

# 2020 Customer Insights Study Final Report

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*Prepared for:  
Energy Trust of Oregon*

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## Acknowledgements

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# MEMO

**Date:** July 27, 2021  
**To:** Board of Directors  
**From:** Dan Rubado, Evaluation Project Manager  
Shelly Carlton, Sr. Marketing Manager  
Mana Haeri, Residential Marketing Manager  
**Subject:** Staff Response to 2020 Customer Insights Study

Energy Trust of Oregon recently completed the 2020 Customer Insights Study, a general population survey of Energy Trust's residential customers in Oregon. A previous version of this report contained analysis errors that have been corrected.

We used this study to:

1. Assess overall awareness of Energy Trust and participation in our residential offers.
2. Gather insights on customer characteristics, attitudes and behaviors.
3. Evaluate patterns and disparities in program participation across different demographic groups.
4. Validate current and planned program design and marketing strategies for diversity, equity and inclusion (DEI).
5. Evaluate the validity of our approach to setting and monitoring progress toward our residential DEI goals (described in the DEI Data and Baseline Analysis report<sup>1</sup>).

The study showed significantly lower program participation rates and awareness of Energy Trust and its services among low-income groups, African American/Black and Hispanic/Latinx communities, residents of rural areas and renters. Lack of awareness and knowledge of programs were cited as key barriers. The study found these customers tend to prioritize saving money over saving energy and are most concerned with energy affordability. It also indicated that a few of these groups are more likely to make some energy upgrades themselves, rather than hire contractors.

The study defined program participants as residential households that received an Energy Trust incentive between 2013 and 2019. This long timeframe represents a large volume of program participants. Given the number of survey respondents and study design, the impact on awareness and program participation from more recent, targeted program and marketing efforts may not be evident in the study results. Energy Trust uses other methods to assess the impacts of these efforts on an ongoing basis. Examples include program process evaluations and our Fast Feedback Survey, which recently showed the share of residential participants who identify as Hispanic/Latinx more than doubled between 2019 and 2020.<sup>2</sup>

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<sup>1</sup> Energy Trust of Oregon. 2018 Diversity, Equity and Inclusion Data and Baseline Analysis. Published December 26, 2018. Available at: <https://www.energytrust.org/documents/energy-trust-of-oregon-2018-diversity-equity-and-inclusion-data-and-baseline-analysis/>

<sup>2</sup> See the 2019 and 2020 Fast Feedback annual reports on Energy Trust's website:

The study results, in combination with other qualitative research efforts, provide evidence that supports Energy Trust’s current approach to program design and marketing initiatives. These initiatives are more inclusive of the needs and priorities of low-income groups, African American/Black and Hispanic/Latinx communities, residents of rural areas, and renters, and are designed to increase awareness and participation among these customers. Examples of current and in-development efforts include, but are not limited to:

- Partnering with community-based organizations and Community Action Agencies to provide services tailored to their customers.
- Launching regional strategies tailored to the needs of specific rural communities.
- Developing low-cost, direct ship offers that are delivered to people’s homes.
- Producing do-it-yourself resources for home repair or maintenance, such as water heater or thermostat installation tutorials and guidance on how to ensure devices are running efficiently.
- Improving our online experience so people coming to our website can easily access offers for which they are eligible.
- Designing more inclusive multicultural and culturally specific marketing approaches, including working with a broader pool of creative agencies and vendors who represent diverse communities.
- Developing marketing and communications that not only promote products and services but also better explain who we are as an organization, who we serve and how we can help individuals and communities in Oregon.

As we continue to develop these initiatives, it is important to establish a sound method for setting goals and evaluating results. This study revealed that the Census tract-based method Energy Trust began using in 2018 does not offer a reliable proxy for program participant demographics, especially for race. This makes it difficult to assess the extent to which we are improving our service to communities of color.

### **Next Steps**

Energy Trust will continue to expand program design and marketing initiatives that focus on customers who represent communities we have not yet served and work with outside organizations, subject matter experts and customers to gain insights. We will closely monitor their success and make changes as necessary. Energy Trust is also creating alternatives to our current method for measuring progress toward our residential DEI goals. The final method will depend on the organization’s DEI metrics and goals, which are currently in development. Regardless of the metrics and goals that are set, we will continue to track the overall equity of Energy Trust’s residential services through the Customer Insights Study.

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## Executive Summary

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Since 2016, Energy Trust has conducted the Customer Insights Study to inform marketing efforts and learn more about the demographics of both participants and nonparticipants in its residential energy programs. Prior studies focused on how program participants and nonparticipants differ. In 2019, Energy Trust awarded ADM Associates a contract to conduct the fourth Customer Insights Study, with an expanded scope and sample size. The study's primary objectives were to assess awareness, motivations, barriers, and equity relating to Energy Trust and its residential programs. In particular, the study sought to assess how awareness, motivations, barriers, and program participation were related to customer demographics and how Energy Trust might better reach underserved customer groups. A second objective was to help validate the geographic analysis described in the 2018 Diversity, Equity and Inclusion (DEI) Baseline Analysis report<sup>1</sup> (i.e., provide a "DEI Baseline Validation") by assessing whether the demographic profile of the Census tracts where participants reside can be used as a proxy for the participants' demographic characteristics.

### Survey Implementation

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From February 4 to May 15, 2020, ADM Associates fielded a multi-modal survey, in English and Spanish, of residential households in Energy Trust's Oregon service territory. ADM obtained a total of 7,257 responses, for an overall response rate of 19%.

The survey instrument covered customer awareness of energy efficiency and renewable energy services in Oregon generally; awareness of Energy Trust and participation in Energy Trust programs; barriers to program participation; energy-related attitudes; purchase of energy efficient lighting; and property maintenance practices. The survey also collected respondent demographic information. We conducted all analyses using data weighted to offset potential biases introduced through the sample design, survey implementation procedures, and respondent self-selection.

### Assessment of Awareness, Motivations, Barriers, and Equity

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Energy Trust programs reach higher percentages of white and Asian American households, moderate- and high-income households, homeowners, dual fuel customers<sup>2</sup>, and residents of the Portland Metro region<sup>3</sup> compared to other customer groups.

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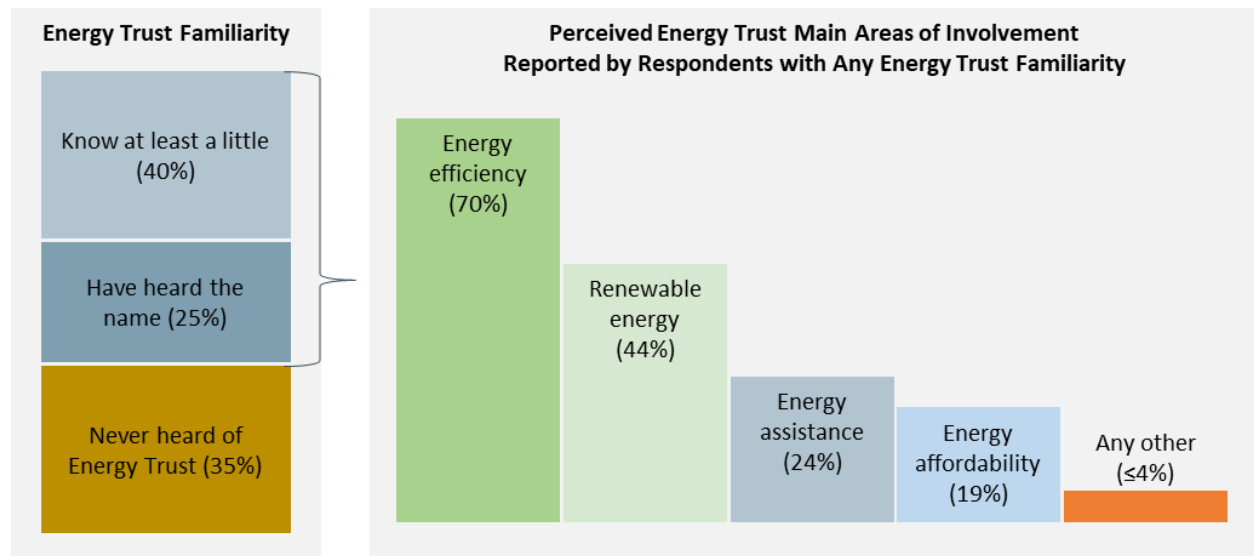
<sup>1</sup> Energy Trust of Oregon. 2018 Diversity, Equity and Inclusion Data and Baseline Analysis. Published December 26, 2018. Available at: <https://www.energytrust.org/documents/energy-trust-of-oregon-2018-racial-diversity-equity-and-inclusion-data-and-baseline-analysis/>.

<sup>2</sup> In this report, "dual fuel" means the customer received both electric and gas service from an Oregon investor-owned utility (IOU), "electric-only" means the customer received only electric service from an Oregon IOU, and "gas-only" means the customer received only gas service from an Oregon IOU, but electricity from another source.

<sup>3</sup> The study divided the Energy Trust territory into four regions: Portland Metro and Hood River ("Portland Metro"), Willamette Valley/North Coast, Southern Oregon, and East of the Cascades. See Appendix 0 for details.

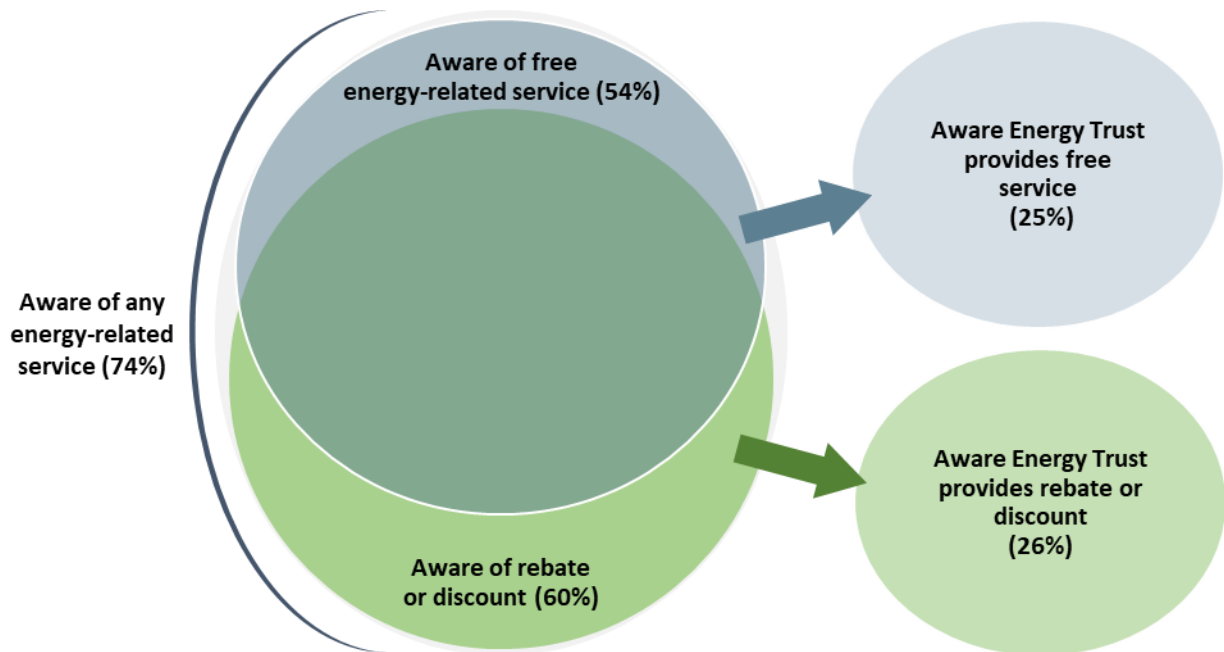
Lack of program awareness and lack of sufficient program information were the most common reasons for nonparticipation, each cited by just over one-third of respondents. Examined across all groups, results showed low overall awareness of Energy Trust and its programs. Although 65% said they had at least heard of Energy Trust, a quarter of respondents said they knew nothing beyond the name, less than half saying they knew at least a little about the organization (Figure E-1). Just over two-thirds of those familiar with Energy Trust identified energy efficiency as one of its main areas of involvement; less than half identified renewable energy as a main area of involvement and one-quarter or fewer identified energy assistance, affordability, reliability, health and comfort, or resilience.

Figure E-1: Energy Trust Familiarity and Perceived Main Areas of Involvement



Just under three-quarters of respondents knew of one or more energy-related services that Energy Trust currently offers: just over half knew about free services and 60% knew about rebates or discounts for energy upgrades in Oregon (Figure E-2). Of those who knew of either type of service, just under half (about one-quarter of all respondents) knew that Energy Trust provides that service.

Figure E-2: Awareness of Energy Trust Services



Keeping energy bills low was important for most respondents, with about three-quarters indicating they were always looking for a way to lower energy bills. One-third of respondents even reported worrying about having enough money to pay energy bills. Notably, nearly two-thirds of respondents indicated that home comfort was an acceptable trade-off for higher bills, and this was equally the case whether or not respondents reported looking for ways to lower energy bills or worrying about being able to pay their bills (Table E-1, shaded area).

Table E-1: Demographic Differences in Awareness, Motivations, and Participation Barriers

Energy Concern Subgroup		Subgroup: Percent of All Respondents	Comfort is Important, Even if Bills are Higher: Percent of Subgroup
Always looking for ways to lower bills, and ...	... worry about energy bills	32%	62%
	... do not worry about energy bills	45%	64%
Not always looking for ways to lower bills		23%	62%

When it came to identifying energy-related priorities for Oregon as a whole, respondents most frequently prioritized affordability and energy efficiency.

Program awareness, motivations, and barriers to program participation differed across demographics in ways that reflect the above-described differences in program reach (Table E-2).

*Table E-2: Demographic Differences in Awareness, Motivations, and Participation Barriers*

People of Color, Lower Income, Renters, Attached/Other Housing, Electric-Only Service	White, Higher Income, Owners, Single-Family Detached Housing, Dual-Fuel or Gas Service
<ul style="list-style-type: none"> <li>✓ Less Energy Trust familiarity</li> <li>✓ Greater concern with energy costs or ability to pay energy bills</li> <li>✓ Less emphasis on energy efficiency, home comfort, paying more for eco-friendly products and renewable energy</li> <li>✓ Fewer information sources on home maintenance and repair</li> <li>✓ LEDs a lower share of all lighting purchase</li> <li>✓ Lack of program awareness is more common participation barrier</li> </ul>	<ul style="list-style-type: none"> <li>✓ More Energy Trust familiarity</li> <li>✓ Less concern with energy costs or ability to pay energy bills</li> <li>✓ Greater emphasis on energy efficiency, home comfort, paying more for eco-friendly products and renewable energy</li> <li>✓ More information sources on home maintenance and repair</li> <li>✓ LEDs a greater share of all lighting purchase</li> <li>✓ Insufficient program information, perceived ineligibility, and lack of motive are more common participation barriers</li> </ul>

It is important to note that Asian American respondents were more likely to be high-income than other communities of color and responded similarly to white respondents across a range of survey items.

Responses also varied by region but not consistently. In general, respondents in the Portland Metro region differed from those in other regions (Table E-3).

