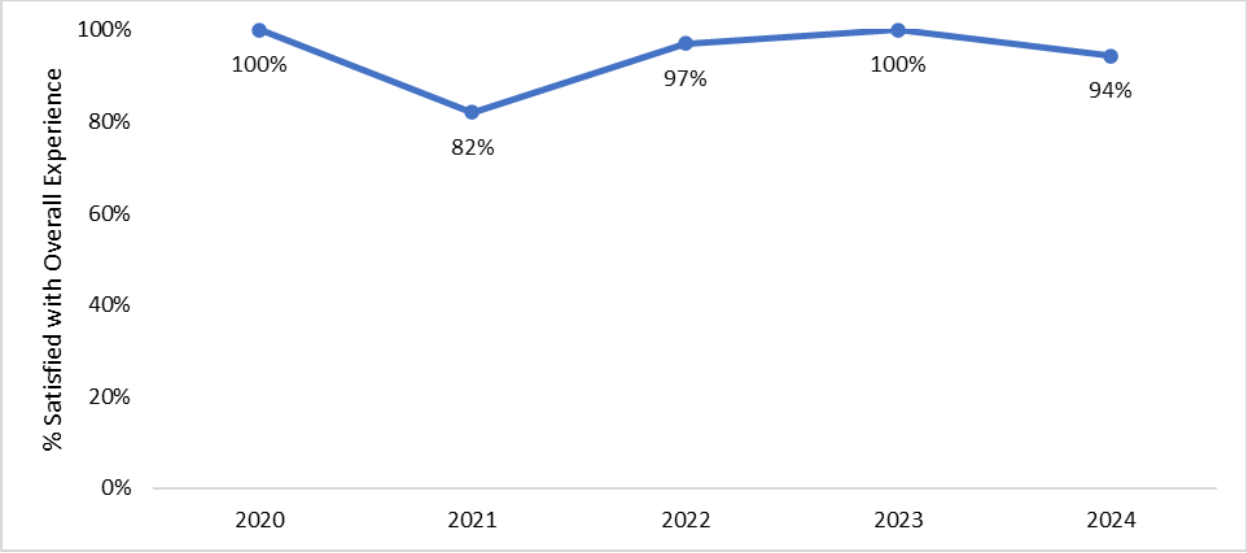


Figure 10: Industrial/Agricultural Groups Experiencing Significant Changes: Production Efficiency – HVAC and Controls



For Pumps and Motors, the increase satisfied the second criterion: an increase of 5 percentage points from the minimum value of 2020-2023 *and* a trend of either no change or increases in satisfaction since 2021. Specifically, the 2024 end-of-year satisfaction (94%) is at least 5 percentage points higher than the minimum value of 82%, seen in 2021 (Figure 11).

Figure 11: Industrial/Agricultural Groups Experiencing Significant Changes: Production Efficiency-Pumps and Motors



5.4 Industrial/Agricultural Groups with Especially High and Low Satisfaction Levels

We examined whether overall program satisfaction was unusually high or low for any measure or cross-cutting quota groups. Specifically, we identified groups for which overall satisfaction fell into one of the following three categories, based on the percentage of respondents that reported satisfaction:

1. Very high satisfaction: 97% or greater.
2. Low satisfaction: at least 85% but less than 90%.
3. Very low satisfaction: less than 85%.

Table 35 shows that satisfaction was very high for one exclusive quota group (Compressed Air) and five cross-cutting groups (Custom Projects, High Tech, Metals, Wood & Paper, and Food & Beverage sectors) . However, two exclusive and one cross cutting group displayed very low satisfaction levels.

Table 35: Industrial/Agricultural Groups with Especially High and Low Satisfaction Levels[1]

Quota Group	Quota Type	n	%
Very High Satisfaction			
Compressed air	Exclusive	3	100%
Custom projects	Cross-cutting	25	100%
Food & beverage sector	Cross-cutting	16	97%
High tech sector	Cross-cutting	7	100%
Metals sector	Cross-cutting	4	100%
Wood & paper sector	Cross-cutting	13	100%
Very Low Satisfaction			
Agriculture	Exclusive	41	77%
Grow lighting	Exclusive	3	81%
Agriculture sector	Cross-cutting	76	81%

6 Summary and Conclusions

Findings are summarized here separately for the residential and nonresidential surveys. As noted in Section 1, this report focused on trends over time in overall program satisfaction and on groups showing particularly high or low satisfaction levels. It should be noted here that we adopted a somewhat strict criterion by which anything less than 90% is considered "low" satisfaction. Previous reports did not explicitly define such a criterion and, in fact, generally identified satisfaction levels of at least 80% as "moderate." This should be kept in mind when comparing the following discussion to the summary and conclusions from previous reports.

6.1 Residential Survey

The residential results showed very high overall satisfaction ratings for three quota groups but low or very low ratings (by the current criteria) for all others. For four of those quota groups (smart thermostats, ceiling insulation, windows, and gas fireplaces), the satisfaction ratings reflect recent downward trends, which may be cause for concern.

As detailed in the appendix, factors influencing the purchase decision varied somewhat by measure type, but contractors appeared to have the most consistently high influence across measure quota groups. The influence of contractors points to the importance of how contractors interact with customers and the value of maintaining strong and consistent connections with contractors through the trade ally network.

Energy Trust information or materials, the Energy Trust incentive, and energy efficiency ratings had less consistently high influence across groups. However, one or more of these appeared to have nearly as much (or, in some cases, more) influence as contractors for ceiling insulation, ductless heat pumps, air conditioning, and duct sealing. The importance of efficiency ratings on ductless heat pumps and air conditioning confirms that customers pay attention to those ratings and points to the value of continuing to push for clear efficiency labeling on those products. It also indicates that trade allies should market products using those ratings.

Among participants who used a contractor, by far the most commonly identified way participants found that contractor was by word of mouth. However, web search was frequently identified for most quota groups and was the most common means of finding a contractor for both Windows and Other insulation. 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.[10]

[10] Note also that the actual share of respondents who found their contractor through online efforts initiated by a web search may be greater than the percentage who actually selected "web search." This could be the case if respondents who identified "online service" or "Energy Trust Website" as the contractor source found those sources through a broader website rather than going directly to the identified source. Respondents were asked to identify

6.2 Nonresidential Survey

Nonresidential participants generally showed high satisfaction with their program experience. This indicates that Energy Trust generally continues to do a good job administering and managing its programs, although some recent downward trends in satisfaction for some nonresidential quota groups may be cause for concern.

All commercial quota groups and all but three industrial/agricultural groups show high or very high satisfaction ratings. In several cases, overall program satisfaction increased substantively from 2023. This occurred for Commercial Solar and three Existing Buildings quota groups: Assembly/Religious, Education, and especially Healthcare. Additionally, the satisfaction levels for the Production Efficiency Pumps and motors group, while declining slightly since 2023 is still consistent with the trend of increase since 2021.

However, results showed "very low" (less than 85%) satisfaction for the Agriculture and Grow Lighting exclusive quota groups and the Agriculture sector cross-cutting quota group. The satisfaction level for Agriculture reflects a decreasing trend from previous years. In addition, overall program satisfaction showed substantive decreases for Existing Buildings-Restaurants and Production Efficiency-HVAC and Controls, even though the current level was not itself categorized as low.

As detailed in the appendix, program influence was generally high across most specific facets of program experience for most nonresidential quota groups.

Factors influencing the purchase decision varied somewhat by program and quota group. For the Existing Building program, services provided at no/low cost appeared to have the highest influence, followed by site assessment or walk-through. Energy Trust program representative, and the Energy Trust incentive.

For Commercial Solar, overall program influence exceeded any specific influencer, all of which had approximately the same impact.

For the Production Efficiency program, the greatest influencers were Energy Trust-funded technical services, followed closely by the Energy Trust incentive. 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.

all sources that apply, but the fact that someone identified "Energy Trust Website" but did not identify "web search" does not mean that person did not find the Energy Trust website as the result of a search for, say, "HVAC contractors near me." Still, the sum of respondents who identified "web search," "online service," or "Energy Trust Website" was still, in most cases, lower than the number who identified "word of mouth."

7 APPENDIX: Program Experience by Quota Group

This appendix presents detailed survey findings broken out by quota group, following the same organization and conventions as used in previous reports. As noted in the Summary and Conclusions (Section 6), previous reports did not follow the convention, used in Sections 3, 4, and 5 of this report, that anything less than 90% is considered "low" satisfaction. Specifically, previous reports (and, therefore, this appendix) generally identified satisfaction levels of at least 80% as "moderate."

7.1 Residential Program Experience by Quota Group

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, rental properties, manufactured home promotions, no-cost offers, and instant incentives). For the various subgroups, the sample counts for both satisfaction and influence ratings may vary from the total count of participants in those subgroups and may vary among the satisfaction or influence indices for a given subgroup. This is for two reasons: 1) some satisfaction and influence indices did not apply to some groups and so were not assessed; and 2) we excluded "don't know" and "refused" responses from the percentages, and some respondents gave such responses to some items and not others.

Results show high satisfaction ratings across all facets of program experience for all measures. However, overall satisfaction showed a slight downward trend over time for all measures except for ducted heat pumps and duct sealing that showed a minor increase in overall satisfaction; ductless heat pumps have displayed relatively stable satisfaction ratings since data collection for that measure began.

The level of influence of various factors on the purchase decision varied somewhat by measure type. As Table 36 shows, contractors tended to have a large amount of influence across all applicable measures, with about two-thirds or more of applicable respondents indicating at least moderate influence. Contractors had the greatest influence on Heat Pump Advanced Controls, Other Insultation, Gas Furnaces, Central Air conditioners and Windows. The energy efficiency rating was applicable to fewer measures, but had moderate to high influence for two measures, Ductless Heat Pumps and Central Air Conditioners and was the most influential factor for Gas Fireplaces. Energy Trust information or materials appeared to be most influential for Smart Thermostats, and Ducted Heat Pumps, while the Energy Trust incentive appeared to have the greatest influence for Ceiling Insulation, Ductless Heat Pumps, Duct Sealing, and Ductless Heat Pumps.

Table 36: Residential Measure Influencers: Percentage of Applicable Respondents Indicating High Influence Rating (4 or 5 on 5-Point Scale)[1]

	Overall Influence	Energy Trust Incentive	Energy Trust Information or Materials	Salesperson or Retailer	Contractor	Energy Efficiency Rating
Smart Thermostats	65%	51%	73%	53%	n/a	n/a
HPAC[2]	96%	34%	75%	n/a	86%	n/a
Ceiling Insulation	93%	83%	76%	n/a	76%	n/a
Other Insulation	91%	68%	41%	n/a	81%	n/a
Ducted Heat Pumps	94%	69%	78%	n/a	70%	64%
Ductless Heat Pumps	98%	92%	82%	n/a	83%	87%
Central AC[3]	91%	29%	9%	81%	84%	83%
Windows	76%	51%	36%	n/a	84%	n/a
Gas Fireplaces	78%	24%	33%	n/a	45%	67%
Gas Furnaces	90%	64%	63%	n/a	75%	67%
Duct Sealing	79%	82%	80%	n/a	67%	n/a

1 At least 80% reported influence. At least 70% but less than 80% reported influence.

2 HPAC = Heat Pump Advanced Controls.

3 AC = Air Conditioner

Word of mouth was the most common identified way of finding a contractor for all measures except for Other Insulation (Table 37); Web searches were the second most commonly identified way, followed by Energy Trust Referrals, Contractor Advertisements, Energy Trust's website and use of an online referral or rating service (e.g., Yelp or Angi).