*Table E-3: Regional Differences in Awareness, Motivations, and Participation Barriers*

Outside of Portland Metro Region	Portland Metro Region
<ul style="list-style-type: none"> <li>✓ Less Energy Trust familiarity</li> <li>✓ Greater concern with affordability</li> <li>✓ Greater concern with power outage</li> <li>✓ Less willingness to pay more for renewable energy</li> <li>✓ Fewer information sources on home maintenance and repair</li> <li>✓ Perceived ineligibility a more common participation barrier</li> </ul>	<ul style="list-style-type: none"> <li>✓ Greater Energy Trust familiarity</li> <li>✓ Less concern with affordability</li> <li>✓ Less concern with power outage</li> <li>✓ Greater willingness to pay more for renewable energy</li> <li>✓ More information sources on home maintenance and repair</li> <li>✓ Perceived ineligibility a less common participation barrier</li> </ul>

Survey respondents included 70 customers who owned or managed the property in question as a rental property – that is, landlords. The properties were largely market-rate, single-family homes. Landlords were similar to homeowners in terms of participation barriers and in terms of what they saw as statewide energy priorities, but they differed from homeowners and renters in three areas. First, they generally were more aware of Energy Trust and its services than homeowners or renters. Second, those who had not participated in Energy Trust programs were more likely to believe they were not eligible to participate. Third, commercial sources (e.g., contractors or retailers), utility companies, and government agencies were more important sources of information about home maintenance and repair for landlords than for

other respondents. These differences suggest it may be beneficial for Energy Trust to work with contractors, home improvement stores, and utility companies to ensure that they educate customers who own rental property about their eligibility for Energy Trust programs.

## DEI Baseline Validation

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The purpose of the DEI baseline validation was to examine the assumptions in Energy Trust's 2018 DEI Baseline Report – that differences in program participation between areas that differ demographically can be used as proxies for differences in participation between households with similar demographic differences. Energy Trust has been using this geographically-aggregated analysis method since 2018 to measure progress towards its DEI program participation goals. We conducted analyses to assess whether: 1) the difference in program participation rates between high- and low-income areas reflects the difference in participation rates between high- and low-income households; and 2) the difference in participation rates between areas with a high prevalence of people of color (high racial diversity) and a low prevalence of people of color (low racial diversity) reflects the difference in participation rates between households of color and white households. An affirmative answer would validate the use of Census data to assess differences in participation as a proxy for household-level differences, but a negative answer would argue against doing so.

Our analyses suggest that the difference in participation between high- and low-income areas slightly underestimates the difference between high- and low-income households. Those results suggest that while using Census tract participation levels as a proxy for household-level participation does not provide a perfect assessment of the degree to which Energy Trust is serving high- and low-income households, it may be close enough to inform program planning. This may be particularly the case if Energy Trust accounts for the amount of over- or underestimation of participation, as revealed by survey data.

However, the difference in participation between high- and low-racial-diversity areas well overestimates the difference between households of color and white households. Those results more clearly argue against the use of Census tract participation as an assessment of the degree to which Energy Trust is serving households of color compared to white households.

## Conclusions and Recommendations

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**Conclusion 1: Lack of awareness or information is a participation barrier among low-income customers, persons of color, and customers outside of Portland Metro.** Awareness of Energy Trust and its services was directly related to income. The relationship of awareness to race/ethnicity and region was not as straightforward, but generally people of color and those outside the Portland Metro region were less aware than were white customers and those within Portland Metro. Differences in attitudes and perceptions identified in this study could guide development of group-specific messaging.

**Recommendation 1:** Energy Trust should investigate the use of messaging and marketing efforts that target communities of color and low-income customers as well as customers outside the Portland Metro region to increase awareness and interest in Energy Trust's services.

**Conclusion 2: Lack of awareness or information is a participation barrier among renters, which may be exacerbated by some landlords' perception that they are not eligible for program incentives.** Lack of

awareness and lack of adequate information about Energy Trust services are the primary barriers to program participation. Further, awareness of Energy Trust and its products and services was directly related to income, home ownership, and utility service type, among other factors. The interrelationship of these variables suggests that the lower participation of low- and moderate-income customers may be partially a result of lower rates of home ownership. Because renters are typically served through multifamily and landlord-focused programs, increasing participation among rental property owners is paramount for Energy Trust to serve these customers. Landlords show greater awareness of Energy Trust than occupants, but are more likely to believe they are not eligible for incentives.

**Recommendation 2:** Continue efforts to increase program participation among rental property owners and managers, possibly through outreach to contractors, home improvement stores, and utility companies to enlist their help in making their landlord customers know they are eligible for Energy Trust programs, while considering messaging to increase awareness among renters to ask their landlords about the products and services that Energy Trust provides.

**Conclusion 3: The perception that energy efficiency improvements are too expensive may prevent some customers from lowering their energy bills while maintaining home comfort.** Both lowering energy bills and maintaining home comfort are key concerns for groups of interest that showed lower awareness of and participation in Energy Trust programs (primarily low-income, people of color, and renters). This suggests that messaging on how energy efficiency can lower bills and improve comfort would relate to these groups. Such messaging may have limited effectiveness among such customers unless the lower bills and improved comfort can be achieved without overly burdensome upfront costs.

**Recommendation 3:** Messaging should continue to focus on how energy efficiency can lower bills while increasing comfort and can be done without overly burdensome (or any) upfront costs, bolstered by financial assistance that makes that messaging a reality for all customers.

**Conclusion 4: There may be an opportunity to increase energy savings among renters through greater uptake of LED lighting.** A substantial portion of renters reported buying or installing lighting, but they were less likely to have bought or installed LED lighting. This suggests that renters may represent an opportunity for achieving greater lighting savings. It may be valuable to investigate why LED purchases lag in this group.

**Recommendation 4:** Marketing directed at renters should focus on the benefits of energy-efficient LED lighting.

**Conclusion 5: Census tract demographics are not perfect proxies for participant household-level demographics although they may be sufficient approximates to guide program-related decisions relating to income level.** The DEI Baseline Validation analysis suggests that Census tract-level demographics are not completely accurate proxies for participant differences related to household-level demographics. However, though not perfect, the Census proxy for income points to the same general concerns (under-participation by low-income customers), and to the same needs (increasing participation by those customers) as do the survey results. Thus, using the Census proxy to track income-related participation differences over time may be feasible, especially if the likely level of over- or underestimation of demographic differences is taken into account. However, the Census proxy for race is not effective at estimating race-related differences in participation.

**Recommendation 5:** Energy Trust might continue to use the Census proxy to track income-related differences in program participation over time. If so, it should use results from the current study to adjust geographic differences to more accurately reflect household-level differences. To ensure that such adjustments remain valid, Energy Trust should continue to conduct periodic research on how demographics affect program participation. This might be done with less effort than the current Customer Insights Study by scaling down the length of the survey to increase response rates. However, the Census proxy should not be used to estimate or track race-related differences in participation.

**Conclusion 6: Regardless of how well Census racial diversity data work as a proxy for differences between whites and people of color, those data do not well account for the heterogeneity of people of color.** Unlike income level, where “low” and “high” have generally consistent meanings across tracts and households, people of color can represent many different groups in different tracts and households. Thus, even if using the Census racial diversity index could provide an accurate picture of participation differences between white customers and people of color, it does not tell us anything about participation differences among specific race/ethnicity groups. This is important because our analysis shows that participation rates differed widely between non-white racial groups.

**Recommendation 6:** Energy Trust should continue to use survey research to investigate how participation levels relate to race and ethnicity. In such future research, Energy Trust should continue efforts to design the sample to increase the number of people of color in the sample frame to help achieve the completion targets with less overall effort or even produce greater precision and reliability of results.



# 1. Introduction

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Energy Trust conducts the Customer Insights Study to inform marketing efforts and learn more about the demographics of both participants and nonparticipants in its residential energy programs. Customer Insights is a general population survey that asks eligible residential utility customers in Energy Trust's service territory about household demographics, awareness of Energy Trust and its services, home improvements, and energy-related attitudes and behaviors. In 2019, Energy Trust awarded ADM Associates a contract to conduct the fourth Customer Insights Study, with an expanded scope and sample size, to be fielded in 2020.

Prior studies (2016, 2017 and 2018) compared survey responses between program participants and nonparticipants to see how these groups differ demographically, in awareness of Energy Trust and its offerings, and in barriers and motivations to taking action to save energy (particularly related to Energy Trust's offerings). Understanding differences along these dimensions among nonparticipants is critically important for Energy Trust to develop program, marketing, and outreach strategies for groups with lower awareness or knowledge, or higher barriers to participation.

For 2020, Energy Trust expanded the scope of the study and the sample size of the survey to better assess program equity, identify populations that have been underserved, and help steer program services to those populations. Results from the 2020 Customer Insights Study will be used to better reach these customers and allow Energy Trust to decide where to target follow-up research (e.g., qualitative research, focus groups, concept testing).

The overall research questions for this study are:

- Are Energy Trust's programs reaching/serving different demographic groups equitably (proportionally)?
- How should Energy Trust focus its program development, marketing and outreach investment to reach all ratepayers?

The study had an overall target of 3,005 responses from program participants and nonparticipants, with completion quotas for certain communities of color. The primary objectives are to:

- Assess residential customer awareness of Energy Trust and its offerings, attitudes about energy-related topics, and barriers and motivations to taking action to save energy (particularly related to Energy Trust's offerings).
- Assess how the above metrics relate to program participation status.
- Assess how both the above metrics and participation status relate to demographics – specifically, race/ethnicity, income, home ownership status, home type, region, and utility fuel type.

This study also sought to validate the geographic analysis described in the 2018 Diversity, Equity and Inclusion (DEI) Baseline Analysis report.<sup>4</sup> Energy Trust conducted its 2018 DEI Baseline Analysis to attempt to establish whether its programs were reaching and serving various demographic groups equitably – that is, in proportion to their representation in Energy Trust’s Oregon service territory. Specifically, the analysis attempted to assess the equity of participation in programs with respect to race, income, and rural/urban geography. Since Energy Trust does not track customer demographic characteristics as part of program participation, the Baseline Analysis was done indirectly by comparing participation rates for communities – identified using Census tracts – against aggregate demographic characteristics gleaned from Census data. Thus, the final purpose of the 2020 Customer Insights Study was to provide information on whether Census tract-level Census data can be used reliably to draw conclusions about the equity of Energy Trust services delivered across demographic groups.

Energy Trust and a separate vendor, ILLUME Consulting, developed the general sampling approach and draft survey instrument. Energy Trust also established that survey fielding should include email, phone, and mail recruitment efforts to ensure coverage of everyone in the Energy Trust customer population.

ADM’s tasks were to develop a sample based on the overall approach, establish a detailed fielding approach, program and test the survey, carry out both a soft and full launch of the survey to achieve various study quotas, analyze the survey data, and prepare this report based on those analyses.

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<sup>4</sup> Energy Trust of Oregon. 2018 Diversity, Equity and Inclusion Data and Baseline Analysis. Published December 26, 2018. Available at: <https://www.energytrust.org/documents/energy-trust-of-oregon-2018-racial-diversity-equity-and-inclusion-data-and-baseline-analysis/>

## 2. Methods

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The following section presents a summary of how the study was conducted. A detailed presentation of survey methods, covering the development of the survey instrument, sample, survey implementation, response rates, and data analyses, can be found in Appendix A.

### 2.1. Survey Implementation

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From February 4 to May 15, 2020, ADM Associates fielded a multi-modal survey, in English and Spanish, of residential households who were confirmed to be customers of investor-owned utilities in Energy Trust's Oregon service territory. A stratified random sample of households was selected for recruitment. Recruitment was by letter-push-to-web, with an inbound phone option and postcard follow-up. This was followed by two rounds of either email, phone, or postcard mailing depending on the availability of contact information, followed by a paper survey with postage-paid return envelope. All recruitment efforts offered a \$15 incentive for completing the survey.

The survey instruments (web version and mail version) are in Appendix C and Appendix D. The recruitment materials are in Appendix E.

The survey instrument covered customer awareness of energy efficiency and renewable energy services in Oregon generally; awareness of Energy Trust; participation in Energy Trust programs; and barriers to participation; energy-related attitudes; purchase of energy efficient lighting; and property maintenance practices. The survey also collected information on the building characteristics, survey respondent's ownership status regarding the property in question, and demographics.

### 2.2. Survey Sampling and Response

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The population for this study is all residential utility premises in Oregon with electricity or natural gas service from Energy Trust's funding utilities, including both single-family and multifamily dwellings. Eligible respondents are all customers with confirmed utility service involved in paying bills or managing home energy use. Although we targeted occupants, all homeowners, tenants, landlords, and home-based businesses were eligible.

The overall sampling approach consisted of two components:

- 1) a stratified random **core sample** of participants and nonparticipants across Energy Trust's Oregon service territory. The strata were based on Census tract-level demographics. Strata representing both relatively high-income and relatively low-income areas as well as those with both relatively high and low concentrations of people of color were oversampled. The purpose of the oversampling was to ensure a sufficient sample from these areas for the DEI Baseline Validation analyses, which compare respondents from high- and low-income areas and those from areas with high- and low- concentrations of people of color (see Section 3.5).

- 2) a **communities of color (Communities of Color) oversample** of premises in Census tracts with the highest prevalence of Black, Native American, and Asian American households. The purpose of the

Communities of Color oversample was to ensure a sufficient number of survey completions within each of these racial groups to allow valid comparisons among the racial and ethnic groups in survey responses.

Energy Trust established quotas of 850 participants and 970 nonparticipants for the core sample and 275 participants and 910 nonparticipants for the Communities of Color oversample, for a total of 1,125 participants and 1,880 nonparticipants. Energy Trust also established completion targets for the three oversampled racial/ethnic groups identified above as well as for Hispanic/Latino households and for the Census tracts representing the highest and lowest racial and income diversity.<sup>5</sup>

ADM selected a stratified random sample of 38,125 households for recruitment (see Appendix A, Section A.2, for details). The responses to the initial letter-push-to-web recruitment effort surpassed the overall quotas for program participants and nonparticipants but did not achieve the completion quotas for all three oversampled racial/ethnic groups. ADM continued recruitment efforts by email, phone, postcard, and paper survey to achieve those completion quotas. The combined efforts produced a total of 7,257 responses, for an overall response rate of 19%. A total of 87 responses (1.2% of the total) were in Spanish.

We achieved all quotas. Table 2-1 shows the number of survey responses in each of the target groups and the percentage of the quota achieved.

*Table 2-1: Survey Responses by Target Group*

Sample Component	Participants		Nonparticipants		Total	
	Count	% Target	Count	% Target	Count	% Target
Overall Sample						
Core Sample	2,666	314%	2,296	237%	4,962	273%
Communities of Color Oversample	905	329%	1,361	150%	2,266	191%
Total	3,571	317%	3,657	195%	7,228	241%
Households of Color						
Hispanic/Latino	211	136%	417	141%	628	140%
Black	81	135%	133	116%	214	122%
Native American	88	196%	131	110%	219	134%
Asian American	307	384%	186	162%	493	253%

### 2.3. Data Preparation

We conducted all comparisons using data weighted to offset potential biases introduced through the sample design, survey implementation procedures, and respondent self-selection. The primary sample design weight was based on groups of Census tracts, as that formed the basis for the stratified sampling

<sup>5</sup> Although Energy Trust established survey completion targets for Hispanic/Latino households, it did not include that group in the Communities of Color oversample as it expected that the core sample would provide a sufficient number of respondents from that group to achieve the completion targets.

approach. We also weighted on participation status (see Section 3 for details) and on a combination of race and income, as higher response rates for participants, high-income respondents, or respondents from one or more race groups could bias results (see Appendix A, Section A.6, for details).

For analyses examining survey response differences related to race, we categorized each respondent as either white only, Black only, Native American only, Hispanic/Latino (any race), Asian American only, Other only, or two or more races. This was necessary, as allowing any respondents to be represented in more than one category would violate the assumption of independence of observations in testing the statistical significance of differences between groups.<sup>6</sup> See Appendix A, Section A.6 for details.

We categorized all respondents as low-, moderate-, and high-income based on a combination of household annual income and household size, adapting the classification scheme that Energy Trust used to identify moderate income households in 2019 (see Appendix A, Section A.6, for details).