Table 37: Most Common Sources for Finding Contractors, by Quota Group

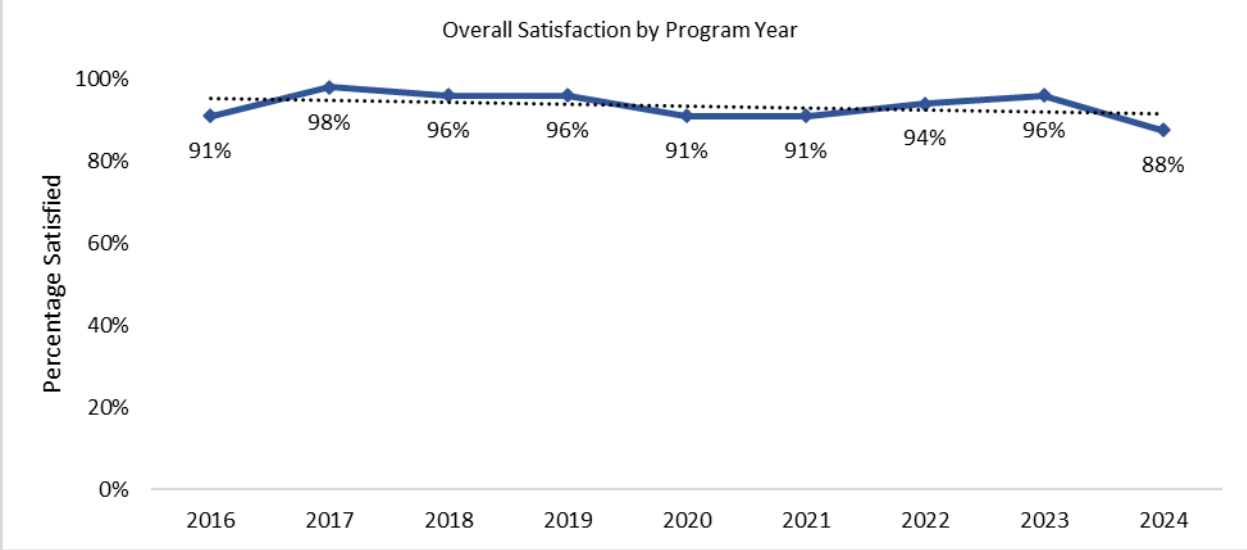
Quota Group	Most Common	Second Most Common	Third Most Common
Heat Pump Advanced Controls	Word of mouth	Web search	Advertisement
Ceiling Insulation	Word of mouth	Web search	Energy Trust website
Other Insulation	Web search	Word of mouth	Online service
Ducted Heat Pumps	Word of mouth	Web search	Energy Trust referral
Ductless Heat Pumps	Word of mouth	Energy Trust referral	Advertisement
Central Air Conditioner	Word of mouth	Advertisement	Web search
Windows	Word of mouth	Web search	Online service
Gas Fireplaces	Word of mouth	Web search	Advertisement
Gas Furnaces	Word of mouth	Web search	Energy Trust referral
Residential-Washington	Word of mouth	Web search	Advertisement
Moderate Income Track	Word of mouth	Web search	Online service
Rental Properties	Word of mouth	Web search	Energy Trust referral
Manufactured Home Promotions	Word of mouth	Web search	Advertisement
Instant Incentives	Word of mouth	Web search	Energy Trust referral
No Cost Offers	Word of mouth	Energy Trust referral	Energy Trust website

7.1.1 Smart Thermostats

Smart thermostat participants (*n* = 63) showed moderate to very high levels of satisfaction with all facets of the experience except for Time it took to receive incentive, which showed a very low satisfaction level. Overall satisfaction is consistent with that of previous years. though has dropped by 8% since 2023, dropping to its lowest recorded level since data collection for that measure began in 2016 (Table 38 and accompanying chart).

Table 38: Satisfaction Ratings: Smart Thermostat

Satisfaction	Percent
Overall experience (n = 62)	88%
Performance of new measure (n = 63)	95%
Comfort of home after new measure (n = 57)	93%
Incentive application form (n = 37)	84%
Time it took to receive incentive (n = 36)	70%



The overall program influence on participant purchase decisions was low (65%). The Energy Trust information or materials was the most influential factor and Energy Trust Incentive was the least (51%), as shown in Table 39.

Table 39: Influence Ratings: Smart Thermostats

Influence Level	Overall Influence (n = 62)	Energy Trust Incentive (n = 57)	Energy Trust Information or Materials (n = 24)	Salesperson or Retailer (n = 51)
High	65%	51%	56%	53%
Medium	12%	21%	28%	5%
Low	23%	28%	16%	42%

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

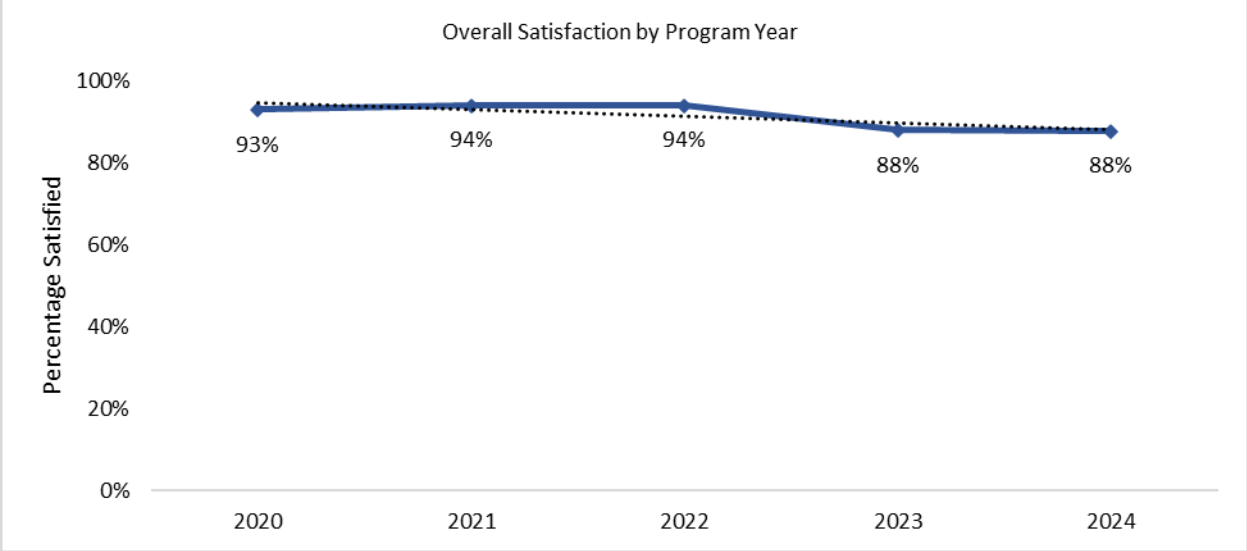
7.1.2 Heat Pump Advanced Controls

Participants (n = 55) showed high to very high satisfaction with all facets of the experience except for with the incentive application form, and time it took to receive the incentive (Table 40 and accompanying

graphic). Overall satisfaction is the same as last year for the measures and down for contractors. However, response rates for this item were somewhat lower than the total number of participants (i.e., 48 of 55).

Table 40: Satisfaction Ratings: Heat Pump Advanced Controls

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 48)	88%
Performance of new measure (n = 53)	91%
Comfort of home after new measure (n = 52)	94%
Incentive application form (n = 24)	80%
Time it took to receive incentive (n = 23)	73%
Contractor Satisfaction	
Overall experience (n = 48)	88%
Quality of installation work (n = 53)	93%
Information about incentives (n = 39)	92%
Communication (n = 53)	93%
Assistance with application (n = 24)	98%



The overall program influence on participant purchase decisions was very high (96%). Contractor was the most influential factor, with the highest reported rating from respondents (n = 52). In contrast and on average, respondents rated Energy Trust incentive as having low influence (43%) for this measure (Table 41).

Table 41: Influence Ratings: Heat Pump Advanced Controls

Influence Level	Overall Influence (n = 53)	Energy Trust Incentive (n = 40)	Energy Trust Information or Materials (n = 12)	Contractor (n = 52)
High	96%	43%	53%	90%
Medium	2%	21%	14%	3%
Low	2%	36%	33%	8%

Respondents most commonly found their contractor through word of mouth (Table 42).

Table 42: Where Respondent Found the Contractor: Heat Pump Advanced Controls

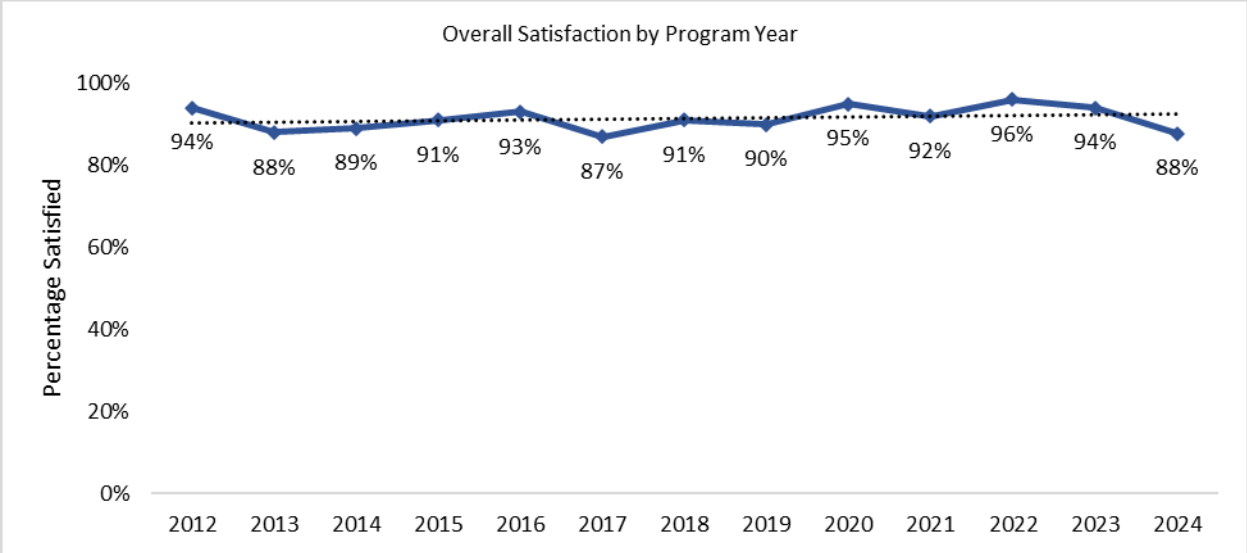
Contractor Source (n = 55)	Percent
Word of mouth	72%
Online service	1%
Web search	16%
Advertisement	6%
Energy Trust website	2%
Energy Trust referral	3%
Not Applicable	2%
Don't know	0%
Prefer not to answer	2%

7.1.3 Ceiling Insulation

Ceiling insulation participants (n = 73) showed high to very high levels of satisfaction with all facets of the experience, except for a low level for time taken to receive incentive.; overall satisfaction has declined by 6% since 2023 (Table 43 and accompanying chart).

Table 43: Satisfaction Ratings: Ceiling Insulation

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 72)	88%
Performance of new measure (n = 68)	95%
Comfort of home after new measure (n = 60)	94%
Incentive application form (n = 44)	88%
Time it took to receive incentive (n = 43)	75%
Contractor Satisfaction	
Overall experience (n = 72)	88%
Quality of installation work (n = 61)	92%
Information about incentives (n = 55)	89%
Communication (n = 59)	97%
Assistance with application (n = 38)	93%



The overall program influence on participant purchase decisions was high (93%). The most influential factor was the Contractor (Table 44).

Table 44: Influence Ratings: Ceiling Insulation

Influence Level	Overall Influence (n = 72)	Energy Trust Incentive (n = 64)	Energy Trust Information or Materials (n = 52)	Contractor (n = 66)
High	93%	84%	77%	78%
Medium	3%	9%	12%	5%
Low	5%	7%	11%	17%

The most commonly reported way that these respondents found their contractor was word of mouth (Table 45).

Table 45: Where Respondent Found the Contractor: Ceiling Insulation

Contractor Source (n = 73)	Percent
Word of mouth	45%
Online service	5%
Web search	21%
Advertisement	3%
Energy Trust website	18%
Energy Trust referral	4%
Not Applicable	6%
Don't know	0%
Prefer not to answer	7%

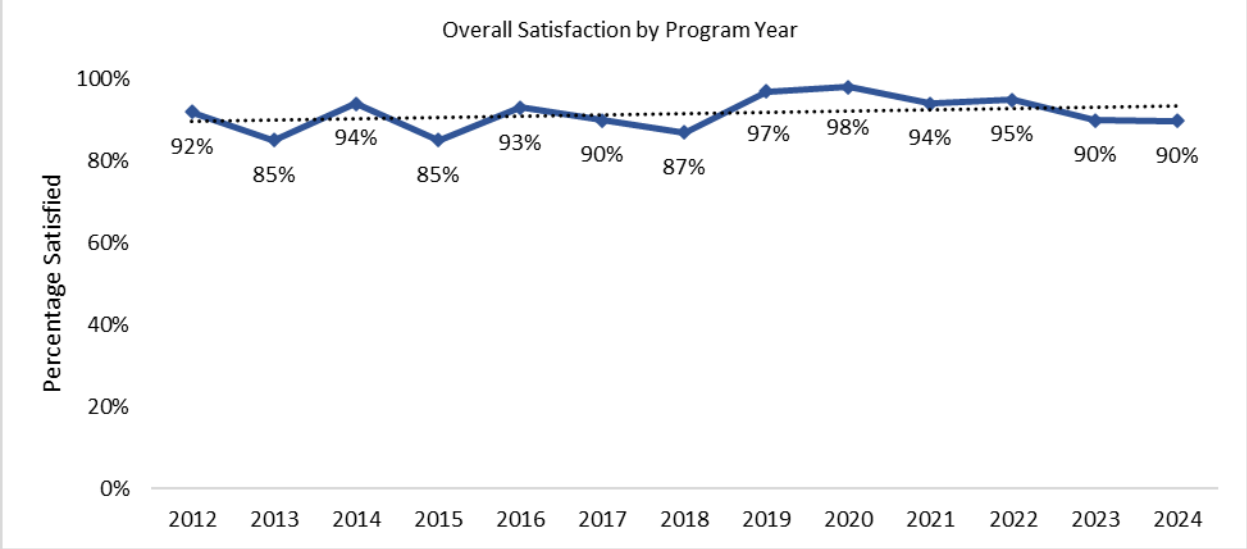
7.1.4 Other Insulation

Other insulation participants (*n* = 65) showed moderate to very high levels of satisfaction with all facets of the experience, except for a low level for time taken to receive incentive; overall satisfaction was high, although slightly below the trend since 2012 (Table 46 and accompanying chart).[11]

[11] "Other insulation" consists of wall insulation and floor insulation. Before 2020, the survey assessed satisfaction for each of these separately. To provide a point of comparison for 2020 and this year, we took the mean of the overall satisfaction ratings for wall insulation and floor insulation for the previous years.