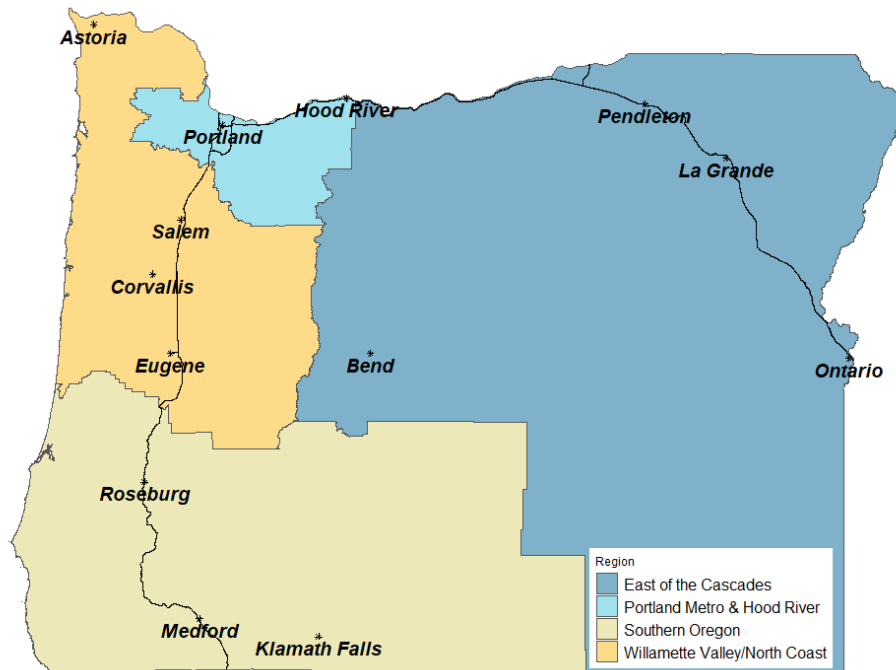
Note also that all sampled customers were identified as being in one of four regions within Energy Trust's service territory: Portland Metro and Hood River ("Portland Metro"), Willamette Valley/North Coast, East of the Cascades, and Southern Oregon (Figure 2-1). See Appendix A, Section A.6 for an explanation of how the regions were defined, including a larger map showing the regions.

Finally, we categorized respondent households based on the urbanization (high or low) of their geographic area, based on a five-point index that Energy Trust developed using data from the Census Bureau's American Community Survey. We defined high-urbanization as a value of 1 or 2 on the index and low-urbanization a value of 3 to 5. See Appendix A, Section A.6 for details.

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<sup>6</sup> See J. McDonald, "Handbook of Biological Statistics" (<http://www.biostathandbook.com/independence.html>) or Wikipedia, "Statistical assumption" ([https://en.wikipedia.org/wiki/Statistical\\_assumption](https://en.wikipedia.org/wiki/Statistical_assumption)) for a discussion of the assumption of independence of observations in statistics.

Figure 2-1: Energy Trust Regions



### 3. Results

This section shows how the survey results address the study’s research objectives. It has four parts:

<b>Section 3.1</b>	Household characteristics in Energy Trust’s Oregon territory, to help the reader interpret the findings in subsequent sections.
<b>Section 3.2</b>	How well Energy Trust’s programs are reaching various demographic groups.
<b>Section 3.3</b>	Survey results for energy-related awareness, barriers, attitudes, and motivations.
<b>Section 3.5</b>	Results of the DEI Baseline Validation analysis.

Program participation is a key element of all analyses. Past program participation was assessed at the site level and included measures installed in homes and multifamily buildings during a seven-year period from 2013 through 2019. Program participation varies by the way the respondent participated. We use four definitions of participation which are grouped together in different ways, depending on the analysis.

<b>Direct Participants</b>	Landlords or owners, homeowners, and tenants who took direct action to participate in an Energy Trust program at a given residence, or tenants who directly benefitted from an energy upgrade in their home as a result of their landlord’s participation in an Energy Trust program.
<b>Indirect Participants</b>	Renters who indirectly benefitted from improvements to their buildings not tied directly to their units (e.g., insulation and central hot water or heating), as a result of their landlords’ program participation.
<b>LED Participants</b>	Customers who were not direct or indirect participants but who reported they purchased discounted LED lighting from program participating retail stores in the past year (see Section 3.3.3.3).
<b>Nonparticipants</b>	Customers who were not in any of the above groups.

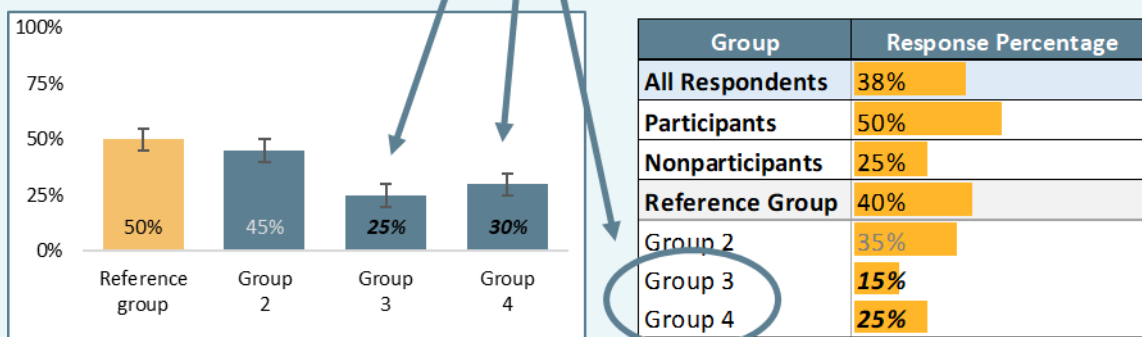
A customer could be more than one type of participant based on their history of program engagement. For the purpose of analysis, it was necessary to classify each respondent as only one type. Energy Trust identified every customer in the sample frame as a direct participant, indirect participant, or nonparticipant, depending on participation data. As Energy Trust does not receive retail data on individuals, ADM identified LED participants based on self-reported purchases in the past year. Each section describes the participation groupings used and how those best answer its research questions.

### Interpreting Graphics

- Each figure in the following sections shows comparisons across one or more demographic categories; for each category (e.g., race), findings for a single reference group are compared to the findings for all other groups. *In no case is the selection of the reference group meant to indicate a more important or prioritized group.* In the case of comparisons involving race, we selected “white” as the reference group so that we could assess challenges other groups may face relative to the white population. In other cases, the reference group is either the largest group or a specific underserved group (low-income customers and renters).
- In column graphs, the reference group is identified with an orange column and, with the exception of graphs relating to race, is the first column shown. Error bars show the 90% confidence interval.
- In figures with horizontal data bars, the reference group is shaded and in bold font and is always shown at the top. These figures also show the overall results, across all groups, in a light blue band directly below the figure header followed by results for participants and nonparticipants (where applicable).
- All figures use bold, italicized font to identify statistically significant differences ( $p$ -values of 0.05 or less) and a light grey font otherwise.
- All differences between groups that are noted in the text are statistically significant. We do not comment on statistically significant differences that are too small to be of practical importance.
- The sample counts for each group are unweighted; percentages are weighted.

*The following sample figures illustrate the above description.*

Statistically significant differences ( $p < .05$ )





### 3.1. Characteristics of Energy Trust Customers

The survey findings show that Energy Trust residential customers are largely white and moderate-to-high income (Table 3-1). More than two-thirds own their own home, which typically is a single-family, detached dwelling, but a large segment are renters who largely live in multifamily dwellings. More than three-quarters live in either the Portland Metro region or the Willamette Valley/North Coast region. Just over half receive both electric and natural gas service from utilities in Energy Trust territory (“dual fuel” customers), and a large majority of the rest receive only electric service.

Table 3-1: Customer Characteristics<sup>1</sup>

Group	Number of Respondents	Percent of Customers <sup>2</sup>
Race		
Person of Color	1,545	18%
Asian American	390	5%
Black	151	1%
Hispanic/Latino	628	7%
Native American	98	1%
Other	42	1%
Two or more	236	3%
White	5,186	82%
Income Level		
Low	1,319	17%
Moderate	2,213	34%
High	2,948	49%
Home Ownership		
Owner-occupant	5,052	71%
Renter-occupant	2,098	28%
Other <sup>3</sup>	107	1%
Residence Type		
Single-family-detached	4,789	67%
Single-family-attached	564	7%
Multifamily	1,203	17%
Mobile/manufactured	588	7%
Energy Trust Region		
Portland Metro	3,999	58%
Willamette Valley and North Coast	1,786	21%
Southern Oregon	1,149	13%
East of the Cascades	294	7%

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Group	Number of Respondents	Percent of Customers <sup>2</sup>
Energy Trust Utility Service Type		
Electricity only	3,074	41%
Natural gas only	337	7%
Dual fuel	3,817	52%
Urbanization		
More urban	5,843	84%
More rural	1,392	16%

<sup>1</sup>See Section 2.3 for a description of race, home ownership, and region groupings. See Appendix A for additional details.

<sup>2</sup>Percentages are weighted, as explained in Section 2.3. Percentages may not sum to 100% because of rounding.

<sup>3</sup>About two-thirds of the respondents in the “Other” home ownership category were landlords; most of the rest were respondents who were residents did not indicate whether they owned or rented; a small percentage were former residents of the property. This category is omitted from all subsequent tables, as the its heterogenous nature makes it uninterpretable.

Many of the demographic characteristics were interrelated. Appendix B includes a series of tables illustrating these interrelationships, which are summarized in the following paragraphs.

**Race/ethnicity.** White respondents reported moderate to high incomes more frequently than other racial groups and were more likely to own their home and live in a single-family, detached residence. Self-identified race also was associated with region of residence and urbanization, with people of color more concentrated in the Portland Metro region and in more urban areas.

**Income.** In addition to being related to race, as indicated above, income was related to all other demographic and housing characteristic variables. Higher income respondents were more likely to own their home, live in a single-family detached home, live in the Portland Metro region and a higher urbanization area, and receive both electric and gas service from an investor-owned utility.

**Home ownership.** In addition to being associated with both race and income, home ownership also was (not surprisingly) strongly associated with type of dwelling, with homeowners more likely than renters to live in a single-family detached home and renters more likely than owners to live in attached or multifamily housing. Home ownership also was strongly associated with utility service type, with home owners most likely to receive both fuel types from utilities in Energy Trust’s service territory.

**Residence type.** In addition to the above-identified associations with race, income, and home ownership, residence type was strongly associated with fuel service type, with residents of single-family detached dwellings most likely to receive both fuel types from utilities in Energy Trust’s service territory.

**Fuel type.** In addition to its association with race, income, home ownership, and residence type, fuel type was associated with region and urbanization. Specifically, dual fuel customers were more likely than other types to be concentrated in Portland Metro and in more urban areas; gas-only customers were more concentrated in Willamette Valley/North Coast.

**Region.** Region was associated with race, income, home ownership, and fuel service type. The Portland Metro region is characterized by the higher concentrations of people of color, relatively high income levels but also relatively low home ownership and high multifamily occupancy, and high concentrations of dual fuel customers. East of the Cascades and Southern Oregon are characterized by high concentrations of

white residents, high home ownership, and lower concentrations of dual fuel customers. Willamette Valley/North Coast ranked the middle of other regions on most indices.

**Urbanization.** Urbanization was associated with all other variables. Specifically, more urban areas were associated with a higher concentration of people of color, higher income, lower home ownership and higher residence in multifamily dwellings, higher concentration of dual fuel customers, and living in the Portland Metro area.

### 3.2. Equity of Energy Trust Program Reach

We assessed how well Energy Trust has reached households with various characteristics. Specifically, we examined how the percentage of households served by Energy Trust varies by race/ethnicity, income, region, home ownership, and utility fuel type. We counted all direct participants, indirect participants, and LED participants as “served” and all other survey respondents as “not served.” As noted above, participation is based on the seven-year period from 2013 to 2019. As in all analyses, we weighted the responses to ensure that the results represented the population as accurately as possible (see Appendix A for details on data weighting).

Results show that, across all groups, 37% of the households in Energy Trust’s Oregon service territory – about 572,000 households in total – were served by Energy Trust residential programs from 2013 to 2019.<sup>7</sup> As summarized in Table 3-2 and discussed in greater detail below, those programs reach more white and Asian American households, high-income households, homeowners, dual fuel customers, and residents of the Portland Metro region and of more urban areas, compared to other customers.

*Table 3-2: Summary of Demographics and Housing Characteristics by Service Status*

Group	Served by Energy Trust	Not Served by Energy Trust	Difference
Race			
Person of Color	16%	18%	<b>-2.0%</b>
Asian American	6%	4%	<b>2.1%</b>
Black	1%	1%	-0.6%
Hispanic/Latino	5%	9%	<b>-3.4%</b>
Native American	1%	0%	0.2%
Other	1%	0%	-0.1%
Two or more	3%	3%	-0.2%
White	84%	82%	<b>2.0%</b>

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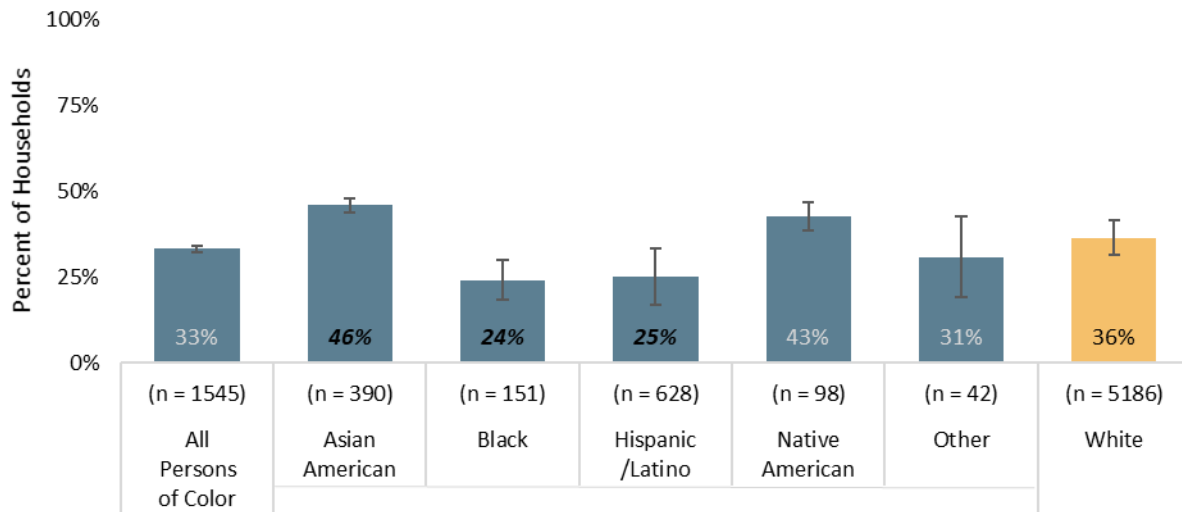
<sup>7</sup> U.S. Census data show 1,537,173 households in Energy Trust’s Oregon service territory.

Group	Served by Energy Trust	Not Served by Energy Trust	Difference
Income Level			
Low	13%	19%	<b>-5.7%</b>
Moderate	32%	35%	<b>-2.9%</b>
High	55%	46%	<b>8.8%</b>
Home Ownership			
Owner-occupant	77%	68%	<b>8.5%</b>
Renter-occupant	22%	31%	<b>-9.2%</b>
Residence Type			
Single-family-detached	73%	66%	<b>7.6%</b>
Single-family-attached	5%	8%	<b>-3.5%</b>
Multifamily	16%	18%	<b>-1.9%</b>
Mobile/manufactured	6%	8%	<b>-2.2%</b>
Other	0%	0%	0.0%
Utility Service Type			
Electric only	39%	42%	-2.9%
Gas only	5%	8%	<b>-3.2%</b>
Dual fuel	56%	49%	<b>6.8%</b>
Energy Trust Region			
Portland Metro	61%	56%	4.9%
Willamette Valley and North Coast	20%	22%	-2.5%
Southern Oregon	13%	14%	0.4%
East of the Cascades	6%	8%	<b>-2.2%</b>
Urban			
More urban	86%	83%	<b>3.1%</b>
More rural	14%	17%	-2.6%

When all communities of color are considered together, Energy Trust residential programs serve households of color at a level that is comparable to that of white households (Figure 3-1). However, the comparison is not the same across all communities of color. Specifically, Energy Trust reaches fewer Black and Hispanic/Latino households – both groups are served at about two-thirds the rate as white households. By contrast, Energy Trust serves Asian American households at a rate about one-quarter higher than that of white households.<sup>8</sup>

<sup>8</sup> Although the sample percentages for Native Americans and Other are the same as that for Asian Americans, only the difference for Asian American respondents was statistically significant, owing to the difference in the sample sizes.