Table 46: Satisfaction Ratings: Other Insulation

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 60)	90%
Performance of new measure (n = 61)	99%
Comfort of home after new measure (n = 59)	99%
Incentive application form (n = 44)	79%
Time it took to receive incentive (n = 43)	74%
Contractor Satisfaction	
Overall experience (n = 60)	90%
Quality of installation work (n = 59)	99%
Information about incentives (n = 56)	88%
Communication (n = 59)	90%
Assistance with application (n = 45)	81%



The overall program influence on participant purchase decisions was high (91%). Contractors and the Energy Trust incentive had the greatest influence (Table 47**Error! Reference source not found.**). Energy Efficiency Rating was excluded from this comparison due to a very low response rate.

Table 47: Influence Ratings: Other Insulation

Influence Level	Overall Influence (n = 64)	Energy Trust Incentive (n = 61)	Energy Trust Information or Materials (n = 37)	Contractor (n = 61)	Energy Efficiency Rating (n = 1)
High	91%	75%	51%	79%	100%
Medium	3%	14%	35%	7%	0%
Low	5%	11%	14%	13%	0%

Respondents most commonly reported finding their contractor through web search, followed by word of mouth (Table 48).

Table 48: Where Respondent Found the Contractor: Other Insulation

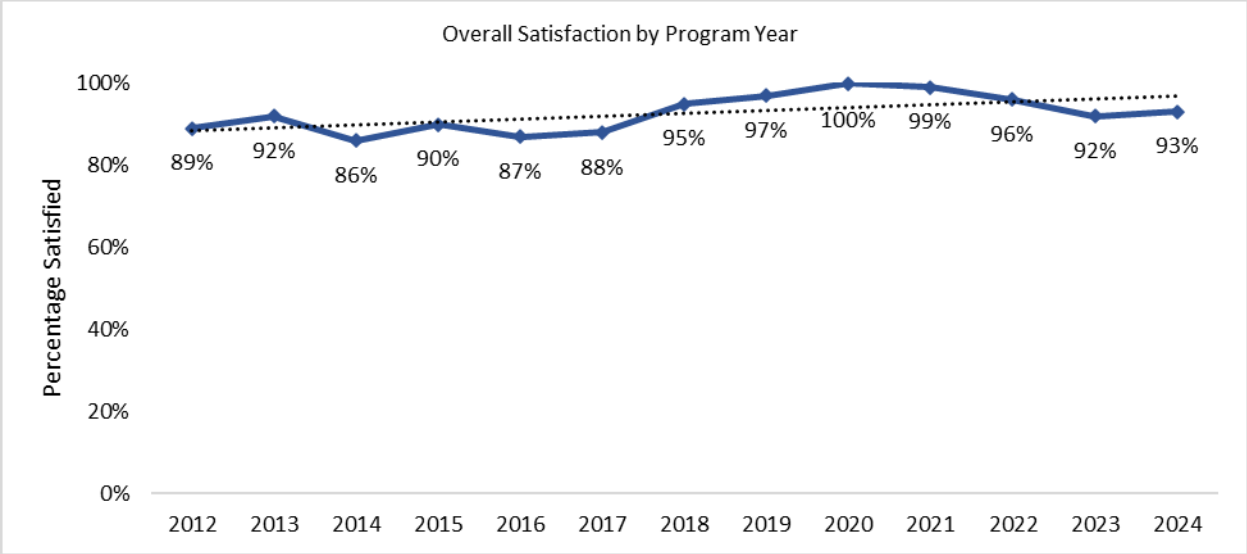
Contractor Source (n = 65)	Percent
Word of mouth	31%
Online service	19%
Web search	34%
Advertisement	2%
Energy Trust website	12%
Energy Trust referral	2%
Not Applicable	2%
Don't know	2%
Prefer not to answer	10%

7.1.5 Ducted Heat Pump

Ducted heat pump participants (*n* = 100) showed very high levels of satisfaction for most facets of the experience. However, very low satisfaction levels were observed for the Incentive application form, time taken to receive incentives, and contractor assistance with the application. Overall satisfaction is still high, consistent with the trend since 2012 (Table 49 and accompanying chart).

Table 49: Satisfaction Ratings: Ducted Heat Pump

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 90)	93%
Performance of new measure (n = 98)	92%
Comfort of home after new measure (n = 89)	91%
Incentive application form (n = 11)	67%
Time it took to receive incentive (n = 13)	64%
Contractor Satisfaction	
Overall experience (n = 90)	93%
Quality of installation work (n = 92)	90%
Information about incentives (n = 79)	94%
Communication (n = 92)	92%
Assistance with application (n = 13)	64%



The overall program influence on participant purchase decisions was very high (94%). Energy Trust Information or Materials showed the greatest influence (Table 50). Salesperson or Retailer was excluded from this comparison due to a very low response rate.

Table 50: Influence Ratings: Ducted Heat Pump

Influence Level	Overall Influence (n = 98)	Energy Trust Incentive (n = 75)	Energy Trust Information or Materials (n = 55)	Salesperson or Retailer (n = 1)	Contractor (n = 92)	Energy Efficiency Rating (n = 89)
High	94%	76%	83%	100%	79%	79%
Medium	2%	18%	12%	0%	7%	6%
Low	4%	5%	5%	0%	14%	14%

Word of mouth was the most frequently mentioned way respondents found their contractor source (Table 51).

Table 51: Where Respondent Found the Contractor: Ducted Heat Pump

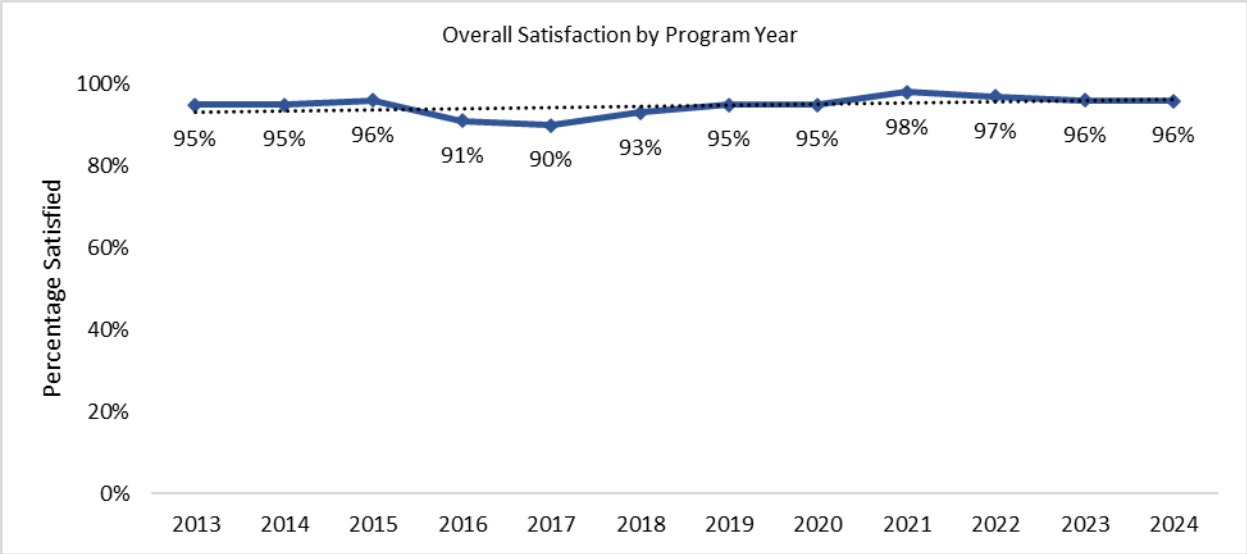
Contractor Source (n = 100)	Percent
Word of mouth	45%
Online service	1%
Web search	18%
Advertisement	13%
Energy Trust website	10%
Energy Trust referral	13%
Not Applicable	2%
Don't know	0%
Prefer not to answer	9%

7.1.6 Ductless Heat Pump

Ductless heat pump participants (*n* = 83) showed high to very high levels of satisfaction with all facets of the experience; overall satisfaction was consistent with previous years (Table 52 and accompanying chart).

Table 52: Satisfaction Ratings: Ductless Heat Pump

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 80)	96%
Performance of new measure (n = 76)	94%
Comfort of home after new measure (n = 70)	94%
Incentive application form (n = 9)	100%
Time it took to receive incentive (n = 8)	100%
Contractor Satisfaction	
Overall experience (n = 80)	96%
Quality of installation work (n = 75)	100%
Information about incentives (n = 58)	97%
Communication (n = 75)	99%
Assistance with application (n = 8)	93%



The overall program influence on participant purchase decisions was exceptionally high (98%), with the Energy Trust incentive having the greatest influence (Table 53).

Table 53: Influence Ratings: Ductless Heat Pump

Influence Level	Overall Influence (n = 73)	Energy Trust Incentive (n = 51)	Energy Trust Information or Materials (n = 45)	Contractor (n = 70)	Energy Efficiency Rating (n = 70)
High	98%	92%	88%	84%	89%
Medium	0%	3%	9%	4%	7%
Low	2%	5%	3%	12%	4%

Word of mouth was the most frequently mentioned way respondents found their contractor, followed by Energy Trust referral (Table 54).

Table 54: Where Respondent Found the Contractor: Ductless Heat Pump

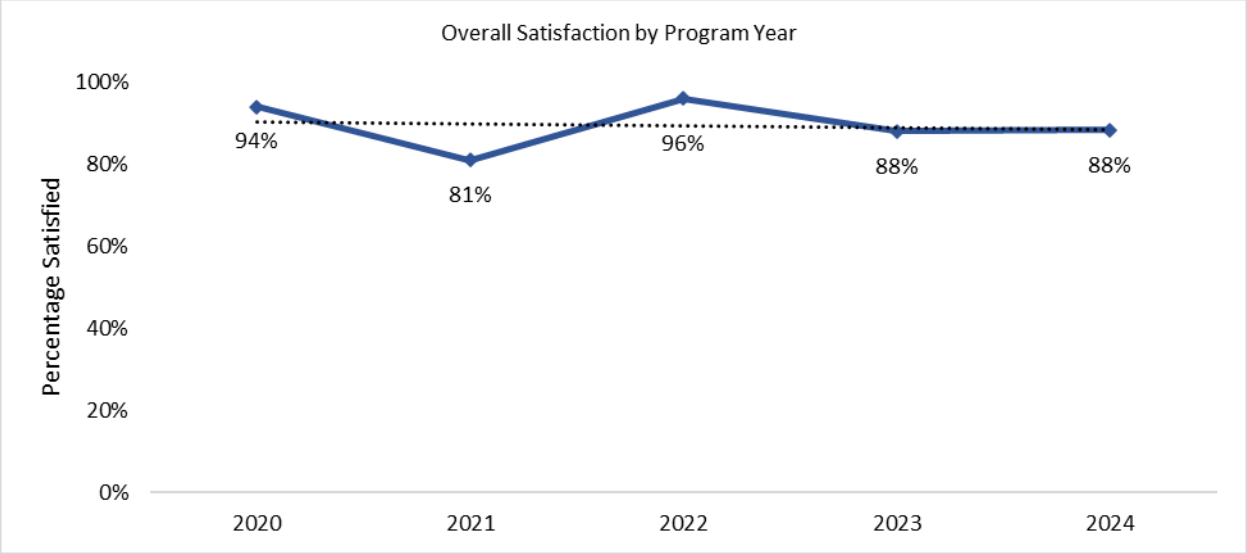
Contractor Source (n = 83)	Percent
Word of mouth	52%
Online service	6%
Web search	7%
Advertisement	9%
Energy Trust website	3%
Energy Trust referral	17%
Not Applicable	2%
Don't know	2%
Prefer not to answer	7%

7.1.7 Central Air Conditioner

Participants with this measure (*n* = 58) reported a broad range of satisfaction levels with all facets of the experience (Table 55 and accompanying chart). While overall satisfaction was high (88%) in 2024, identical with 2023 levels, it has been variable over the last five years, making it hard to discern any real trends. Notably, very low satisfaction levels were observed for the Incentive application form, time taken to receive incentives, and contractor assistance with the application.