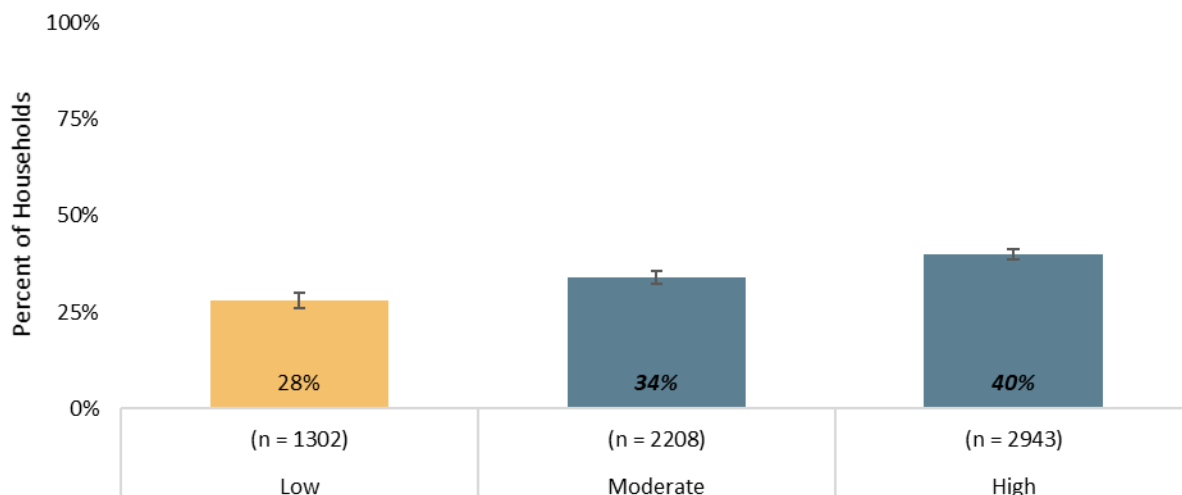
Figure 3-1: Percentage of Households Served, by Race/Ethnicity<sup>1</sup>



<sup>1</sup>The data column for the white category is orange to indicate this is the reference group for this comparison; this graphic shows results for all non-white respondents together under the category “person of color” as well as separately for each group.

Results also show an income-related disparity. We adapted the classification that Energy Trust developed (see Appendix A, Section A.6) to identify each surveyed household as low-, moderate-, or high-income based on household income and size. Energy Trust serves more moderate- and high-income households than low-income households (Figure 3-2). High-income households are served at a rate that is more than one-third higher than that of low-income households – and at about one-sixth higher than moderate-income households.

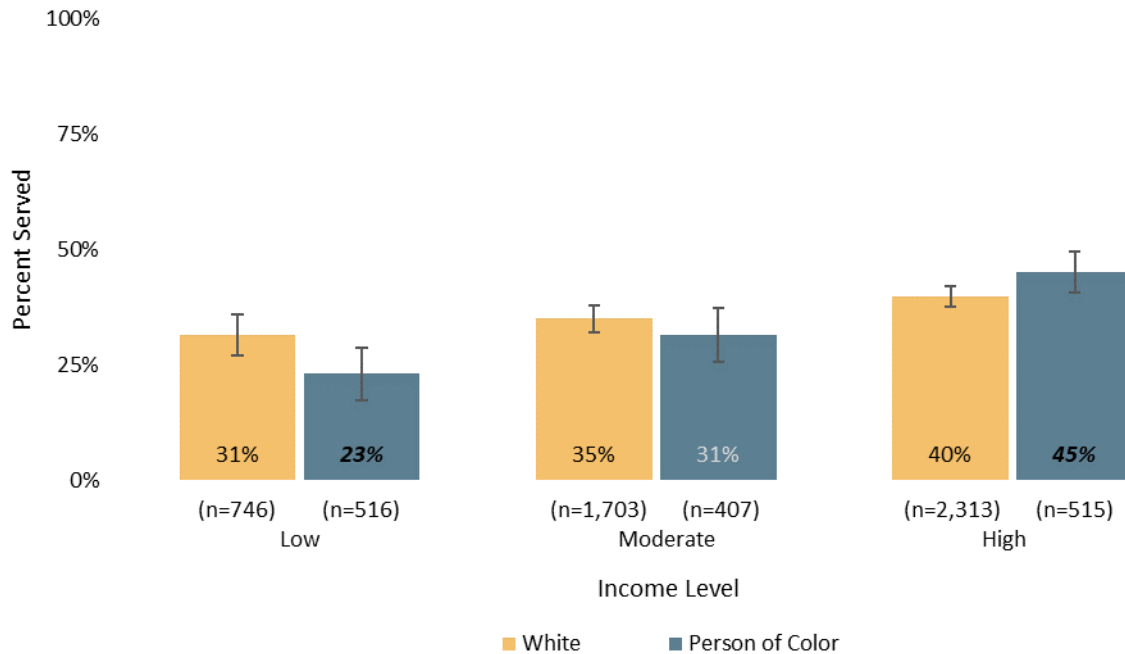
Figure 3-2: Percentage of Households Served, by Income



<sup>1</sup>The data column for the low-income category is orange to indicate this is the reference group for this comparison.

As shown above, across all respondents, white customers were more likely to have been served by Energy Trust, but the difference varied by income level.<sup>9</sup> Figure 3-3 shows that the differences were statistically significant among low- and high-income respondents but not among moderate-income ones. These findings point to better access for low-income whites than low-income people of color.

Figure 3-3. Percentage of Households Served, by Income Level and Race



<sup>1</sup>The data columns for the white category are orange to indicate this is the reference group for each comparison.

The above interaction also shows that, high-income people of color have slightly greater access than high-income whites. Follow-up analyses suggest this may result mainly from higher percentages of indirect participation among people of color than among white residents (7% vs. 2%, respectively), relative to other types of participation (34% vs. 32% for direct participation and 4% vs. 5% for LED participation) among among high-income customers.<sup>10</sup>

Further analyses shed light on the finding that high-income people of color were served at a higher rate than high-income whites. This appeared to be entirely due to the fact that Asian Americans were

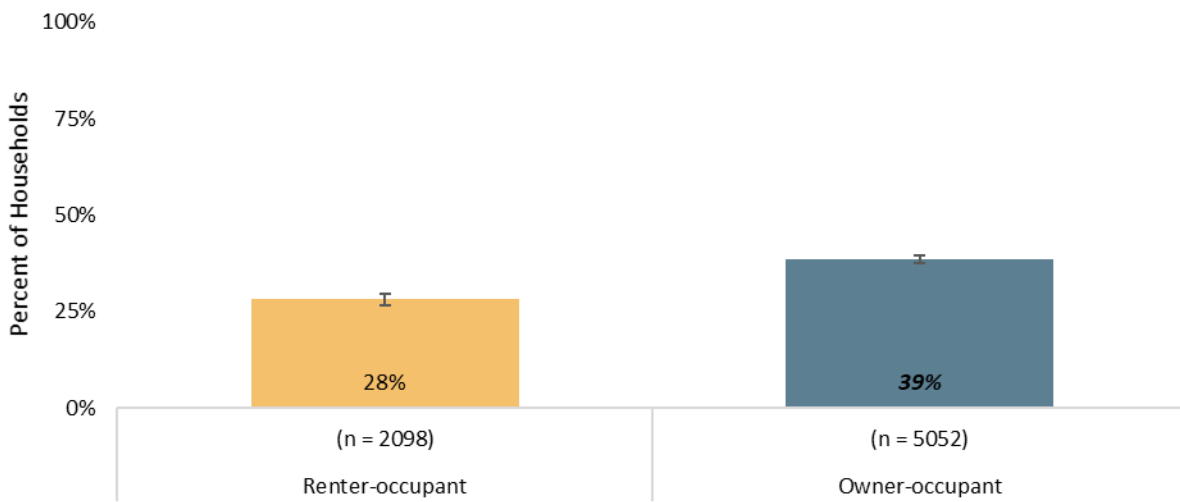
<sup>9</sup> We tested the statistical significance of the interaction, here and elsewhere, using the Q' test, developed by Michaels (2007). The Q' statistic tests the interaction of two variables on a proportion, where one variable has two levels and one has two or more levels. Q' is distributed as chi-square, with k-2 degrees of freedom, where k represents the number of categories in the second variable. For the interaction between income and race, Q' (2 df) was 16.38,  $p \leq .001$ . Source: Michaels, G. (2007). A significance test of interaction in 2 x k designs with proportions. *Tutorials in Quantitative Methods for Psychology*, 3(1), 1-7. Accessed on February 3, 2021 at: <https://www.tqmp.org/RegularArticles/vol03-1/p001/p001.pdf>.

<sup>10</sup> The difference for indirect participation was statistically significant ( $z = -6.18, p < .01$ ). The differences for direct and LED participation were not statistically significant ( $z = -0.50$  and  $0.30$ , respectively,  $p > 0.30$ ).

disproportionately represented among high-income people of color. When this subgroup was excluded, the difference between high-income whites and high-income people of color disappeared, while the difference among low-income whites and low-income people of color remained.

Energy Trust also serves substantially fewer households occupied by renters – specifically, renters are served at about three-quarters the rate of homeowners (Figure 3-4). This disparity exists despite the fact that the “percent served” includes indirect participants, who are typically renters in multifamily dwellings who received services through their landlords’ participation, as well as direct install services provided to multifamily tenants.

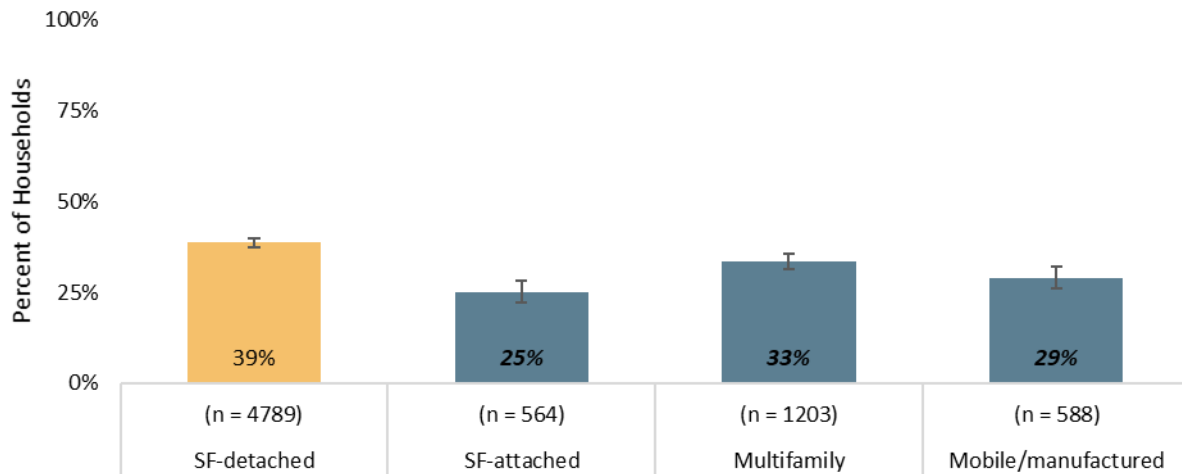
*Figure 3-4: Percentage of Households Served, by Home Ownership*



<sup>1</sup>The data column for the renter-occupant category is orange to indicate this is the reference group for this comparison.

Consistent with the findings above, Energy Trust programs reach fewer single-family attached, multifamily, and manufactured homes than single-family detached homes (Figure 3-5). Detached households are served at a rate about one-third higher than that of these other groups.

Figure 3-5: Percentage of Households Served, by Building Type



<sup>1</sup>The data column for single-family detached housing is orange to indicate this is the reference group for this comparison.

Findings pointed to an interaction between home ownership and housing type (Figure 3-6).<sup>11</sup> The greater likelihood of homeowners to have been served existed only among those living in single-family and mobile/manufactured housing. This points to better access for owners of 2-4 unit/townhome and manufactured housing than to renters of those property types. When considering all renters, those living in multifamily homes are served at a greater rate than those in all other housing types, and those in single-family detached are served at a higher rate than those in single-family attached.<sup>12</sup>

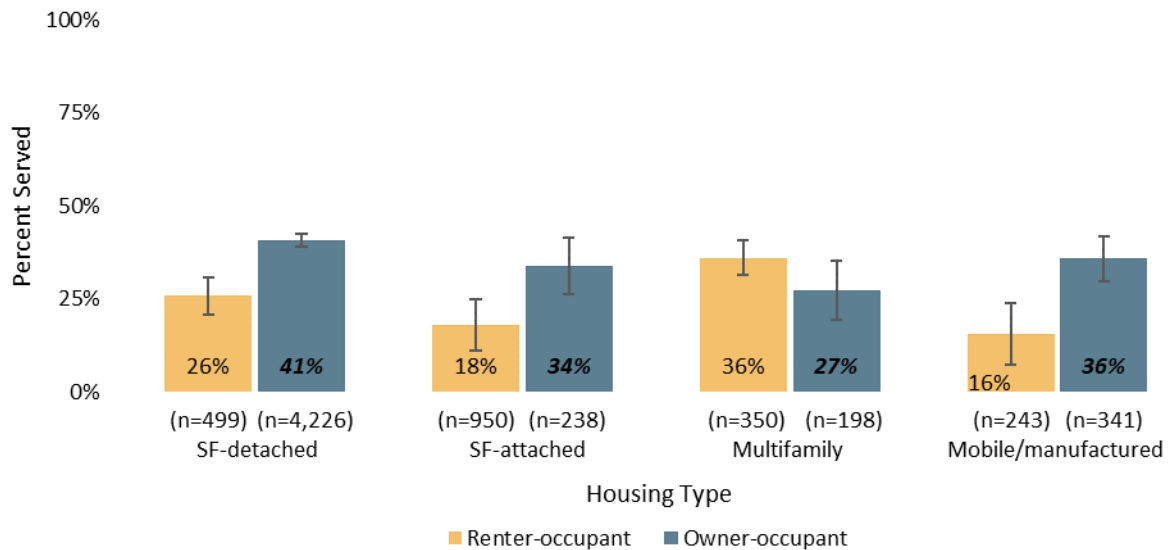
Note that, among those living in multifamily dwellings, renters are served at a higher percentage than homeowners. The latter are likely primarily owners of condo units and townhomes. They are also the least-served type of homeowner. This finding may point to an opportunity for increased participation in this group. Note, however, that this group makes up 4% of homeowners and 3% of all respondents; thus, increased participation in this group likely would have little impact on the program as a whole.

<sup>11</sup>  $Q' (3 \text{ df}) = 34.46, p \leq .001$ .

<sup>12</sup> These differences were all statistically significant at  $p < .05$  by z-score test for difference of proportions.



Figure 3-6: Percentage of Households Served, by Ownership and Housing Type



<sup>1</sup>The data columns for the renter-occupant category are orange to indicate this is the reference group for each comparison.