Table 55: Satisfaction Ratings: Central Air Conditioner

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 45)	88%
Performance of new measure (n = 43)	95%
Comfort of home after new measure (n = 44)	100%
Incentive application form (n = 17)	71%
Time it took to receive incentive (n = 19)	71%
Contractor Satisfaction	
Overall experience (n = 45)	88%
Quality of installation work (n = 53)	99%
Information about incentives (n = 48)	81%
Communication (n = 53)	96%
Assistance with application (n = 18)	74%



The overall program influence on participant purchase decisions was high (91%). The air conditioner's energy efficiency rating had the greatest influence (Table 56).

Table 56: Influence Ratings: Central Air Conditioner

Influence Level	Overall Influence (n = 54)	Energy Trust Incentive (n = 50)	Energy Trust Information or Materials (n = 20)	Salesperson or Retailer (n = 50)	Contractor (n = 50)	Energy Efficiency Rating (n = 50)
High	91%	38%	31%	70%	76%	87%
Medium	1%	18%	17%	18%	15%	4%
Low	8%	44%	52%	12%	9%	9%

Word of mouth was the most frequently mentioned way respondents found their contractor, followed by web search (Table 57).

Table 57: Where Respondent Found the Contractor: Central Air Conditioner

Contractor Source (n = 58)	Percent
Word of mouth	37%
Online service	12%
Web search	16%
Advertisement	17%
Energy Trust website	1%
Energy Trust referral	1%
Not Applicable	9%
Don't know	2%
Prefer not to answer	9%

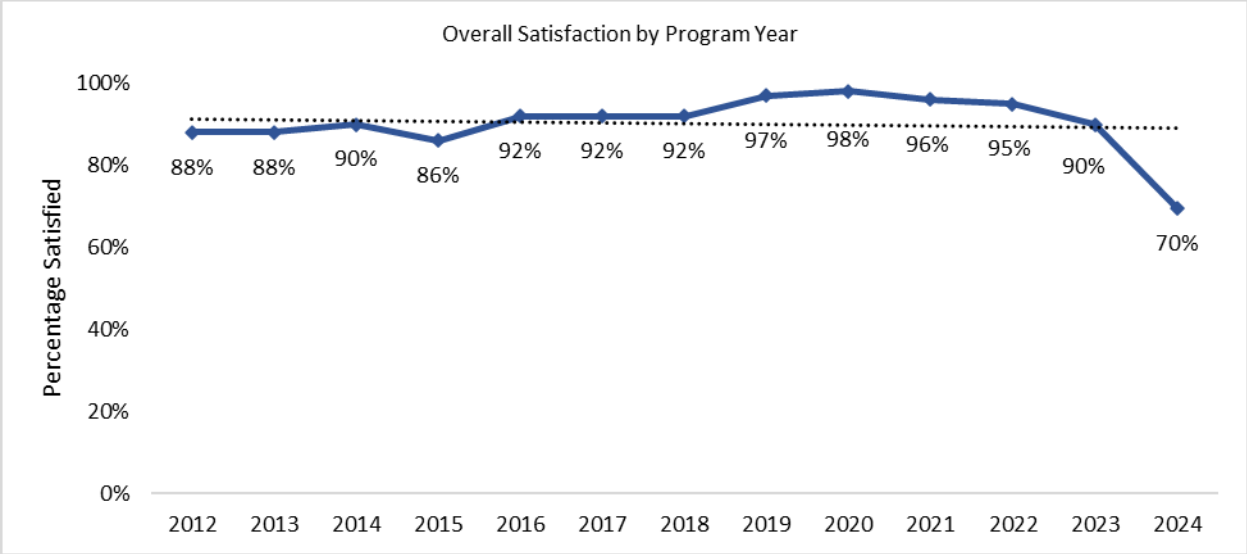
7.1.8 Windows

Windows participants (*n* = 76) showed low levels of satisfaction with most facets of the experience, especially time taken to receive incentive (46%), the incentive application form (66%) and Contractor provided information about incentives (68%).

Overall satisfaction is very low (70%), was significantly lower than that for 2023 (90%) and much lower than the general trend since 2012 (Table 58 and accompanying chart).

Table 58: Satisfaction Ratings: Windows

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 68)	70%
Performance of new measure (n = 72)	97%
Comfort of home after new measure (n = 68)	96%
Incentive application form (n = 55)	66%
Time it took to receive incentive (n = 55)	46%
Contractor Satisfaction	
Overall experience (n = 68)	70%
Quality of installation work (n = 71)	94%
Information about incentives (n = 64)	68%
Communication (n = 70)	91%
Assistance with application (n = 54)	73%



The overall program influence on participant purchase decisions was moderate (76%) with contractors having the greatest influence (Table 59).

Table 59: Influence Ratings: Windows

Influence Level	Overall Influence (n = 75)	Energy Trust Incentive (n = 72)	Energy Trust Information or Materials (n = 43)	Contractor (n = 70)
High	76%	39%	44%	75%
Medium	11%	21%	21%	9%
Low	13%	39%	36%	16%

Word of mouth was the most frequently mentioned way respondents found their contractor, closely followed by web search (Table 60).

Table 60: Where Respondent Found the Contractor: Windows

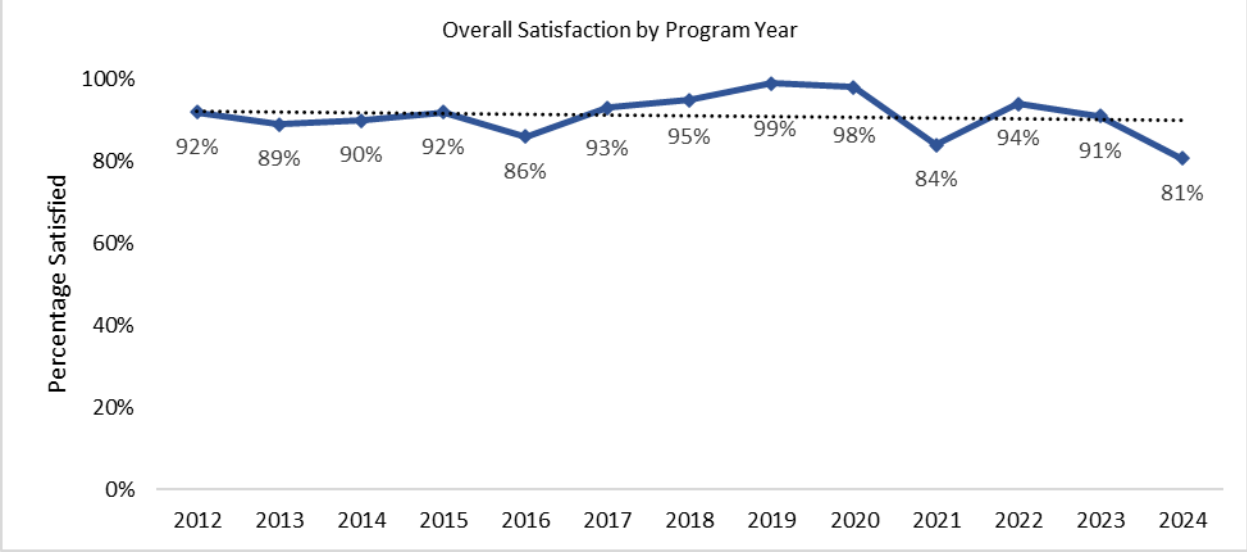
Contractor Source (n = 76)	Percent
Word of mouth	28%
Online service	14%
Web search	26%
Advertisement	14%
Energy Trust website	14%
Energy Trust referral	1%
Not Applicable	10%
Don't know	3%
Prefer not to answer	4%

7.1.9 Gas Fireplaces

Gas fireplace participants (*n* = 63) showed high to very high levels of satisfaction with most facets of the experience except the time it took to receive incentive (75%); overall satisfaction (81%) is lower than that for 2023 (91%), deviating below the historical trend (Table 61 and accompanying chart).

Table 61: Satisfaction Ratings: Gas Fireplaces

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 61)	81%
Performance of new measure (n = 62)	99%
Comfort of home after new measure (n = 54)	99%
Incentive application form (n = 52)	80%
Time it took to receive incentive (n = 50)	75%
Contractor Satisfaction	
Overall experience (n = 61)	81%
Quality of installation work (n = 58)	98%
Information about incentives (n = 52)	86%
Communication (n = 58)	96%
Assistance with application (n = 51)	88%



The overall program influence on participant purchase decisions was moderate (78%). Energy efficiency rating of the fireplace showed the greatest influence (Table 62).

Table 62: Influence Ratings: Gas Fireplaces

Influence Level	Overall Influence (n = 63)	Energy Trust Incentive (n = 61)	Energy Trust Information or Materials (n = 29)	Contractor (n = 58)	Energy Efficiency Rating (n = 57)
High	78%	35%	49%	55%	69%
Medium	15%	11%	20%	12%	19%
Low	8%	53%	31%	33%	12%

Word of mouth was by far the most frequently mentioned way respondents found their contractor (Table 63).

Table 63: Where Respondent Found the Contractor: Gas Fireplaces

Contractor Source (n = 63)	Percent
Word of mouth	57%
Online service	2%
Web search	16%
Advertisement	11%
Energy Trust website	1%
Energy Trust referral	3%
Not Applicable	9%
Don't know	1%
Prefer not to answer	6%

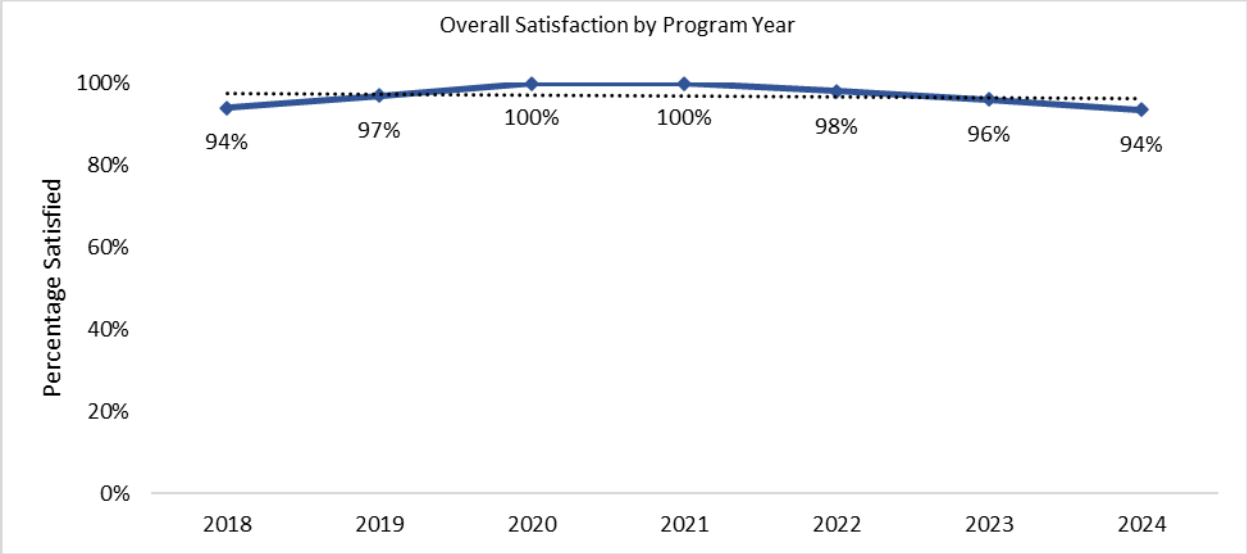
7.1.10 Gas Furnaces

Gas furnace participants (*n* = 70) showed very high levels of satisfaction with all facets of the experience, except for contractor assistance with application, and information they provided about incentives. There has been a consistently high satisfaction trend over time (Table 64 and accompanying chart).

Table 64: Satisfaction Ratings: Gas Furnaces

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 57)	94%
Performance of new measure (n = 67)	93%
Comfort of home after new measure (n = 63)	92%
Incentive application form (n = 32)	93%
Time it took to receive incentive (n = 27)	93%

Satisfaction	Percent
Contractor Satisfaction	
Overall experience (n = 57)	94%
Quality of installation work (n = 65)	91%
Information about incentives (n = 58)	80%
Communication (n = 65)	94%
Assistance with application (n = 33)	84%



The overall program influence on participant purchase decisions was high (90%), with contractors and energy efficiency rating having the greatest influence (Table 65).

Table 65: Influence Ratings: Gas Furnaces

Influence Level	Overall Influence (n = 68)	Energy Trust Incentive (n = 64)	Energy Trust Information or Materials (n = 31)	Contractor (n = 64)	Energy Efficiency Rating (n = 64)
High	90%	69%	68%	78%	77%
Medium	8%	11%	17%	10%	15%
Low	2%	20%	15%	12%	9%

Word of mouth was by far the most frequently mentioned way respondents found their contractor (Table 66).

Table 66: Where Respondent Found the Contractor: Gas Furnaces

Contractor Source (n = 70)	Percent
Word of mouth	47%
Online service	6%
Web search	24%
Advertisement	2%
Energy Trust website	6%
Energy Trust referral	8%
Not Applicable	4%
Don't know	1%
Prefer not to answer	9%

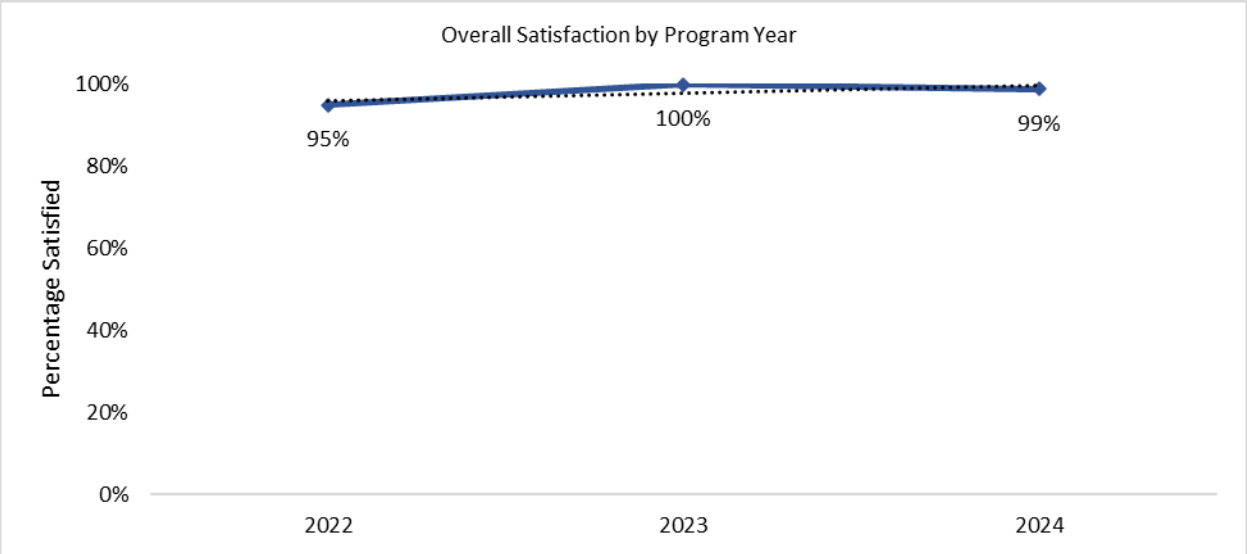
7.1.11 Duct Sealing

Duct sealing participants (*n* = 48) showed exceptionally high levels of satisfaction with all facets of the experience (Table 67 and accompanying chart). Overall satisfaction (99%) was consistent with 2023 (100%).[12]

[12] This is the third year satisfaction is reported for this measure which is not enough to identify a trend over time.

Table 67: Satisfaction Ratings: Duct Sealing

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 45)	99%
Performance of new measure (n = 44)	96%
Comfort of home after new measure (n = 39)	95%
Contractor Satisfaction	
Overall experience (n = 45)	99%
Quality of installation work (n = 42)	97%
Information about incentives (n = 36)	97%
Communication (n = 44)	96%



The overall program influence on the installation decision was moderate (79%). The Energy Trust incentive showed the greatest influence (Table 68**Error! Reference source not found.**).

Table 68: Influence Ratings: Duct Sealing

Influence Level	Overall Influence (n = 45)	Energy Trust Incentive (n = 12)	Energy Trust Information or Materials (n = 29)	Contractor (n = 40)
High	79%	84%	78%	75%
Medium	10%	0%	0%	12%
Low	11%	16%	22%	13%

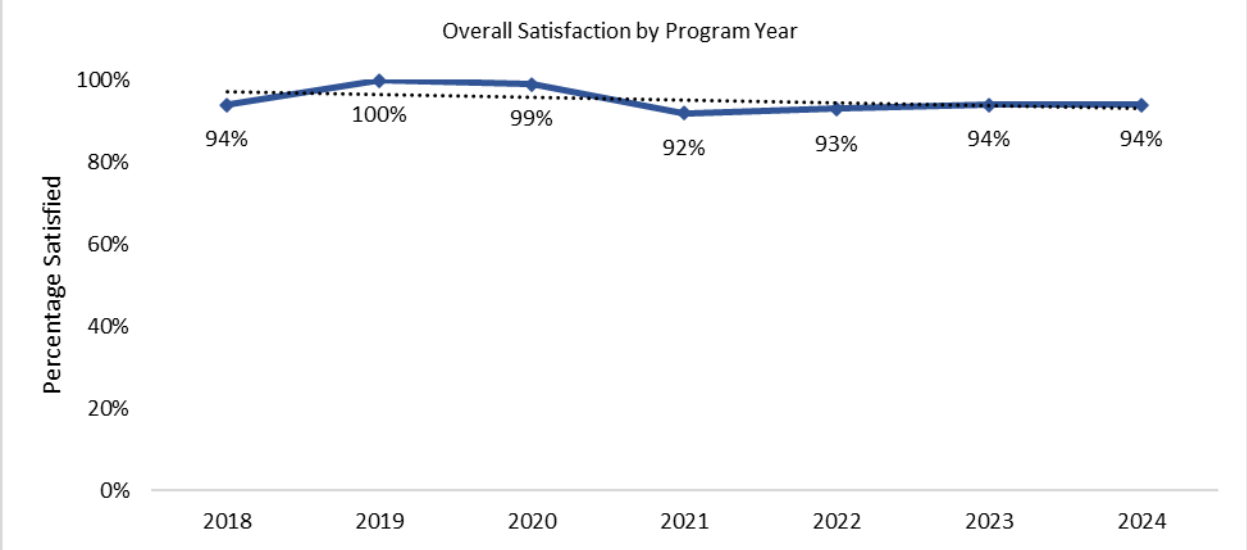
7.1.12 Residential-Washington

Residential Washington participants (*n* = 173) installed seven types of measures: gas furnaces (n = 68), windows (n = 36), smart thermostats (n = 33), ceiling insulation (n = 19), gas fireplaces (n = 9), floor insulation (n = 7) and wall insulation (n = 1).

These participants showed moderate to very high levels of satisfaction with all facets of the experience, except for time taken to receive incentive; overall satisfaction was identical to last year, aligning with the trend over time (Table 69 and accompanying chart).

Table 69: Satisfaction Ratings: Residential-Washington

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 156)	94%
Performance of new measure (n = 164)	99%
Comfort of home after new measure (n = 153)	99%
Incentive application form (n = 104)	83%
Time it took to receive incentive (n = 106)	74%
Contractor Satisfaction	
Overall experience (n = 156)	94%
Quality of installation work (n = 127)	98%
Information about incentives (n = 112)	89%
Communication (n = 127)	94%
Assistance with application (n = 76)	88%



The overall program influence on participant purchase decisions was very high (93%). The measure's energy efficiency rating showed the greatest influence, followed by contractors (Table 70).

Table 70: Influence Ratings: Residential-Washington

Influence Level	Overall Influence (n = 169)	Energy Trust Incentive (n = 164)	Energy Trust Information or Materials (n = 89)	Salesperson or Retailer (n = 28)	Contractor (n = 127)	Energy Efficiency Rating (n = 71)
High	93%	72%	68%	50%	85%	96%
Medium	2%	11%	14%	5%	6%	2%
Low	5%	17%	18%	45%	9%	3%

Word of mouth was the most frequently mentioned way respondents found their contractor, followed by a web search (Table 71).

Table 71: Where Respondent Found the Contractor: Residential-Washington

Contractor Source (n = 140)	Percent
Word of mouth	47%
Online service	9%
Web search	17%
Advertisement	9%
Energy Trust website	9%
Energy Trust referral	8%
Not Applicable	6%
Don't know	2%
Prefer not to answer	9%

7.1.13 Moderate Income Track

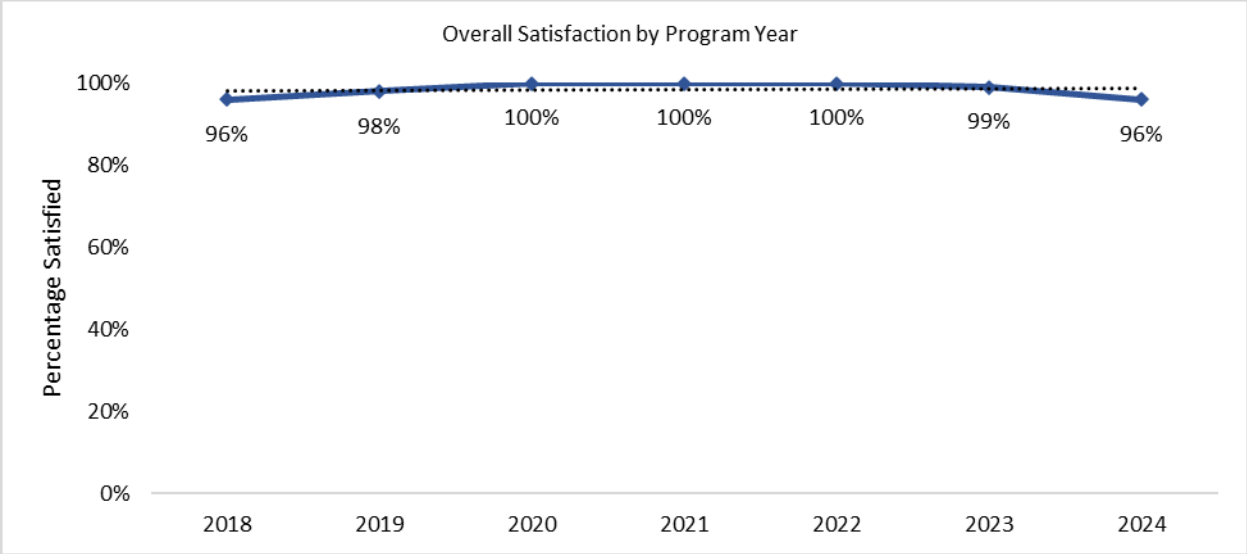
Moderate Income Track participants (n = 73) installed seven types of measures: gas furnaces (n = 43), ceiling insulation (n = 8) ducted heat pumps (n = 7), floor insulation (n = 6), thermostats (n = 4), ductless heat pumps (n = 4), and wall insulation (n = 1).

These participants showed moderate to very high levels of satisfaction with all facets of the experience; overall satisfaction is consistently very high over time (Table 72 and accompanying chart).

Table 72: Satisfaction Ratings: Moderate Income Track

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 62)	97%
Performance of new measure (n = 72)	94%
Comfort of home after new measure (n = 65)	94%
Incentive application form (n = 53)	90%
Time it took to receive incentive (n = 48)	89%

Satisfaction	Percent
Contractor Satisfaction	
Overall experience (n = 62)	97%
Quality of installation work (n = 64)	91%
Information about incentives (n = 57)	83%
Communication (n = 64)	88%
Assistance with application (n = 56)	83%



The overall program influence on participant purchase decisions was high (89%). Reflecting the high proportion of gas furnaces in this group, contractors showed the greatest influence, followed by Energy Efficiency Rating (Table 73).