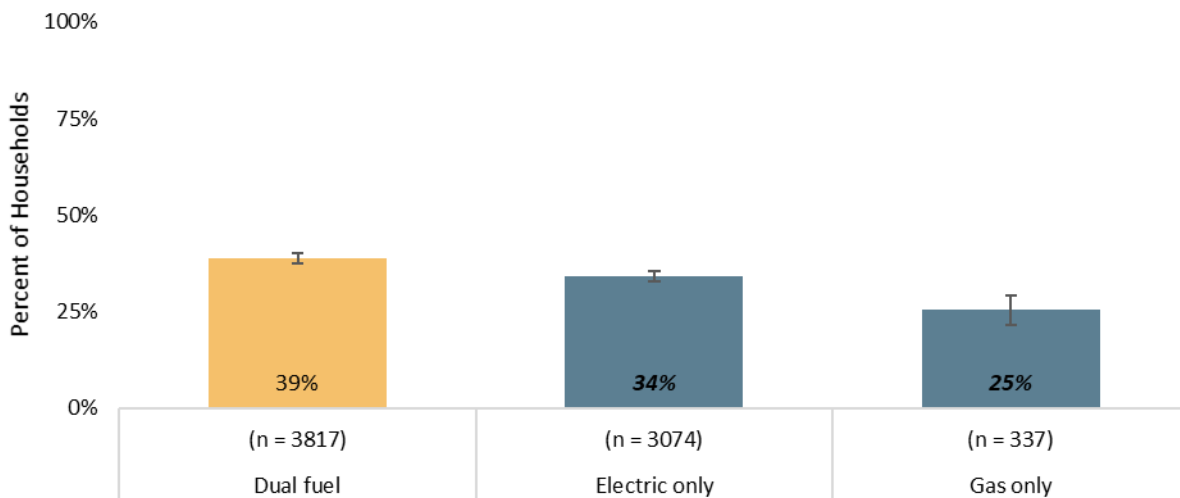
Energy Trust programs serve single-fuel households less than dual fuel households, although the disparity is small for electric-only households (Figure 3-7). Gas-only homes are served at about two-thirds the rate of dual fuel homes.

The disparity between dual fuel and gas-only households appears to be at least partly related to differences in income (see Section 3.1). We examined the relationship between participation and fuel type separately for low-, moderate-, and high-income respondents. Gas-only households were served less than dual fuel households among both groups, but the disparity was greater for low/moderate-income respondents,<sup>13</sup> where gas-only households were served at just over half the rate of dual fuel households (18% vs. 34%) than among high-income respondents, where gas-only households were served at just over three-quarters the rate of dual fuel households (32% vs. 42%).<sup>14</sup> The disparity may also reflect the more limited range of Energy Trust incentives and services available for gas equipment and measures.

<sup>13</sup> As the percentages served by fuel type were similar for low and moderate income levels, we combined the data for those two groups to test the difference by fuel type to increase the statistical power to detect a difference.

<sup>14</sup> Among both low/moderate- and high-income respondents, the difference in percentage served between gas-only and dual fuel households was statistically significant at  $p < .05$ . However, the interaction was statistically significant,  $Q' (1 \text{ df}) = 27.11, p \leq .001$ , indicating a greater disparity for low/moderate-income respondents.

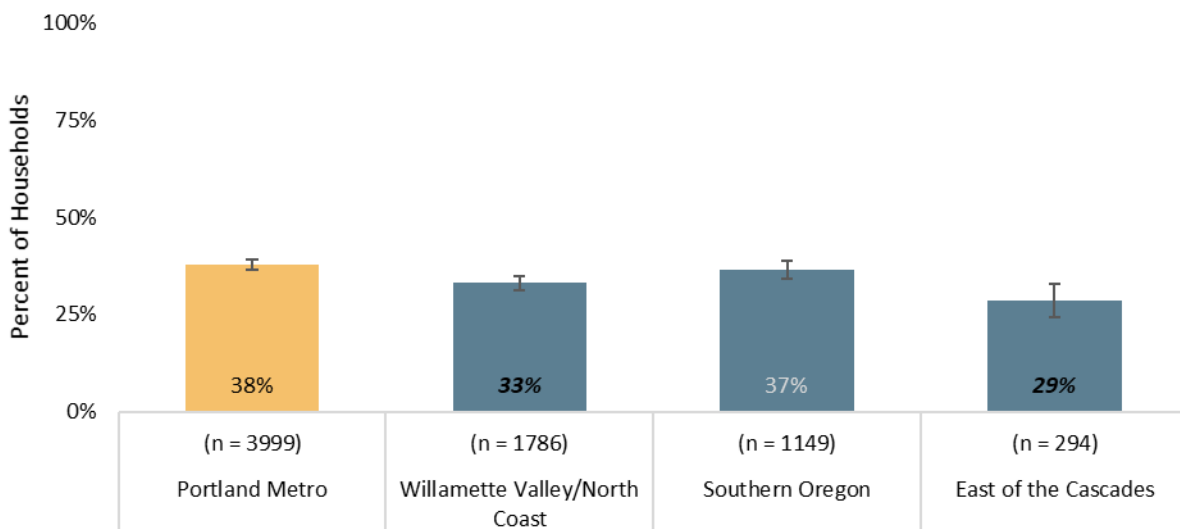
Figure 3-7: Percentage of Households Served, by Fuel Type



<sup>1</sup>The data column for the dual fuel customers is orange to indicate this is the reference group for this comparison.

A lower proportion of residents in the Willamette Valley/North Coast region and East of the Cascades were served by programs than those in the Portland Metro region (Figure 3-8 **Error! Reference source not found.**).

Figure 3-8: Percentage of Households Served, by Region



<sup>1</sup>The data column for Portland Metro & Hood River is orange to indicate this is the reference group for this comparison.

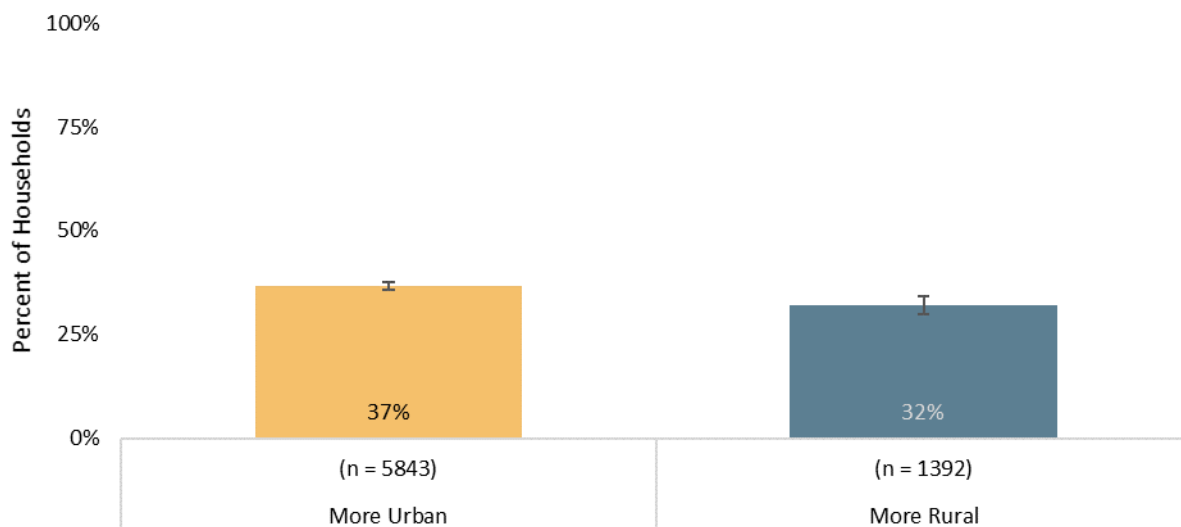
The above regional disparity in program service may be at least partly related to regional differences in the percentage of gas-only households or income (see Section 3.1) or possibly to both. Compared to the Portland Metro region, both the East of the Cascades and Willamette Valley/North Coast regions have higher percentages of both gas-only and low-income customers, both of which are associated with lower

levels of Energy Trust service. We examined whether regional differences in fuel type or income level might better account for the differences in service. The results, described in Appendix B, do not provide strong evidence that regional differences in either fuel type or income better account for the regional differences in service level than the other.

Regional differences in home ownership could not account for lower percentage of households served in East of the Cascades and Willamette Valley/North Coast, as the homeownership percentages in those regions (76% and 73%, respectively) are *higher* than Portland Metro (69%).

Results show no difference between high- and low-urban areas in the percentage of households served (Figure 3-9). However, results do indicate an interaction between region and the urban/rural distinction (Figure 3-10).<sup>15</sup> Living in an urban area provides an advantage East of the Cascades but not in the other two regions. This points to better access for those living in Eastern Oregon's few large towns, while there was no corresponding improved access for urban residents elsewhere. The number of respondents in the more rural areas of Portland Metro was small ( $n = 12$ ), making any results for this group unreliable, and so we excluded Portland Metro from this analysis.

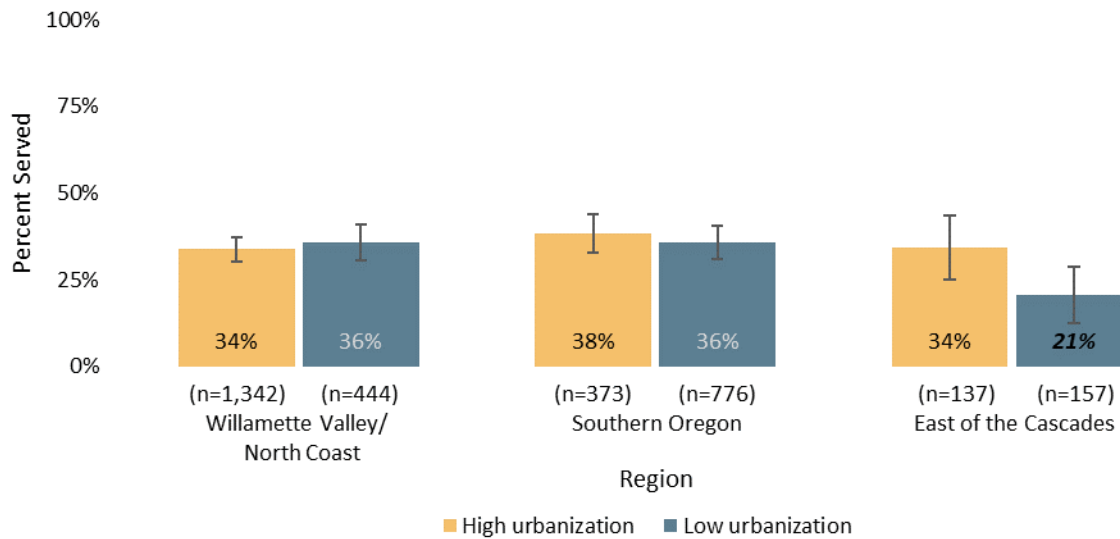
Figure 3-9: Percentage of Households Served, by Urbanization



<sup>1</sup>The data column for high urbanization is orange to indicate this is the reference group for this comparison.

<sup>15</sup>  $Q' (2 \text{ df}) = 7.58$ . This exceeds the critical value of 5.99 (for 2 df) for statistical significance at  $p \leq .05$ .

Figure 3-10: Percentage of Households Served, by Region and Urbanization<sup>1</sup>



<sup>1</sup>The data columns for high urbanization are orange to indicate this is the reference group for these comparisons. The number of respondents in more rural areas of Portland Metro was small (n = 12), making results for that group unreliable, and so we have not included Portland Metro in this analysis.

### 3.3. Marketing and Outreach Focus

Understanding how demographic groups differ in awareness of Energy Trust offerings, in barriers to use of Energy Trust programs, and in motivations to save energy can help Energy Trust focus its marketing and outreach efforts to reach all ratepayers. The following subsections summarize survey findings that address these three factors. The relevant survey question is displayed below each figure. Reminder: for each demographic category, a single reference group (e.g., low income) is compared to all other groups; within each category, the reference group is the first group identified and is shaded.

#### 3.3.1. Awareness

We examined how awareness of Energy Trust and its offerings was related to demographic and household characteristics as well as to program participation status. We examined the relationship with demographic and household characteristics for all respondents, combined, regardless of participation status. In the analyses examining the relationship with program participation, we grouped indirect participants and LED participants with nonparticipants, as they took no specific actions (such as completing an application) to participate in an Energy Trust program, making their experience similar to that of a nonparticipant. For simplicity, we refer to all of these groups collectively as nonparticipants.

Why should any *direct participants* not be aware of Energy Trust or its services? There are several reasons. Direct participants include renters who received equipment improvements in their dwellings through their landlord’s program participation. They may have been aware of the improvements but not aware that the improvements were associated with Energy Trust. A participating homeowner may not be aware of Energy Trust or its services if someone else in the household completed the paperwork and received the incentive, if a contractor completed the paperwork and passed the incentive on to the customer as a

discount, or if a previous occupant was the participant. It is also possible for a participant simply to have forgotten about participating – and Energy Trust – if it had been a few years since participation. Energy Trust’s efforts to make participation easy for customers may add to any of the above reasons.

The survey also examined respondents’ perceptions of Energy Trust’s areas of involvement. Conducting separate comparisons of these responses for participants and nonparticipants would not be particularly informative for Energy Trust marketing. Therefore, we conducted these analyses for all respondents – participants and nonparticipants – combined.

### 3.3.1.1. Familiarity with Energy Trust

Respondents reported how familiar they had been with Energy Trust before being contacted for the survey. Across all groups, responses were split among those who said they had never heard of Energy Trust, those who said they had heard the name but did not know anything beyond that, and those who said they knew at least a little about it (Table 3-3). Participants exceeded nonparticipants both in reporting any awareness of Energy Trust (85% vs. 57%) and in knowing at least a little about Energy Trust (65% vs. 29%).

Table 3-3: Level of Familiarity with Energy Trust

Level of Familiarity	All Respondents	Participants (Direct Participants)	Nonparticipants (All Others)
Never heard of Energy Trust	35%	15%	43%
Any level of awareness	65%	85%	57%
Had heard the name	25%	19%	27%
Know a little about it	36%	57%	27%
Know a lot about it	4%	8%	2%

Reported level of familiarity with Energy Trust was related to respondent demographics. Specifically, people of color, lower income respondents, renters, those not living in single-family detached housing, and single-fuel customers reported less familiarity with Energy Trust (Figure 3-11).<sup>16</sup> While people of color, considered together, and most specific communities of color indicated less familiarity with Energy Trust than did whites, Native Americans reported comparable familiarity to white respondents. Familiarity with Energy Trust was also related to region and level of urbanization. Compared to respondents in the Portland Metro region, those in all other areas reported less familiarity, and respondents in areas that were more rural indicated less familiarity than those in more urban areas.

<sup>16</sup> In this and all similar figures, the reference group for any set of comparisons is listed first to facilitate comparisons with other groups. As noted at the beginning of Section 3, the selection of the reference group does not indicate a more important or prioritized group. In the case of race, we selected “white” as the reference group to assess challenges other groups may face relative to that group; in other cases, it is either the largest group a specific underserved group (low-income customers and renters).

Figure 3-11: Knows At Least a Little About Energy Trust, by Demographics and Participation<sup>1</sup>

Group	Count	Knows At Least a Little About Energy Trust
All Respondents	n = 7243	40%
Direct Participants	n = 2921	65%
All Others	n = 4321	29%
<b>White</b>	n = 5177	42%
Person of color:	n = 1543	29%
Black	n = 150	23%
Native American	n = 98	39%
Hispanic/Latino	n = 628	22%
Asian American	n = 390	36%
Other	n = 42	41%
Two or more	n = 235	30%
<b>Low Income</b>	n = 1301	22%
Moderate Income	n = 2202	32%
High Income	n = 2937	47%
<b>Renter-Occupant</b>	n = 2094	18%
Owner-Occupant	n = 5041	46%
<b>SF-Detached Housing</b>	n = 4778	46%
SF-Attached Housing	n = 564	30%
Multifamily Housing	n = 1201	20%
Mobile/Manufactured Housing	n = 588	25%
<b>Dual Fuel Service</b>	n = 3808	47%
Electric Only Service	n = 3069	30%
Gas Only Service	n = 336	32%
<b>Portland Metro</b>	n = 3989	43%
Willamette Valley/North Coast	n = 1783	37%
Southern Oregon	n = 1148	31%
East of the Cascades	n = 293	33%
<b>More Urban</b>	n = 5831	41%
More Rural	n = 1389	31%

Survey question: We’re curious to know how familiar you are with Energy Trust of Oregon. Would you say... 1) Before today, I’d never heard of Energy Trust of Oregon; 2) I’ve heard the name “Energy Trust of Oregon,” but that’s about it; 3) I know a little about the discounts, money back and services that Energy Trust offers; 4) I know a lot about the discounts, money back and services Energy Trust offers; 5) Other (Specify).