Table 73: Influence Ratings: Moderate Income Track

Influence Level	Overall Influence (n = 72)	Energy Trust Incentive (n = 69)	Energy Trust Information or Materials (n = 33)	Salesperson or Retailer (n = 2)	Contractor (n = 63)	Energy Efficiency Rating (n = 48)
High	89%	58%	65%	50%	84%	70%
Medium	8%	18%	21%	50%	12%	14%
Low	2%	24%	14%	0%	4%	15%

Word of mouth was the most frequently mentioned way respondents found their contractor (Table 74).

Table 74: Where Respondent Found the Contractor: Moderate Income Track

Contractor Source (n = 71)	Percent
Word of mouth	37%
Online service	11%
Web search	31%
Advertisement	3%
Energy Trust website	7%
Energy Trust referral	2%
Not Applicable	5%
Don't know	1%
Prefer not to answer	12%

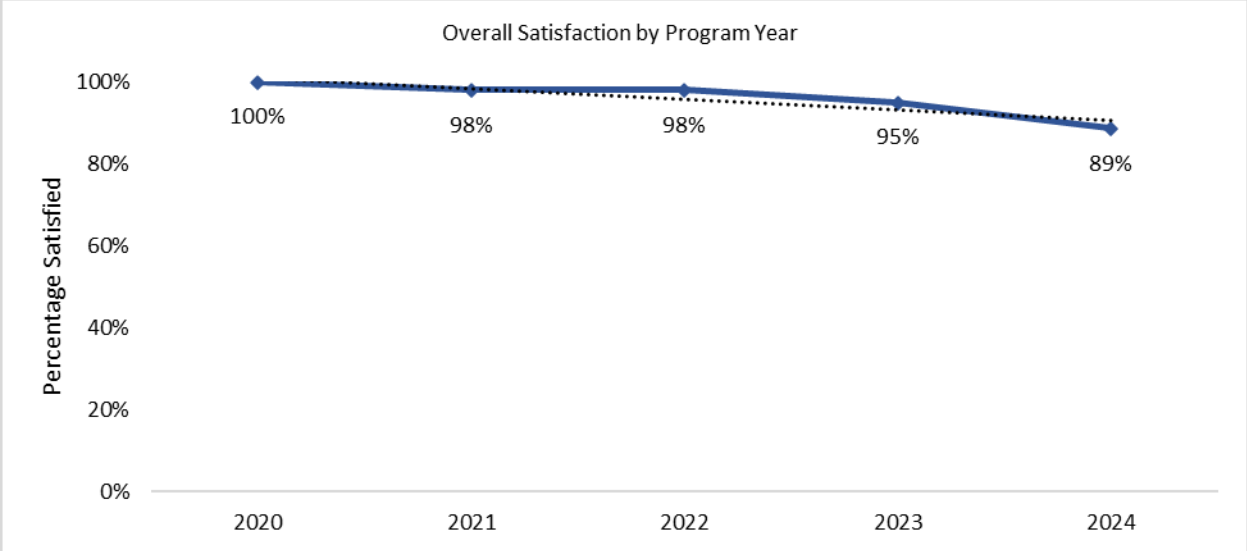
7.1.14 Rental Properties

Rental Properties participants (n = 72) installed six measure types: gas furnaces (n = 25), ductless heat pumps (n = 23), ducted heat pumps (n = 10), ceiling insulation (n = 8), wall insulation (n = 4), and floor insulation (n = 2).

These participants showed moderate to very high levels of satisfaction with all facets of the experience. For the first four years of measurement the overall satisfaction trend was consistently very high. However, since 2023 there has been a 6% drop, which reflects a consistent decline in satisfaction since measurement began in 2020. This may warrant attention (Table 75 and accompanying chart).

Table 75: Satisfaction Ratings: Rental Properties

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 66)	88%
Performance of new measure (n = 64)	91%
Comfort of home after new measure (n = 59)	90%
Incentive application form (n = 7)	92%
Time it took to receive incentive (n = 7)	80%
Contractor Satisfaction	
Overall experience (n = 66)	88%
Quality of installation work (n = 67)	90%
Information about incentives (n = 58)	80%
Communication (n = 67)	97%
Assistance with application (n = 8)	100%



The overall program influence on participant purchase decisions was very high (94%). The Energy Trust incentive showed the greatest influence (Table 76).

Table 76: Influence Ratings: Rental Properties

Influence Level	Overall Influence (n = 67)	Energy Trust Incentive (n = 60)	Energy Trust Information or Materials (n = 38)	Contractor (n = 65)	Energy Efficiency Rating (n = 52)
High	94%	90%	80%	75%	86%
Medium	5%	5%	13%	5%	14%
Low	1%	6%	7%	20%	0%

Word of mouth was the most frequently mentioned way respondents found their contractor (Table 77).

Table 77: Where Respondent Found the Contractor: Rental Properties

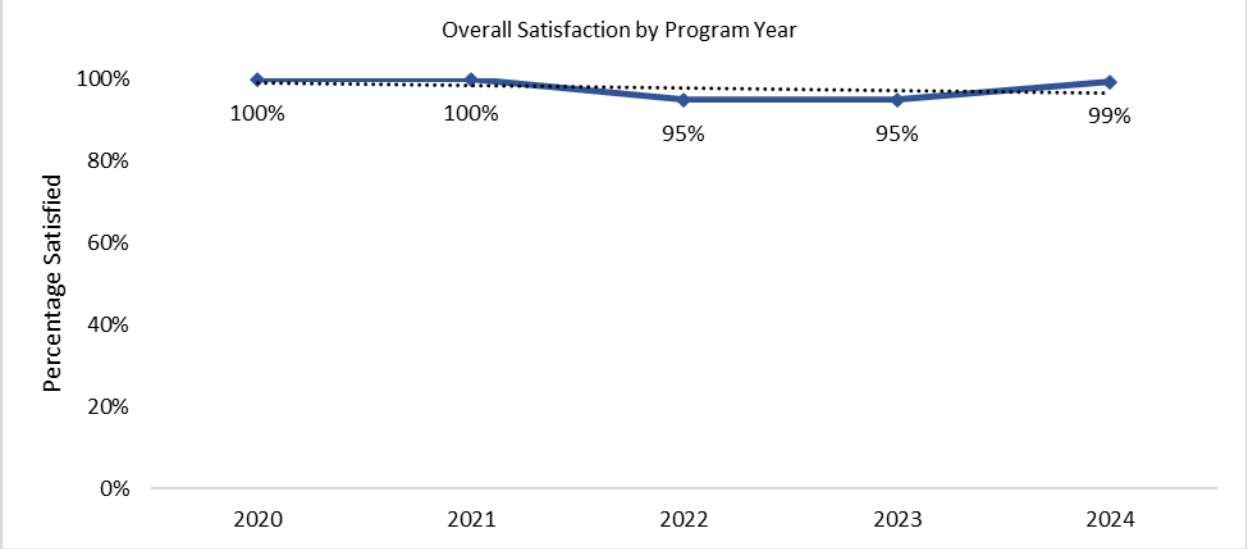
Contractor Source (n = 72)	Percent
Word of mouth	53%
Online service	3%
Web search	15%
Advertisement	3%
Energy Trust website	9%
Energy Trust referral	13%
Not Applicable	1%
Don't know	0%
Prefer not to answer	6%

7.1.15 Manufactured Home Promotions

This group was previously called "Fixed Price Promotions." Manufactured Home Promotions participants (n = 64) installed two measure types: ducted heat pumps (n = 43) and ductless heat pumps (n = 21). These participants showed very high levels of satisfaction with all facets of the experience (Table 78 and accompanying chart), with satisfaction levels having increased from those observed in the past two years.

Table 78: Satisfaction Ratings: Manufactured Home Promotions

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 58)	99%
Performance of new measure (n = 63)	98%
Comfort of home after new measure (n = 56)	98%
Incentive application form (n = 0)	n/a
Time it took to receive incentive (n = 0)	n/a
Contractor Satisfaction	
Overall experience (n = 58)	99%
Quality of installation work (n = 57)	98%
Information about incentives (n = 47)	99%
Communication (n = 57)	98%
Assistance with application (n = 0)	n/a



The overall program influence on participant purchase decisions was very high (96%). Energy Trust information or materials showed the greatest influence (Table 79). Salesperson or Retailer was excluded from this comparison due to a very low response rate.

Table 79: Influence Ratings: Manufactured Home Promotions

Influence Level	Overall Influence (n = 59)	Energy Trust Incentive (n = 51)	Energy Trust Information or Materials (n = 29)	Salesperson or Retailer (n = 1)	Contractor (n = 57)	Energy Efficiency Rating (n = 54)
High	96%	82%	86%	100%	83%	77%
Medium	1%	12%	10%	0%	6%	6%
Low	3%	6%	3%	0%	11%	17%

Word of mouth was by far the most frequently mentioned way respondents found their contractor. (Table 80).

Table 80: Where Respondent Found the Contractor: Manufactured Home Promotions

Contractor Source (n = 64)	Percent
Word of mouth	50%
Online service	0%
Web search	15%
Advertisement	15%
Energy Trust website	7%
Energy Trust referral	9%
Not Applicable	3%
Don't know	0%
Prefer not to answer	9%

7.1.16 Instant Incentives

Instant Incentives participants (n = 372) installed ten types of measures: ducted heat pumps (n = 84), ductless heat pumps (n = 73), gas furnaces (n = 69), smart thermostats (n = 49), air conditioners (n = 39), ceiling insulation (n = 24), windows (n = 14), floor insulation (n = 12), gas fireplace (n = 4), and wall insulation (n = 4). These participants showed exceptionally high levels of satisfaction with all facets of the experience (Table 81).

Table 81: Satisfaction Ratings: Instant Incentives

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 319)	95%
Performance of new measure (n = 342)	93%
Comfort of home after new measure (n = 321)	93%
Contractor Satisfaction	
Overall experience (n = 319)	95%
Quality of installation work (n = 325)	94%
Information about incentives (n = 257)	90%
Communication (n = 324)	96%

Overall program influence on participant purchase decisions was very high (94%). Energy Efficiency rating showed the greatest influence (Table 82).

Table 82: Influence Ratings: Instant Incentives

Influence Level	Overall Influence (n = 346)	Energy Trust Incentive (n = 261)	Energy Trust Information or Materials (n = 159)	Salesperson or Retailer (n = 52)	Contractor (n = 314)	Energy Efficiency Rating (n = 236)
High	94%	83%	82%	78%	80%	84%
Medium	2%	8%	10%	10%	6%	9%
Low	4%	8%	8%	11%	15%	7%

Word of mouth was by far the most frequently mentioned way respondents found their contractor (Table 83).

Table 83: Where Respondent Found the Contractor: Instant Incentives

Contractor Source (n = 352)	Percent
Word of mouth	51%
Online service	3%
Web search	16%
Advertisement	8%
Energy Trust website	7%
Energy Trust referral	12%
Not Applicable	2%
Don't know	1%
Prefer not to answer	7%

7.1.17 No Cost Offers

No Cost Offers participants (n = 35) installed two types of measures: ductless heat pumps (n = 20), and ducted heat pumps (n = 15). These participants showed moderate to high levels of satisfaction with all facets of the experience (Table 84).

Table 84: Satisfaction Ratings: No Cost Offers

Satisfaction	Percent
Measure Satisfaction	
Overall experience (n = 33)	89%
Performance of new measure (n = 33)	75%
Comfort of home after new measure (n = 32)	76%
Incentive application form (n = 0)	n/a
Time it took to receive incentive (n = 0)	n/a
Contractor Satisfaction	
Overall experience (n = 33)	89%
Quality of installation work (n = 34)	81%
Information about incentives (n = 25)	89%
Communication (n = 34)	91%
Assistance with application (n = 0)	n/a

The overall program influence on the installation decision was very high (95%). Information or Materials showed the greatest influence (*Table 85*). Energy Trust incentive was excluded from this comparison due to a very low response rate.

Table 85: Influence Ratings: No Cost Offers

Influence Level	Overall Influence (n = 33)	Energy Trust Incentive (n = 3)	Energy Trust Information or Materials (n = 21)	Contractor (n = 32)	Energy Efficiency Rating (n = 32)
High	95%	100%	91%	86%	87%
Medium	4%	0%	7%	6%	5%
Low	1%	0%	2%	8%	8%

Word of mouth was the most frequently mentioned way respondents found their contractor, followed by Energy Trust referral (Table 86).