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

The reported sources of information about Energy Trust showed few striking relationships to demographic characteristics. Some statistically significant differences existed, but the differences generally were not large. In terms of people or organizations where respondents heard or learned about Energy Trust (Figure 3-12 and Figure 3-13), the most noticeable finding was that identifying contractors was less common among people of color, low-income respondents, renters, multifamily and mobile housing occupants, and electric-only customers than among white, medium- and high-income, homeowners, single-family housing occupants, and dual fuel customers. In addition, low-income respondents and renters identified store sales associates less commonly than higher-income respondents and homeowners. These findings may reflect a lower likelihood that renters are responsible for home improvement activities (see Section 3.3.2.1) and so may be less likely to engage with contractors or store sales associates about energy-using appliances or equipment.

In terms of media sources where respondents had seen or heard information about Energy Trust, the most noticeable finding was that people of color identified television less frequently than did white respondents (Figure 3-14 and Figure 3-15). This might possibly point to a need for Energy Trust to examine its television ad placements to better target people of color.

Figure 3-12: People or Organizations Most Commonly Cited as Sources of Awareness of Energy Trust<sup>1</sup>

Group	Count	Utility	Word of Mouth	Contractor
All Respondents	n = 4695	43%	18%	13%
Participants	n = 2398	48%	22%	16%
Nonparticipants	n = 2296	41%	15%	11%
<b>White</b>	n = 3606	44%	17%	14%
Person of color:	n = 765	41%	21%	9%
Black	n = 72	36%	27%	6%
Native American	n = 44	10%	6%	10%
Hispanic/Latino	n = 239	41%	18%	7%
Asian American	n = 235	45%	31%	12%
Other	n = 28	43%	24%	0%
Two or more	n = 147	41%	12%	12%
<b>Low Income</b>	n = 619	39%	16%	8%
Moderate Income	n = 1323	46%	17%	12%
High Income	n = 2260	43%	19%	14%
<b>Renter-Occupant</b>	n = 848	34%	16%	5%
Owner-Occupant	n = 3767	45%	18%	15%
<b>SF-Detached</b>	n = 3508	44%	18%	14%
SF-Attached	n = 289	41%	20%	10%
Multifamily	n = 508	37%	16%	9%
Mobile/Manufactured	n = 338	44%	13%	5%
<b>Dual Fuel</b>	n = 2804	44%	18%	15%
Electric Only	n = 1683	40%	17%	10%
Gas Only	n = 183	48%	16%	14%
<b>Portland Metro</b>	n = 2790	42%	19%	13%
Willamette Valley/North Coast	n = 1029	45%	16%	14%
Southern Oregon	n = 671	50%	14%	10%
East of the Cascades	n = 180	34%	19%	15%
<b>More Urban</b>	n = 3886	43%	18%	13%
More Rural	n = 790	43%	19%	15%

Survey question: Have you heard or learned about Energy Trust from any of the following people or organizations? Select all that apply?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.



Figure 3-13: People or Organizations Less Commonly Cited as Sources of Awareness of Energy Trust <sup>1</sup>

Group	Count	Store Sales Associate	Local Government	Local Organization
All Respondents	n = 4695	13%	9%	8%
Participants	n = 2398	18%	8%	7%
Nonparticipants	n = 2296	9%	8%	8%
<b>White</b>	n = 3606	13%	8%	7%
Person of color:	n = 765	11%	9%	9%
Black	n = 72	3%	20%	5%
Native American	n = 44	35%	1%	6%
Hispanic/Latino	n = 239	8%	10%	12%
Asian American	n = 235	16%	10%	9%
Other	n = 28	9%	0%	23%
Two or more	n = 147	8%	5%	5%
<b>Low Income</b>	n = 619	7%	6%	8%
Moderate Income	n = 1323	10%	8%	8%
High Income	n = 2260	14%	9%	8%
<b>Renter-Occupant</b>	n = 848	6%	8%	10%
Owner-Occupant	n = 3767	14%	9%	7%
<b>SF-Detached</b>	n = 3508	14%	8%	7%
SF-Attached	n = 289	11%	8%	6%
Multifamily	n = 508	5%	13%	13%
Mobile/Manufactured	n = 338	6%	7%	8%
<b>Dual Fuel</b>	n = 2804	14%	9%	7%
Electric Only	n = 1683	11%	8%	9%
Gas Only	n = 183	10%	17%	5%
<b>Portland Metro</b>	n = 2790	13%	9%	8%
Willamette Valley/North Coast	n = 1029	13%	8%	6%
Southern Oregon	n = 671	8%	6%	8%
East of the Cascades	n = 180	14%	12%	12%
<b>More Urban</b>	n = 3886	13%	9%	8%
More Rural	n = 790	10%	6%	8%

Survey question: Have you heard or learned about Energy Trust from any of the following people or organizations? Select all that apply?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-14: Most Common Media Sources of Awareness of Energy Trust<sup>1</sup>

Group	Count	Utility Bill	Direct Mail	Television
All Respondents	n = 4695	47%	33%	20%
Participants	n = 2398	49%	31%	14%
Nonparticipants	n = 2296	46%	32%	23%
<b>White</b>	n = 3606	48%	33%	22%
Person of color:	n = 765	45%	35%	15%
Black	n = 72	46%	37%	2%
Native American	n = 44	51%	7%	26%
Hispanic/Latino	n = 239	50%	40%	14%
Asian American	n = 235	40%	38%	13%
Other	n = 28	44%	10%	30%
Two or more	n = 147	42%	34%	17%
<b>Low Income</b>	n = 619	45%	31%	19%
Moderate Income	n = 1323	49%	30%	23%
High Income	n = 2260	47%	35%	19%
<b>Renter-Occupant</b>	n = 848	43%	32%	21%
Owner-Occupant	n = 3767	48%	34%	20%
<b>SF-Detached</b>	n = 3508	48%	33%	20%
SF-Attached	n = 289	44%	39%	23%
Multifamily	n = 508	43%	34%	16%
Mobile/Manufactured	n = 338	45%	33%	22%
<b>Dual Fuel</b>	n = 2804	49%	34%	21%
Electric Only	n = 1683	44%	33%	19%
Gas Only	n = 183	51%	30%	17%
<b>Portland Metro</b>	n = 2790	47%	35%	20%
Willamette Valley/North Coast	n = 1029	48%	32%	18%
Southern Oregon	n = 671	50%	30%	22%
East of the Cascades	n = 180	40%	32%	25%
<b>More Urban</b>	n = 3886	47%	34%	21%
More Rural	n = 790	47%	29%	18%

Survey question: Where have you seen or heard information about Energy Trust of Oregon?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-15: Less Common Media Sources of Awareness of Energy Trust<sup>1</sup>

Group	Count	Website	Print Media	In-Store	Radio
All Respondents	n = 4695	20%	20%	16%	11%
Participants	n = 2398	23%	23%	14%	9%
Nonparticipants	n = 2296	16%	16%	16%	12%
<b>White</b>	n = 3606	20%	21%	17%	12%
Person of color:	n = 765	19%	18%	13%	8%
Black	n = 72	2%	3%	3%	1%
Native American	n = 44	1%	30%	16%	0%
Hispanic/Latino	n = 239	18%	13%	14%	10%
Asian American	n = 235	30%	28%	13%	4%
Other	n = 28	14%	19%	7%	9%
Two or more	n = 147	10%	11%	13%	14%
<b>Low Income</b>	n = 619	10%	11%	14%	7%
Moderate Income	n = 1323	14%	15%	15%	11%
High Income	n = 2260	24%	22%	17%	13%
<b>Renter-Occupant</b>	n = 848	15%	10%	16%	14%
Owner-Occupant	n = 3767	21%	22%	16%	11%
<b>SF-Detached</b>	n = 3508	21%	22%	17%	12%
SF-Attached	n = 289	13%	14%	15%	10%
Multifamily	n = 508	19%	12%	14%	12%
Mobile/Manufactured	n = 338	7%	8%	13%	8%
<b>Dual Fuel</b>	n = 2804	22%	21%	16%	12%
Electric Only	n = 1683	16%	17%	15%	11%
Gas Only	n = 183	21%	18%	20%	9%
<b>Portland Metro</b>	n = 2790	21%	21%	16%	13%
Willamette Valley/North Coast	n = 1029	17%	20%	15%	9%
Southern Oregon	n = 671	17%	16%	15%	8%
East of the Cascades	n = 180	24%	18%	18%	12%
<b>More Urban</b>	n = 3886	20%	20%	16%	12%
More Rural	n = 790	16%	17%	13%	8%

Survey question: Where have you seen or heard information about Energy Trust of Oregon?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

3.3.1.2. Awareness of Any Energy Trust Offerings

Respondents identified any energy-related free services, rebates, or discounts they were aware of in Oregon and identified the organizations they thought were responsible for those services. Nearly three-quarters (74%) of respondents, across all groups, identified a currently offered Energy Trust service. Just over half (54%) identified a free energy-related product or service (e.g., energy saver kits, home energy assessments) and a slightly higher percentage (60%) identified some rebate or discount for energy efficient equipment. However, somewhat fewer than half of those respondents identified Energy Trust as the organization that provides the free services (47%) or rebates and discounts (44%).

Awareness of both free energy services and rebates or discounts was higher among participants than nonparticipants (Figure 3-16). The relative differences between participants and nonparticipants, in awareness that Energy Trust offers these services, were more striking than awareness of the services themselves.

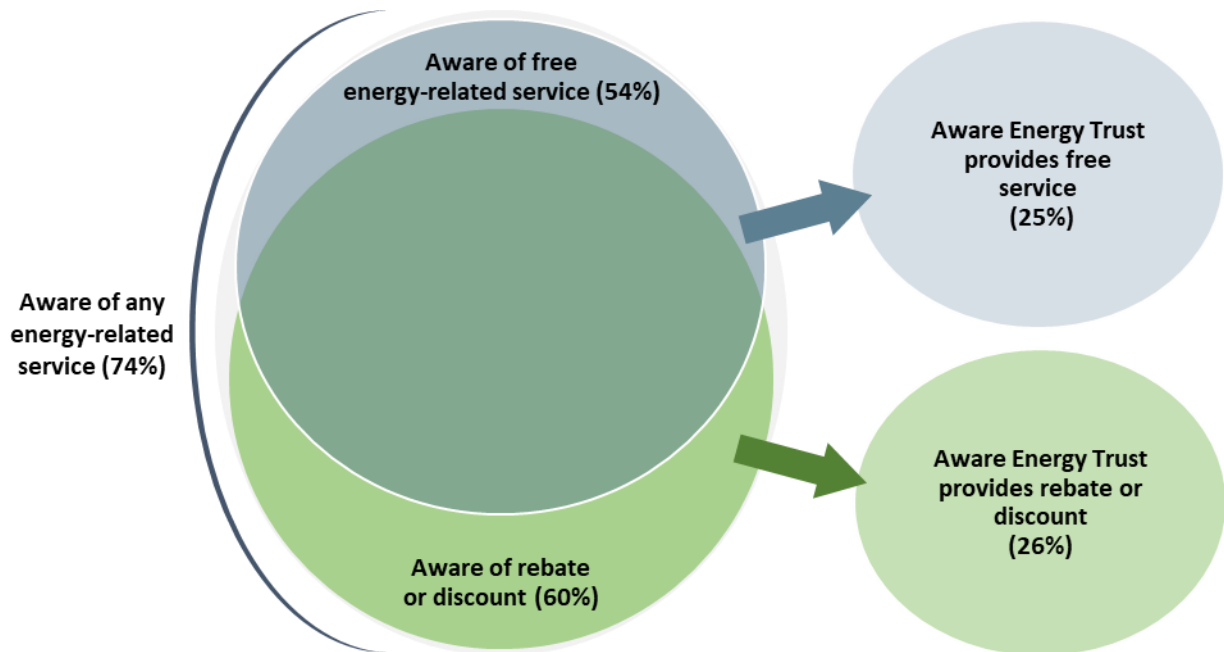
Figure 3-16: Awareness of Energy-Related Services, by Participation<sup>1</sup>

Awareness Item	All Respondents (n = 7258)		Participants (n = 2925)	Non-Participants (n = 4332)
Aware of Any Energy-Related Services	74%		90%	68%
Aware of Any Free Energy-Related Services	54%		75%	46%
Aware Energy Trust Offers Free Energy-Related Services	47%		62%	37%
Aware of Any Energy-Related Rebates or Discounts	60%		76%	54%
Aware Energy Trust Offers Energy-Related Rebates or Discounts	44%		59%	36%

<sup>1</sup> For this figure, participants are the reference group, as indicated by the grey shading. All differences in awareness between participants and nonparticipants were statistically significant.

Figure 3-17 illustrates the above graphically. In this figure, awareness of Energy Trust as the provider of free services and of rebates or discounts is shown as a percentage of *all* respondents, rather than a percentage of just those who were aware of the services.

Figure 3-17: Awareness of Energy Trust Services



Overall awareness of Energy Trust offerings varied by demographics, with the pattern of differences again reflecting the interrelationship among the demographic characteristics assessed (Figure 3-18). In general, people of color, low-income respondents, renters, and electric-only customers tended to indicate less awareness of the offerings and, in particular, less awareness that Energy Trust provides them. Awareness of free energy-related services showed similar patterns (Figure 3-19), as did awareness of rebates and discounts (Figure 3-20). In addition to the overall pattern of differences between white respondents and people of color, Asian Americans tended to indicate greater awareness of rebates and discounts, and that Energy Trust provides them, than did Black and Hispanic/Latino respondents.

With respect to region, the most striking findings are that respondents from Willamette Valley/North Coast and Southern Oregon were somewhat less aware of Energy Trust’s role in providing free energy-related services and rebates or discounts.

Figure 3-18: Awareness of Any Energy-Related Service, by Demographics<sup>1</sup>

Group	Count	Aware of Any Energy-Related Service
All Respondents	n = 7257	74%
<b>White</b>	n = 5186	77%
Person of color:	n = 1545	63%
Black	n = 151	61%
Native American	n = 98	74%
Hispanic/Latino	n = 628	57%
Asian American	n = 390	61%
Other	n = 42	88%
Two or more	n = 236	75%
<b>Low</b>	n = 1302	60%
Moderate	n = 2208	67%
High	n = 2943	80%
<b>Renter-Occupant</b>	n = 2098	54%
Owner-Occupant	n = 5052	80%
<b>SF-Detached</b>	n = 4789	80%
SF-Attached	n = 564	63%
Multifamily	n = 1203	58%
Mobile/Manufactured	n = 588	63%
<b>Dual Fuel</b>	n = 3817	79%
Electric Only	n = 3074	65%
Gas Only	n = 337	80%
<b>Portland Metro</b>	n = 3999	75%
Willamette Valley/North Coast	n = 1786	73%
Southern Oregon	n = 1149	68%
East of the Cascades	n = 294	78%
<b>More Urban</b>	n = 5843	75%
More Rural	n = 1392	70%

This figures shows composite results from multiple survey items, identified in the following figures.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-19: Awareness of Energy Trust Free Energy-Related Services by Demographics<sup>1</sup>

Group	Count	Aware of Free Energy-Related Service	Aware Energy Trust Offers Service
All Respondents	n = 7257	54%	47%
<b>White</b>	n = 5186	57%	47%
Person of color:	n = 1545	44%	41%
Black	n = 151	48%	28%
Native American	n = 98	39%	27%
Hispanic/Latino	n = 628	45%	35%
Asian American	n = 390	37%	59%
Other	n = 42	62%	31%
Two or more	n = 236	53%	40%
<b>Low</b>	n = 1302	49%	28%
Moderate	n = 2208	53%	37%
High	n = 2943	56%	53%
<b>Renter-Occupant</b>	n = 2098	40%	30%
Owner-Occupant	n = 5052	59%	50%
<b>SF-Detached</b>	n = 4789	59%	51%
SF-Attached	n = 564	47%	40%
Multifamily	n = 1203	42%	28%
Mobile/Manufactured	n = 588	48%	32%
<b>Dual Fuel</b>	n = 3817	58%	52%
Electric Only	n = 3074	49%	38%
Gas Only	n = 337	54%	42%
<b>Portland Metro</b>	n = 3999	55%	49%
Willamette Valley/North Coast	n = 1786	54%	41%
Southern Oregon	n = 1149	52%	43%
East of the Cascades	n = 294	54%	51%
<b>More Urban</b>	n = 5843	55%	48%
More Rural	n = 1392	50%	42%

Survey Questions: Have you heard of any of the following free products or services in Oregon that help people lower their electric or heating use? What organizations offer the free products or services that you've heard about?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-20: Awareness of Energy Trust Rebates or Discounts by Demographics<sup>1</sup>

Group	Count	Aware of Rebates or Discounts	Aware Energy Trust Offers Rebates or Discounts
All Respondents	n = 7257	60%	44%
<b>White</b>	n = 5186	63%	44%
Person of color:	n = 1545	48%	45%
Black	n = 151	31%	25%
Native American	n = 98	55%	36%
Hispanic/Latino	n = 628	40%	41%
Asian American	n = 390	49%	59%
Other	n = 42	76%	49%
Two or more	n = 236	61%	35%
<b>Low</b>	n = 1319	38%	30%
Moderate	n = 2213	48%	39%
High	n = 2948	70%	48%
<b>Renter-Occupant</b>	n = 2098	36%	27%
Owner-Occupant	n = 5052	68%	47%
<b>SF-Detached</b>	n = 4789	68%	47%
SF-Attached	n = 564	45%	39%
Multifamily	n = 1203	38%	27%
Mobile/Manufactured	n = 588	41%	37%
<b>Dual Fuel</b>	n = 3817	68%	48%
Electric Only	n = 3074	47%	39%
Gas Only	n = 337	67%	39%
<b>Portland Metro</b>	n = 3999	63%	47%
Willamette Valley/North Coast	n = 1786	58%	39%
Southern Oregon	n = 1149	51%	44%
East of the Cascades	n = 294	63%	43%
<b>More Urban</b>	n = 5843	61%	46%
More Rural	n = 1392	54%	37%

Survey Questions: Have you heard of rebates (money back) or discounts for installing any of the following energy efficient products, equipment or appliances? What organizations offer the rebates or discounts for energy efficiency products, equipment or appliances that you've heard about?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.



### *3.3.1.3. Perceptions of Energy Trust's Activities*

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The 65% of respondents who reported any awareness of Energy Trust were asked about their perceptions of Energy Trust activities. Specifically, the survey asked, “Based on what you’ve seen or heard about Energy Trust of Oregon, what are the top two things that Energy Trust is involved with?” Across all these respondents (participants and nonparticipants combined), the most commonly identified items were energy efficiency (70%) and renewable energy (44%), followed by energy assistance (24%) and affordability (19%). Fewer than 5% of these respondents identified reliability, health and comfort, or resilience.

Participants more frequently identified energy efficiency and energy assistance than did nonparticipants (Figure 3-21). Results showed some differences by demographic group. Respondents who were white, higher income, homeowners, living in a single-family-detached home, and a dual fuel customer more frequently identified energy efficiency as an Energy Trust area of involvement than did other respondents. Higher income and dual fuel customers, as well as those living in the Portland Metro area, were more likely to identify renewable energy. Identification of renewable energy was not consistently tied to the other demographic variables.

Figure 3-21: Percentage of Respondents Identifying Energy Trust Areas of Involvement, by Demographics<sup>1</sup>

Group	Count	Energy Efficiency	Renewable Energy	Energy Assistance	Energy Affordability
All Respondents	n = 3922	70%	44%	24%	19%
Participants	n = 2211	79%	42%	22%	19%
Nonparticipants	n = 1710	64%	45%	26%	20%
<b>White</b>	n = 3023	72%	44%	25%	19%
Person of color:	n = 611	64%	45%	26%	25%
Black	n = 48	76%	34%	25%	23%
Native American	n = 29	79%	50%	1%	36%
Hispanic/Latino	n = 182	68%	43%	24%	25%
Asian American	n = 210	70%	44%	19%	27%
Other	n = 23	48%	65%	51%	8%
Two or more	n = 119	50%	46%	37%	27%
<b>Low Income</b>	n = 449	62%	33%	30%	23%
Moderate Income	n = 1044	66%	36%	26%	22%
High Income	n = 2013	73%	48%	24%	18%
<b>Renter-Occupant</b>	n = 654	59%	47%	28%	19%
Owner-Occupant	n = 3197	72%	43%	24%	19%
<b>SF-Detached</b>	n = 3016	73%	45%	23%	18%
SF-Attached	n = 250	70%	40%	25%	22%
Multifamily	n = 420	57%	45%	30%	23%
Mobile/Manufactured	n = 213	60%	34%	31%	26%
<b>Dual Fuel</b>	n = 2429	73%	47%	23%	19%
Electric Only	n = 1319	65%	40%	25%	20%
Gas Only	n = 173	71%	37%	36%	20%
<b>Portland Metro</b>	n = 2395	72%	46%	23%	19%
Willamette Valley/North Coast	n = 814	69%	41%	27%	21%
Southern Oregon	n = 540	65%	37%	23%	21%
East of the Cascades	n = 172	72%	43%	26%	13%
<b>More Urban</b>	n = 3312	70%	45%	24%	19%
More Rural	n = 609	70%	39%	24%	19%

Survey question: Based on what you've seen or heard about Energy Trust of Oregon, what are the top two things that Energy Trust is involved with?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

### 3.3.2. Barriers

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We examined three survey topics that speak to barriers to participating in Energy Trust residential programs: 1) reasons given for not participating in an Energy Trust program; 2) sources of home maintenance information and resources; and 3) home maintenance and repair practices. The former clearly speaks to barriers – the reasons for nonparticipation identify factors that prevented them from participating. The second is also pertinent to the topic of barriers, as the lack of effective information or resources for home maintenance may prevent customers from becoming aware of energy efficiency options, including programs to help make energy efficiency more affordable. The third relates to barriers, as many Energy Trust incentives require installation by a contractor, which may not align with some customers' approach to home maintenance.

The analysis of the first topic – reasons for nonparticipation – includes only program nonparticipants. For the other two topics we examined how responses varied by demographic and household characteristics for all respondents combined, regardless of participation status. We also examined the relationship with program participation, grouping indirect participants and LED participants with nonparticipants..

#### 3.3.2.1. *Reasons for Not Participating*

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Nonparticipants who confirmed they had not participated in an Energy Trust program<sup>17</sup> identified their primary reasons for not participating. Respondents were allowed to select multiple responses from the following list or identify a reason not on the list:

- I wasn't aware of programs like this
- My bills aren't high enough to worry about
- I cannot afford the project / purchase
- It's not worth the time or effort
- The discount or rebate isn't enough
- I'm not eligible / qualified
- There are other issues with my home that need to be fixed first
- I need more information
- My landlord deals with that (renters only)
- I do not want to ask my landlord (renters only)

Nearly all respondents (98%) selected three or fewer items, with two-thirds (63%) selecting a single item.

Across respondents, the most commonly identified barriers, by far, were lack of awareness of programs (38%) and lack of sufficient information about the programs to make a decision (35%). Fewer respondents reported that they thought they were not eligible (14%), they could not afford an efficiency upgrade (10%), or their energy bills were low enough that there was no need for an efficiency upgrade (10%).

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<sup>17</sup> Some households that were identified as nonparticipants in the Energy Trust project tracking database reported having participated in an Energy Trust program. That could occur because a customer received other types of assistance or rebates from other organizations and incorrectly attributed that assistance to Energy Trust or participated in an Energy Trust program as part of a different household.

Fewer than 10% gave any other specific reason for not participating, such as: having other household priorities; making improvements was the landlord's responsibility; the incentive was not enough to get them to act; or participating was not worth the time or effort.

Lack of awareness and insufficient information generally were the most frequently cited reasons for all respondent groups. However, as detailed below, other reasons were cited more frequently by some groups than by others:

- In general, the lack of program awareness was a greater participation barrier to people of color than to white respondents.
- Overall project cost was more of a barrier for low-income and manufactured home residents than high-income and single-family detached residents.
- Insufficient information was a greater participation barrier to white respondents than to people of color.
- Perceived ineligibility stood in the way more often for respondents who were white, high-income, lived in detached housing, and lived in Southern Oregon and East of the Cascades.
- Lack of motive because of low energy bills stood in the way more often for respondents who were white and high-income than for people of color and low-income respondents.
- Competing household priorities was a barrier for homeowners more often than for renters.

The following subsections show the demographic differences in reported reasons for nonparticipation grouped into three categories: 1) lack of awareness or information; 2) financial or other reasons; and 3) lack of motive.

### *Lack of Awareness or Information*

Lack of program awareness was a greater participation barrier to people of color, considered as a group, than to white respondents and a greater barrier to low-income respondents than high-income ones. White respondents, on the other hand, were more likely than people of color to say they did not participate because they needed more information.<sup>18</sup> Neither of these barriers showed many differences by other demographic factors (Figure 3-22).

The fact that people of color cited lack of program awareness more frequently than did white respondents is consistent with the finding that people of color generally reported less familiarity with Energy Trust than did white respondents (Section 3.3.1.1). But is the difference in familiarity level the only reason people of color cite lack of awareness more frequently? We sought to assess whether citing lack of program awareness as a barrier was a function of familiarity with Energy Trust. We did this by splitting the sample between respondents who were and were not familiar with Energy Trust, and comparing white respondents and people of color within each group.

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<sup>18</sup> Some exceptions existed, but the relatively small number of nonparticipants of color suggests caution in drawing any conclusions regarding specific groups.

Figure 3-22: Non-Participants Reporting Lack of Awareness or Lack of Information as a Participation Barrier (Nonparticipants Only)<sup>1</sup>

Group	Count	Unaware of Program	Need More Information
All Respondents	n = 1480	38%	35%
<b>White</b>	n = 1128	36%	37%
Person of color:	n = 252	52%	26%
Black	n = 31	71%	21%
Native American	n = 21	7%	80%
Hispanic/Latino	n = 85	45%	15%
Asian American	n = 50	54%	23%
Other	n = 7	13%	23%
Two or more	n = 58	61%	38%
<b>Low Income</b>	n = 248	47%	32%
Moderate Income	n = 489	33%	34%
High Income	n = 586	40%	36%
<b>Renter-Occupant</b>	n = 431	39%	31%
Owner-Occupant	n = 1032	38%	37%
<b>SF-Detached</b>	n = 946	38%	37%
SF-Attached	n = 110	40%	33%
Multifamily	n = 262	38%	30%
Mobile/Manufactured	n = 136	37%	30%
<b>Dual Fuel</b>	n = 755	38%	38%
Electric Only	n = 651	38%	33%
Gas Only	n = 58	42%	32%
<b>Portland Metro</b>	n = 794	38%	35%
Willamette Valley/North Coast	n = 351	36%	35%
Southern Oregon	n = 260	36%	40%
East of the Cascades	n = 59	47%	37%
<b>More Urban</b>	n = 1177	38%	36%
More Rural	n = 293	37%	31%

Survey Question: What are the main reasons you haven't used one of Energy Trust of Oregon's programs, services or discounts? Select all that apply.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

The results in Table 3-4 show an interaction between race and level of familiarity with Energy Trust and their impact on both lack of program awareness and need for more information as a barrier. If people of color cite program awareness as a barrier *only* because of the difference in familiarity level, then we would expect to see no difference between white respondents and people of color in any comparison. Indeed, among respondents who reported knowing at least a little about Energy Trust, there were no differences between white respondents and people of color. However, when comparing white respondents and people of color who knew Energy Trust only by name – that is, when the two groups were equally unfamiliar with Energy Trust – white respondents cited lack of program awareness much less frequently as a barrier than did people of color (45% vs. 64%) and they cited need for more information more frequently (42% vs. 24%). This suggests that actual differences in familiarity with Energy Trust do not fully account for the higher frequency with which people of color identify lack of awareness as a barrier. Something else must explain why white respondents are less likely to cite lack of awareness than people of color when both groups are equally unfamiliar with Energy Trust.

*Table 3-4: Lack of Program Awareness as a Barrier, by Race and Energy Trust Familiarity*

Group	Knows at Least a Little about Energy Trust			Aware of Energy Trust only by Name <sup>1</sup>		
	n	Barrier Cited		n	Barrier Cited	
		Lack of awareness	Need for more information		Lack of awareness	Need for more information
White	403	21%	29%	725	45%	42%
Person of color	62	18%	32%	190	64%	24%

<sup>1</sup>Differences are statistically significant at  $p < .05$ .

One possible interpretation of the above is that white respondents and people of color who are not very familiar with Energy Trust (but not those who are more familiar) differ in how they characterize their reason for nonparticipation. People of color are more likely to identify it as “unaware of the program” and white respondents are more likely to identify it as “need more information.”

As the above figure shows, not all communities of color responded the same way regarding these two nonparticipation reasons. In particular, the trends for Black and Native American respondents appear to differ from each other and from those for other communities of color. However, sample sizes for these groups were too small to identify reliable differences.

### *Financial or Other Reasons*

Four reasons for nonparticipation speak to external barriers. Three of these – having competing household priorities, not being able to afford an upgrade even with the rebate or discount, and thinking the available rebate or discount was insufficient – indicate a lack of sufficient resources to participate. The fourth reason discussed in this subsection, a perceived ineligibility for rebates or discounts, also indicates an external barrier, or at least a perceived one. Thus, respondents who cited these reasons may have been aware of the programs but determined they could not participate for various reasons.

Respondents who were white, high-income, homeowners, or living in single-family detached housing cited the perceived lack of eligibility more frequently (Figure 3-23). Respondents living in Southern Oregon and East of the Cascades also gave this reason more frequently than did those living elsewhere.

Figure 3-23: Non-Participants Reporting Financial or Other Reasons as a Participation Barrier<sup>1</sup>

Group	Count	Not Eligible or Qualified	Other Household Priorities	Can't Afford Project	Insufficient Discount or Rebate
All Respondents	n = 1480	14%	8%	9%	5%
<b>White</b>	n = 1128	14%	9%	10%	6%
Person of color:	n = 252	9%	7%	7%	5%
Black	n = 31	0%	14%	2%	15%
Native American	n = 21	1%	0%	1%	0%
Hispanic/Latino	n = 85	4%	7%	7%	4%
Asian American	n = 50	5%	4%	1%	8%
Other	n = 7	23%	0%	0%	0%
Two or more	n = 58	17%	9%	13%	3%
<b>Low Income</b>	n = 247	6%	10%	14%	4%
Moderate Income	n = 486	10%	8%	16%	4%
High Income	n = 585	16%	8%	6%	7%
<b>Renter-Occupant</b>	n = 431	10%	2%	8%	3%
Owner-Occupant	n = 1032	15%	10%	10%	6%
<b>SF-Detached</b>	n = 946	15%	10%	10%	6%
SF-Attached	n = 110	8%	11%	8%	5%
Multifamily	n = 262	14%	2%	6%	4%
Mobile/Manufactured	n = 136	5%	6%	14%	3%
<b>Dual Fuel</b>	n = 755	14%	9%	10%	6%
Electric Only	n = 651	14%	8%	10%	5%
Gas Only	n = 58	12%	5%	1%	4%
<b>Portland Metro</b>	n = 794	12%	9%	10%	7%
Willamette Valley/North Coast	n = 351	13%	10%	11%	4%
Southern Oregon	n = 260	20%	4%	10%	5%
East of the Cascades	n = 59	20%	2%	1%	0%
<b>More Urban</b>	n = 1177	13%	9%	10%	6%
More Rural	n = 293	19%	5%	7%	3%

Survey Question: What are the main reasons you haven't used one of Energy Trust of Oregon's programs, services or discounts? Select all that apply.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Again, Black and Native American respondents tended to respond somewhat differently from other people of color, but the sample sizes for these two groups were too small for reliable estimates.