Table 86: Where Respondent Found the Contractor:

Contractor Source (n = 35)	Percent
Word of mouth	54%
Online service	0%
Web search	0%
Advertisement	0%
Energy Trust website	6%
Energy Trust referral	44%
Not Applicable	2%
Don't know	1%
Prefer not to answer	2%

7.2 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 mostly show high satisfaction ratings across all facets of program experience for all quota groups, with a few moderate satisfaction ratings. In most cases, satisfaction with the overall program experience and with interactions with program representatives significantly improved since 2023, especially for the commercial solar quota group.

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

7.2.1 Existing Buildings-Oregon

Existing Buildings-Oregon participants (*n* = 252) generally showed high levels of satisfaction and reported high overall program influence across quota groups (Table 87 and accompanying charts).

Table 87: Key Satisfaction and Influence Metrics by Quota Group: Existing Buildings-Oregon

Existing Buildings-Oregon Incentives Quota Group	Satisfaction		Overall Influence
	Overall Program Experience	Interaction with Program Representative	
Oregon Incentives (n = 519)	97%	99%	94%
Building Type Quotas (Exclusive Quotas)			
Assembly/Religious (n = 77)	99%	99%	95%
Education (n = 31)	98%	98%	98%
Healthcare (n = 33)	100%	100%	98%
Multifamily (n = 133)	96%	99%	92%
Office (n = 57)	99%	99%	97%
Other Commercial (n = 74)	99%	97%	92%
Restaurant (n = 40)	91%	100%	98%
Retail (n = 74)	96%	99%	97%
Washington (n = 3)	100%	100%	100%
Cross-Cutting Quota Groups			
Direct Install (DI) (n = 294)	96%	98%	96%
Lighting (Non-DI) (n = 26)	100%	100%	96%
Small MF (n = 105)	97%	99%	91%

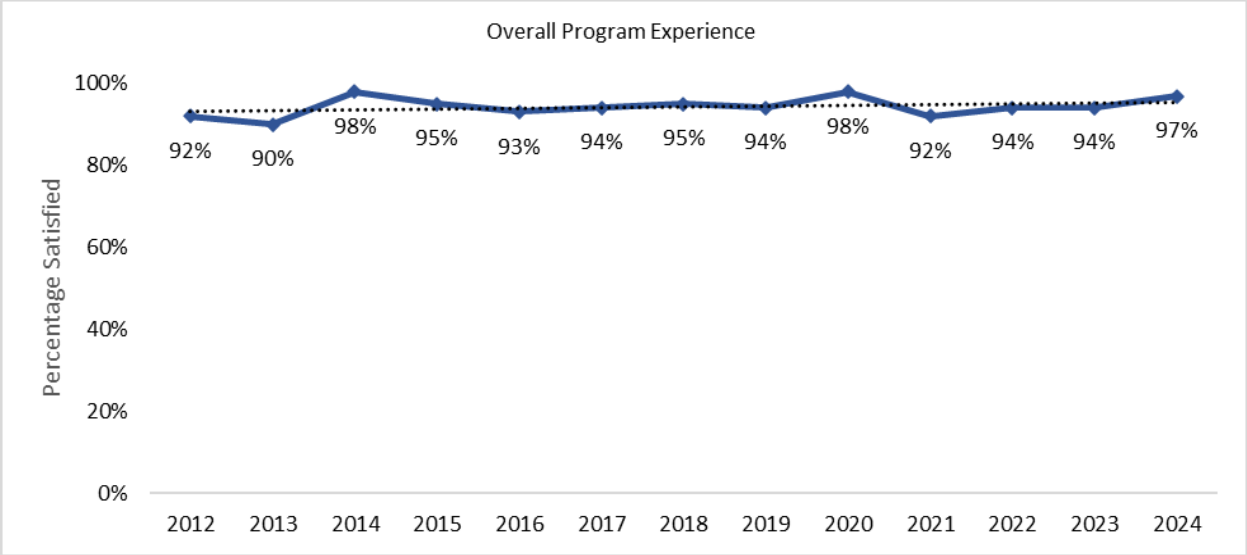
Looking at Existing Buildings-Oregon as a group, participants showed high levels of satisfaction with all facets of the experience (Table 88).

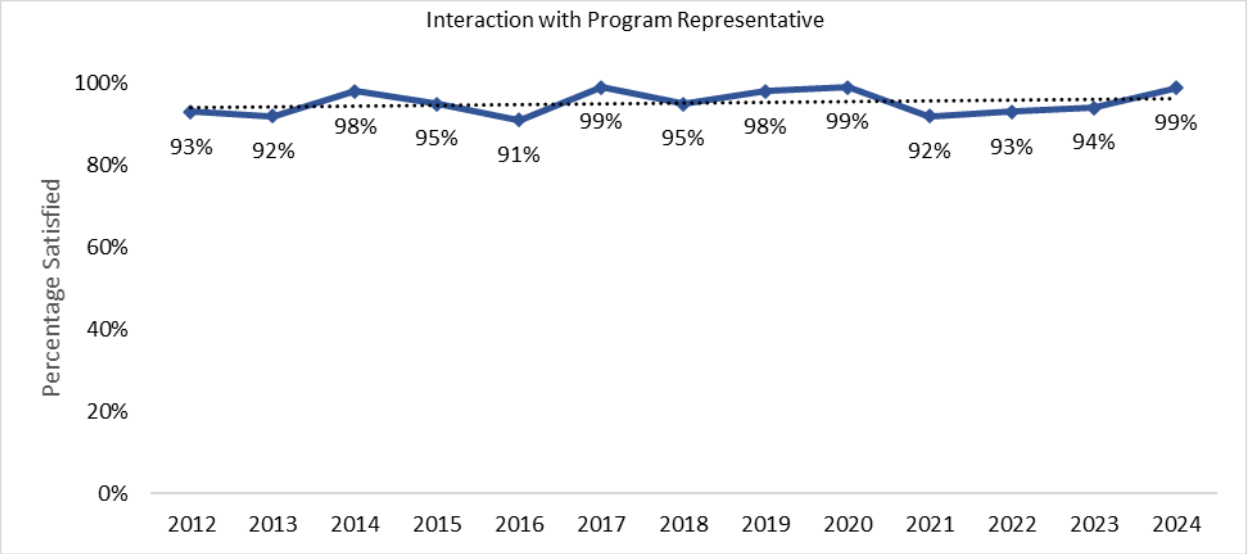
Table 88: Satisfaction by Program Element: Existing Buildings – Oregon

Program Element	Percent
Program-Level Satisfaction by Program Element	
Overall experience with Energy Trust (n = 514)	97%
Interaction with Energy Trust representative (n = 438)	99%
Incentive application process (n = 482)	93%
Information and materials from Energy Trust (n = 445)	90%
Site assessment or walk-through survey (n = 290)	96%
Energy Trust-funded technical services (n = 48)	97%
The scheduling process to receive services (n = 288)	88%
Turnaround time to receive your incentive (n = 198)	89%
Performance of the measure (n = 471)	98%
The vendor or installation contractor, if applicable (n = 484)	98%
Overall Experience by Program Track	
Lighting Direct Install (n = 0)	n/a
Standard (n = 220)	84%
Lighting non-DI (n = 26)	81%
Targeted Incentive (n = 0)	n/a
Interaction with Program Representative by Program Track	
Lighting Direct Install (n = 0)	n/a
Standard (n = 157)	91%
Lighting non-DI (n = 20)	95%
Targeted Incentive (n = 0)	n/a

Satisfaction with the overall program experience and interactions with program representatives were slightly higher than those of 2023 indicating a consistently high satisfaction trend.

Time Trend in Key Satisfaction Indicators: Existing Buildings – Oregon





Respondents across all program tracks reported influence from multiple factors (Table 89). As shown in Table 80, above, the overall program influence was very high for all quota groups, ranging from 93% to 97%. However, no data was available for Lighting (Non-DI). No single item was consistently more influential than any other across the quota groups. But on average influence from greatest to least was as follows: services provided at no/low cost (92%), by site assessment or walk-through survey (86%), Interaction with Energy Trust representative (84%), vendor or installation contractor (79%), information and materials (77%), Energy Trust incentive (75%), and Energy Trust-funded technical services (67%).

Table 89: Influencers by Quota Group: Existing Buildings – Oregon

Quota Group	Energy Trust Incentive		Information and materials		Services provided at no/low cost		Energy Trust program representative		Site assessment or walk-through survey		Energy Trust-funded technical services		Vendor or installation contractor	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Assembly/Religious	14	52%	65	80%	62	99%	70	85%	58	88%	4	50%	73	65%
Education	25	64%	28	59%	4	100%	29	72%	4	79%	18	80%	23	95%
Healthcare	3	100%	27	89%	30	98%	29	87%	29	83%	1	100%	30	80%
Office	14	91%	49	73%	40	96%	51	88%	41	88%	5	84%	49	77%
Other Commercial	23	92%	61	85%	47	85%	66	90%	45	90%	7	95%	62	69%
Restaurant	5	100%	33	97%	35	98%	36	91%	29	91%	1	100%	36	82%
Retail	10	80%	72	83%	64	96%	70	89%	60	89%	3	38%	71	88%
Warehouse	10	93%	9	92%	2	100%	7	93%	2	100%	2	100%	11	95%
Multifamily	121	76%	87	63%	3	100%	70	75%	21	90%	6	70%	118	87%
Commercial Solar	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a
Total Weighted Mean														
Total/Wtd Mean	**225**	**75%**	**431**	**77%**	**287**	**92%**	**428**	**84%**	**289**	**86%**	**47**	**67%**	**473**	**79%**
Cross Cutting Groups														
Direct Install (DI)	0	n/a	261	87%	287	95%	277	90%	271	90%	0	n/a	276	81%
Lighting (Non-DI)	26	94%	22	91%	0	n/a	19	69%	0	n/a	15	68%	20	81%
Small MF	98	76%	67	60%	0	n/a	52	69%	11	88%	5	45%	96	86%
No Cost Offers	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0	n/a

7.2.2 Commercial Solar

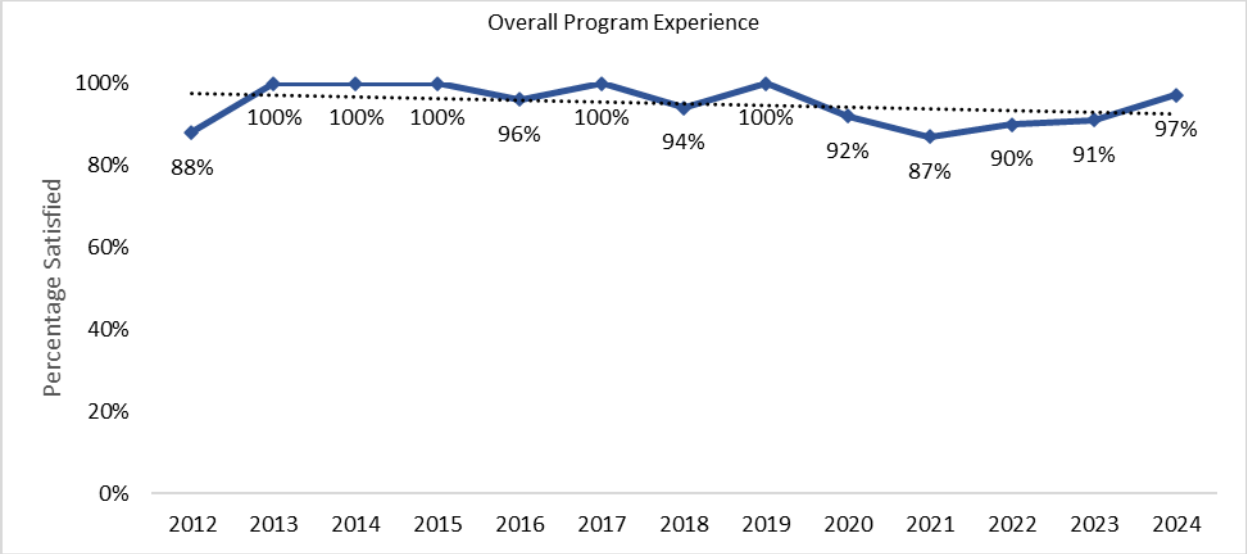
Commercial Solar participants (n = 22) showed high satisfaction with key program elements and reported high overall program influence which was a slight decline since 2023 (Table 90 and accompanying charts).

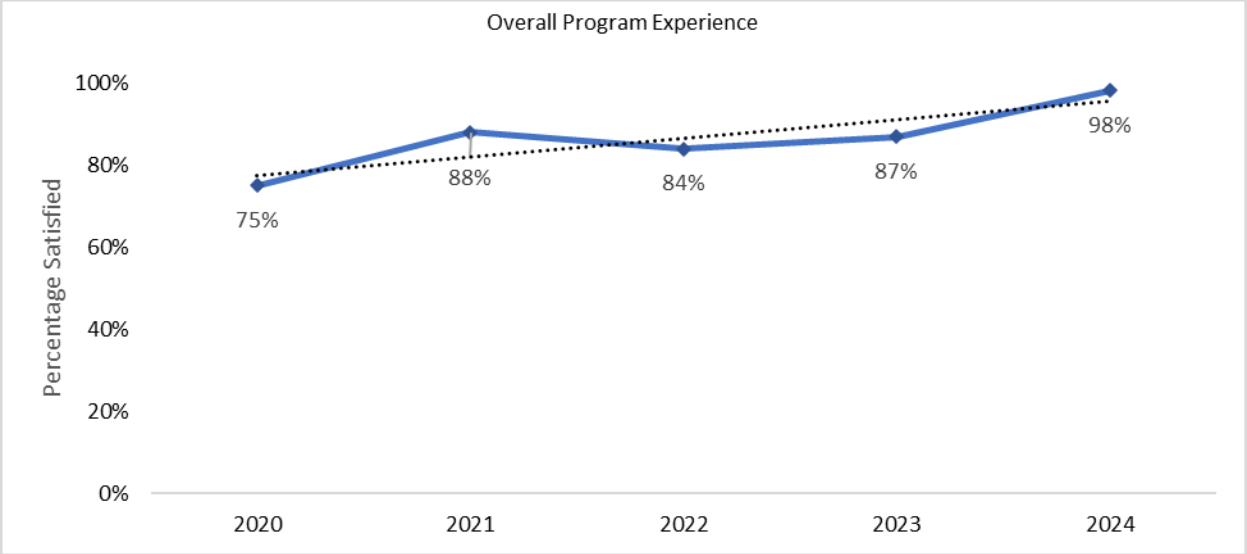
Table 90: Key Satisfaction and Influence Metrics by Quota Group: Commercial Solar

Quota Group	Satisfaction		Overall Influence
	Overall Experience with Energy Trust	Interaction with Energy Trust Representative	
Commercial Solar (n = 40)	97%	98%	80%

Satisfaction with the overall program experience improved since 2023, aligning with an upward trend since 2021. Interactions with program representatives

Time Trend in Key Satisfaction Indicators: Commercial Solar





Satisfaction across applicable program elements was rated high to very high with the lowest satisfaction level (91%) being the incentive application process (Table 91)

Table 91: Satisfaction by Program Element: Commercial Solar

Program Element	Percent
Overall experience with Energy Trust (n = 38)	97%
Interaction with Energy Trust representative (n = 29)	98%
Incentive application process (n = 32)	91%
Information and materials from Energy Trust (n = 33)	93%
Site assessment or walk-through survey (n = 0)	n/a
Energy Trust-funded technical services (n = 0)	n/a
The scheduling process to receive services (n = 0)	n/a
Turnaround time to receive your incentive (n = 0)	n/a
Performance of the measure (n = 34)	98%
The vendor or installation contractor, if applicable (n = 40)	94%

Respondents reported influence from multiple factors (Table 92) but were least influenced by the information and materials from Energy Trust (60%) and the Energy-Trust incentive (67%).

Table 92: Influencers: Commercial Solar

Influencer	Percent
Overall influence (n = 40)	80%
The Energy Trust Incentive (n = 39)	67%
Information and materials from Energy Trust (n = 32)	60%
The Energy Trust program representative (n = 25)	70%
Energy Trust-funded technical services (n = 0)	n/a
The vendor or installation contractor, if applicable (n = 39)	69%

7.2.3 Production Efficiency

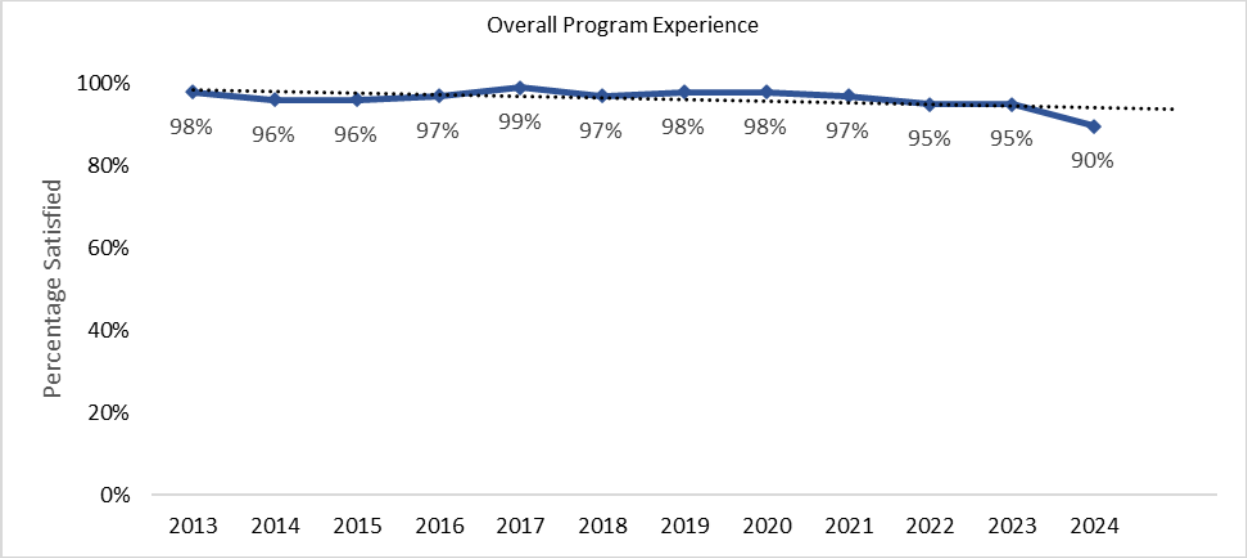
Production Efficiency participants (n = 170) showed high to very high satisfaction with key program elements, except for Agriculture and Grow lighting, which showed moderate levels. Overall program influence across quota groups was high for all groups except for Agriculture displayed moderate levels; small sample sizes argue for caution in comparing across groups or with previous years (Table 93 and accompanying charts).

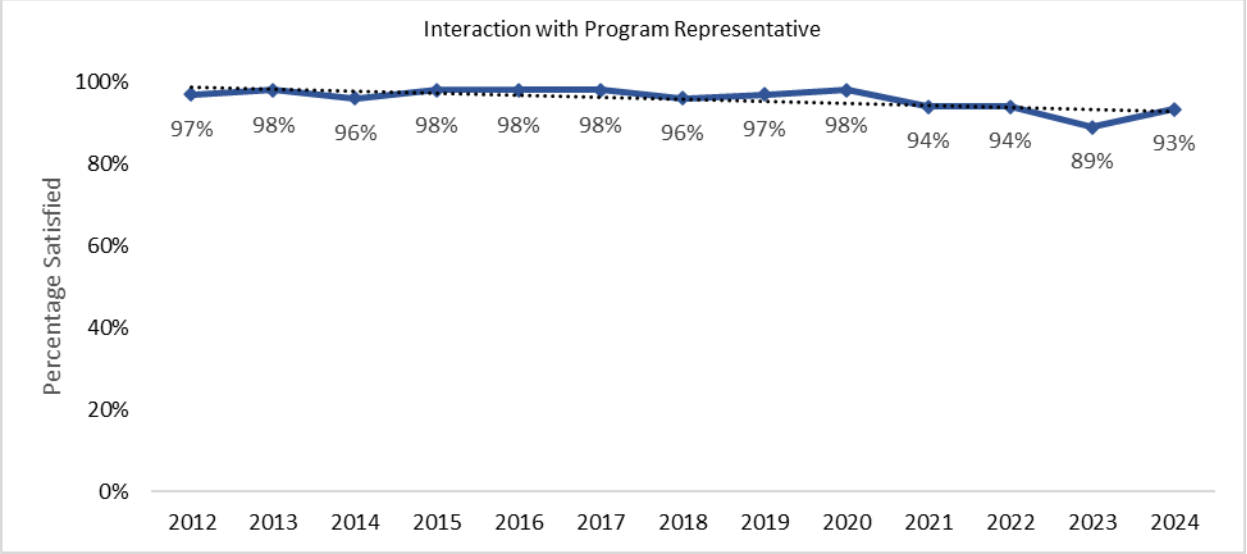
Table 93: Key Satisfaction and Influence Metrics by Quota Group: Production Efficiency

Quota Group	Satisfaction		Overall Influence
	Overall Program Experience	Interaction with Program Representative	
Production Efficiency (n = 170)	90%	93%	91%
End-Use Quotas (Exclusive Quotas)			
Agriculture (n = 41)	77%	79%	81%
Compressed air (n = 3)	100%	100%	100%
HVAC and controls (n = 12)	95%	94%	92%
Lighting (n = 49)	96%	99%	95%
Other industrial measures (n = 44)	95%	99%	96%
Pumps and motors (n = 18)	94%	94%	89%
Grow lighting (n = 3)	81%	81%	100%
Cross-Cutting Quota Groups			
Custom projects (n = 25)	100%	100%	91%
Standard projects (n = 93)	86%	90%	90%
Agriculture sector (n = 76)	81%	84%	86%
Food & beverage sector (n = 16)	97%	100%	100%
High tech sector (n = 7)	100%	100%	100%
Metals sector (n = 4)	100%	100%	100%
Wood & paper sector (n = 13)	100%	100%	100%

Satisfaction with the overall program experience has deviated slighly below the consistently high satisfaction rate trend over time, but is still high; satisfaction with interactions with program representatives is somewhat higher than 2023 but is consistent with the rates trend from years prior to 2023.

Time Trend in Key Satisfaction Indicators: Production Efficiency





Addressing Production Efficiency participants as a group, results display high levels of satisfaction with all facets of the experience, except for time taken to receive incentive (Table 94).

Table 94: Satisfaction by Program Element: Production Efficiency

Program Element	Percent
Program-Level Satisfaction by Program Element	
Overall experience with Energy Trust (n = 168)	90%
Interaction with Energy Trust representative (n = 143)	93%
Incentive application process (n = 0)	n/a
Information and materials from Energy Trust (n = 143)	92%
Site assessment or walk-through survey (n = 0)	n/a
Energy Trust-funded technical services (n = 76)	96%
The scheduling process to receive services (n = 0)	n/a
Turnaround time to receive your incentive (n = 151)	79%
Performance of the measure (n = 165)	95%
The vendor or installation contractor, if applicable (n = 141)	91%
Overall Experience by Program Track	
Lighting Direct Install (n = 0)	n/a
Standard (n = 0)	n/a
Lighting non-DI (n = 12)	24%
Small Industrial (n = 93)	78%
Interaction with Program Representative by Program Track	
Lighting Direct Install (n = 0)	n/a
Standard (n = 0)	n/a
Lighting non-DI (n = 12)	32%
Small Industrial (n = 70)	79%

Respondents across all program tracks reported influence from multiple factors (Table 95). No single item was consistently more influential than any other across quota groups.

Table 95: Influencers by Quota Group: Production Efficiency

Quota Group	Energy Trust Incentive		Information and materials		Energy Trust program representative		Energy Trust-funded technical services		Vendor or installation contractor	
	n	%	n	%	n	%	n	%	n	%
Agriculture	41	43%	33	39%	24	54%	4	88%	26	63%
Compressed Air	3	63%	3	63%	2	100%	3	63%	3	26%
HVAC and Controls	11	78%	10	70%	9	43%	5	45%	8	30%
Lighting	49	83%	39	70%	45	54%	28	61%	47	55%
Other Industrial Measures	42	74%	41	68%	38	82%	24	84%	36	73%
Pumps and Motors	18	33%	14	41%	17	39%	8	34%	14	63%
Grow Lighting	3	19%	2	23%	3	19%	2	23%	3	19%
Total Weighted Mean										
Total/Wtd Mean	**167**	**64%**	**142**	**58%**	**138**	**59%**	**74**	**65%**	**137**	**59%**
Cross-Cutting Quota Groups										
Custom Projects	25	65%	25	64%	24	73%	23	67%	19	50%
Standard Projects	90	59%	76	55%	66	67%	21	90%	68	71%
Agriculture Sector	75	47%	59	46%	55	45%	17	32%	54	52%
Food & Beverage Sector	15	74%	14	76%	14	92%	9	80%	15	85%
High Tech Sector	7	90%	6	89%	6	77%	7	90%	5	25%
Metals Sector	4	100%	3	100%	4	100%	3	100%	4	27%
Wood & Paper Sector	12	90%	12	90%	12	86%	12	82%	10	85%