Aside from the above, these few results stand out:

- Low-income respondents and mobile/manufactured home residents cited inability to afford the project more frequently than did high-income respondents and single-family detached residents.
- Renters, multifamily residents, and those in Southern Oregon and East of the Cascades cited other household priorities less frequently than did other groups.

### *Lack of Motive*

Finally, three reasons for nonparticipation – that upgrades are the landlord’s responsibility, low energy bills make program participation unnecessary, or participating is just not worth the effort – speak to a lack of a motive to participate, rather than lack of program awareness, lack of information, or external barriers. Citing landlord responsibility was more common among people of color, low-income respondents, multifamily residents, and electric-only customers than among other respondents—those who are more likely to be renters (Figure 3-24). By contrast, white and high-income respondents cited low energy bills more frequently than did people of color or low-income respondents, although this reason was unrelated to other demographic factors. Not participating because it was not worth the time or effort was not related to respondent demographics in a major way.

Clearly, only renters would say they did not participate in programs because maintenance and repair is their landlord’s responsibility. We assessed whether people of color, low-income respondents, multifamily residents, and electric-only customers were more likely to cite landlord responsibility as a barrier simply because they were more likely to be renters. After reexamining these demographic differences only among renters, we found that giving this reason for nonparticipation was no longer related to income. However, it was still the case that a higher percentage of people of color cited landlord responsibility (16%) than did white respondents (5%); also, electric-only customers cited landlord responsibility more frequently (14%) than did dual fuel customers (3%).<sup>19</sup>

The above may reflect race/ethnicity differences in the types of rental housing occupied. Renters living in multifamily housing identified landlord responsibility more frequently than those in other housing types (Figure 3-25), and persons of color who were renters were more likely to live in multifamily housing than were white renters (Figure 3-26). Thus, the fact that, among renters, persons of color were more likely than whites to live in multifamily housing, the type most associated with landlord responsibility for maintenance and repair, may explain why renters who are people of color were more likely than white renters to cite landlord responsibility.

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<sup>19</sup> Bear in mind that examining these differences only for renters reduced the sample sizes, thereby reducing the statistical power for detecting differences. However, the sample sizes generally provided reasonable power for detecting moderate differences.



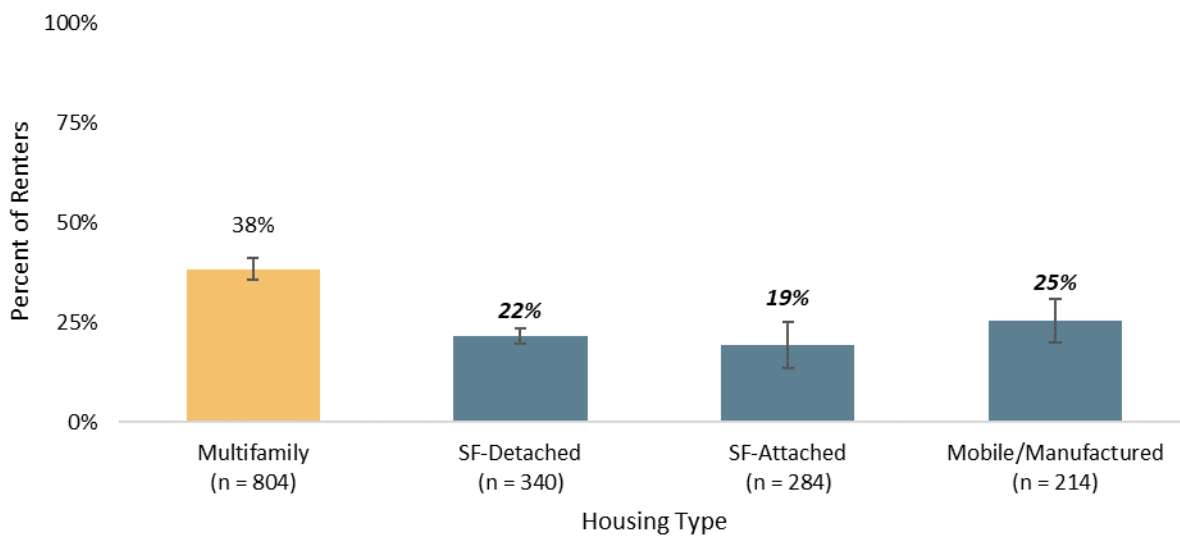
Figure 3-24: Non-Participants Reporting Lack of Motive as a Participation Barrier<sup>1</sup>

Group	Count	Landlord's Responsibility	Have Low Energy Bills	Not Worth Time or Effort
All Respondents	n = 1481	7%	10%	5%
<b>White</b>	n = 1128	5%	11%	5%
Person of color:	n = 253	16%	9%	5%
Black	n = 31	25%	1%	14%
Native American	n = 21	18%	0%	0%
Hispanic/Latino	n = 85	16%	14%	0%
Asian American	n = 51	11%	15%	9%
Other	n = 7	30%	0%	26%
Two or more	n = 58	14%	4%	1%
<b>Low</b>	n = 247	14%	6%	1%
Moderate	n = 487	9%	9%	3%
High	n = 585	5%	13%	6%
<b>Renter-Occupant</b>	n = 432	31%	11%	3%
Owner-Occupant	n = 1032	0%	10%	6%
<b>SF-Detached</b>	n = 946	1%	9%	5%
SF-Attached	n = 110	9%	11%	6%
Multifamily	n = 262	31%	16%	4%
Mobile/Manufactured	n = 137	8%	14%	0%
<b>Dual Fuel</b>	n = 755	3%	9%	6%
Electric Only	n = 652	14%	12%	4%
Gas Only	n = 58	6%	11%	2%
<b>Portland Metro</b>	n = 795	9%	12%	5%
Willamette Valley/North Coast	n = 351	6%	9%	6%
Southern Oregon	n = 260	1%	3%	2%
East of the Cascades	n = 59	0%	7%	4%
<b>More Urban</b>	n = 1178	7%	10%	5%
More Rural	n = 293	2%	10%	5%

Survey Question: What are the main reasons you haven't used one of Energy Trust of Oregon's programs, services or discounts? Select all that apply.

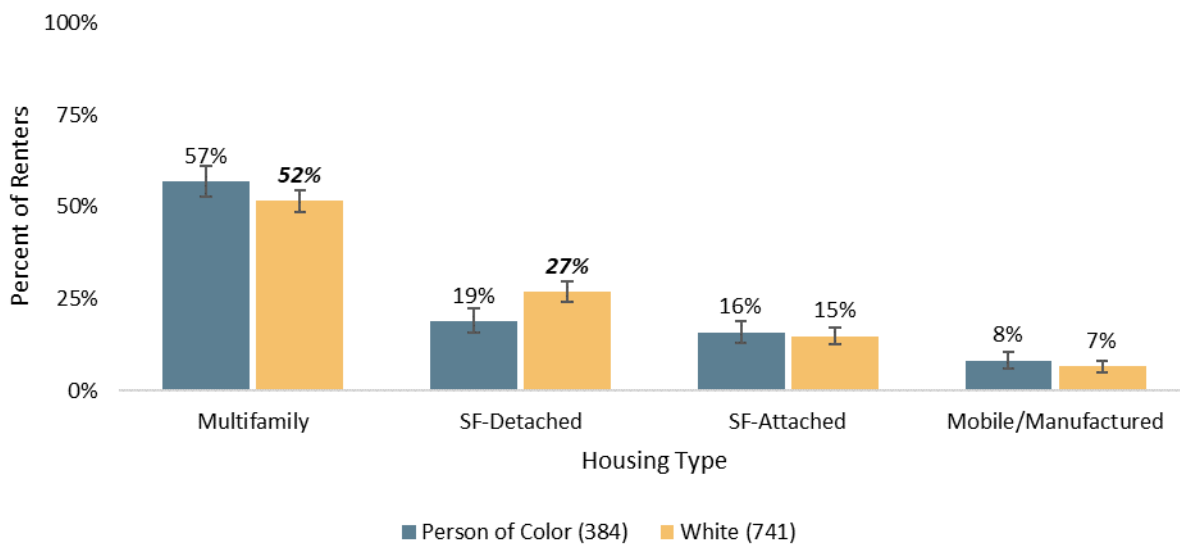
<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-25: Renter Identification of “Landlord Responsibility” as Reason for Nonparticipation, by Housing Type; and Relationship between Race and Housing Type, Among Renters



<sup>1</sup>In this figure, “Multifamily” is the reference group.

Figure 3-26: Relationship between Race and Housing Type, Among Renters



<sup>1</sup>In this figure, “Multifamily” is the reference group.

### 3.3.2.2. Sources of Home Maintenance and Repair Information and Resources

Survey respondents identified what resources and information they relied on when it came to home maintenance and repair. Differences among groups in where they get such information could potentially point to barriers to making energy efficiency improvements, and to opportunities for effective communication. That is, such information may be useful in identifying specific areas of informational

disadvantage for certain groups as well as the most effective way to communicate energy efficiency information.

Again, responses tended to cluster along demographic lines. People of color, low-income customers, renters, those residing in other than single-family-detached housing, and electric-only customers were less likely than other customers to identify online sources, social or community sources, commercial sources, or Energy Trust or their utility company (Figure 3-27), but they were generally more likely to identify their landlord or a government agency (Figure 3-28).<sup>20</sup>

The group differences in the identified sources were most striking as they related to income, home ownership, housing type, and fuel type. In particular, low-income respondents, renters, and those living in either multifamily residences or mobile or manufactured homes identified online sources, social groups, and commercial sources much less frequently than did high-income respondents, homeowners, and single-family-attached housing residents.

Although race-related differences generally were not as striking, some stood out. For example, identification of online sources was relatively uncommon among Black respondents, while identification of government sources was relatively common among that group and identification of landlords was relatively common among Native Americans.

Each of the sources that was *less* commonly identified by people of color, low-income respondents, renters, and customers not living in single-family-detached homes was *also less* commonly identified by nonparticipants than by participants (Table 3-5). Nonparticipants identified a landlord as a source of information *more* frequently than did participants; this may to some degree reflect the fact that “nonparticipants,” as defined here, includes indirect participants, who often are renters. Identifying government as an information source was not associated with participation either way.

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<sup>20</sup> Online sources included YouTube videos, websites, and blogs. Social and community groups included friends, family, neighborhood organizations, and religious organizations. Commercial sources included contractors, do-it-yourself stores, workshops, and real estate agents.

Table 3-5: Information Sources Identified, by Participation Status<sup>1</sup>

Source	Participants	Nonparticipants	Difference (Participants minus Nonparticipants)
Utility	36%	22%	+14%
Online	57%	47%	+10%
Commercial source	42%	34%	+8%
Self	77%	71%	+6%
Social group	45%	41%	+4%
Government	10%	10%	0%
Landlord	3%	13%	-10%

<sup>1</sup> Participants in this table are direct participants; nonparticipants are all other respondents. All differences except that for Government are statistically significant at  $p \leq .05$ .

The above associations do not necessarily imply that having certain sources of information *causes* increased participation. Another possible interpretation is that customers who are more interested in home improvements are more likely both to seek out sources of information and to participate in Energy Trust programs.

Again, the findings for region formed their own pattern, separate from that for other demographic factors. Southern Oregon respondents identified all sources except government agencies less frequently than did Portland Metro respondents. Willamette Valley/North Coast and Southern Oregon respondents identified online sources less frequently. Other differences were either relatively small or were not consistent across regions.

Figure 3-27: Frequency of Identification of Online, Social, Commercial, or Program Administrator Source Types, by Demographics (Multiple Responses Allowed)<sup>1,2</sup>

Group	Count	Online	Social	Commercial	Utility or Energy Trust
All Respondents	n = 7257	50%	43%	37%	26%
Participants	n = 2925	57%	45%	42%	36%
Nonparticipants	n = 4332	47%	41%	34%	22%
<b>White</b>	n = 5186	51%	44%	40%	27%
Person of color:	n = 1545	47%	40%	25%	23%
Black	n = 151	18%	30%	23%	22%
Native American	n = 98	35%	22%	15%	16%
Hispanic/Latino	n = 628	39%	37%	21%	19%
Asian American	n = 390	59%	47%	30%	30%
Other	n = 42	45%	38%	21%	17%
Two or more	n = 236	59%	41%	31%	21%
<b>Low Income</b>	n = 1319	32%	38%	18%	17%
Moderate Income	n = 2213	40%	38%	27%	22%
High Income	n = 2948	59%	47%	44%	29%
<b>Renter-Occupant</b>	n = 2098	35%	34%	13%	18%
Owner-Occupant	n = 5052	55%	46%	44%	28%
<b>SF-Detached</b>	n = 4789	55%	45%	43%	28%
SF-Attached	n = 564	44%	40%	30%	20%
Multifamily	n = 1203	36%	36%	16%	22%
Mobile/Manufactured	n = 588	33%	33%	21%	18%
<b>Dual Fuel</b>	n = 3817	56%	46%	43%	28%
Electric Only	n = 3074	41%	37%	26%	22%
Gas Only	n = 337	47%	40%	44%	33%
<b>Portland Metro</b>	n = 3999	53%	44%	38%	27%
Willamette Valley/North Coast	n = 1786	46%	42%	38%	26%
Southern Oregon	n = 1149	41%	34%	32%	23%
East of the Cascades	n = 294	48%	43%	33%	22%
<b>More Urban</b>	n = 5843	52%	43%	37%	27%
More Rural	n = 1392	40%	38%	34%	19%

Survey Question: Today there are a lot of resources and information for maintaining or improving your home. What sources, if any, do you use when it comes to your home? Select all that apply.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

<sup>2</sup>Online sources: YouTube videos, websites, and blogs. Social and community groups: friends, family, neighborhood organizations, and religious organizations. Commercial sources: contractors, do-it-yourself stores, workshops, and real estate agents.

Figure 3-28: Frequency of Identification of Landlords or Government Agencies as Sources, by Demographics (Multiple Responses Allowed)<sup>1</sup>

Group	Count	Landlord	Government
All Respondents	n = 7257	10%	10%
Participants	n = 2925	3%	10%
Nonparticipants	n = 4332	13%	10%
<b>White</b>	n = 5186	9%	9%
Person of color:	n = 1545	13%	12%
Black	n = 151	20%	20%
Native American	n = 98	32%	8%
Hispanic/Latino	n = 628	15%	9%
Asian American	n = 390	8%	15%
Other	n = 42	5%	10%
Two or more	n = 236	15%	14%
<b>Low Income</b>	n = 1319	17%	11%
Moderate Income	n = 2213	15%	10%
High Income	n = 2948	7%	9%
<b>Renter-Occupant</b>	n = 2098	41%	12%
Owner-Occupant	n = 5052	0%	9%
<b>SF-Detached</b>	n = 4789	3%	9%
SF-Attached	n = 564	28%	12%
Multifamily	n = 1203	32%	12%
Mobile/Manufactured	n = 588	14%	10%
<b>Dual Fuel</b>	n = 3817	6%	9%
Electric Only	n = 3074	18%	10%
Gas Only	n = 337	4%	15%
<b>Portland Metro</b>	n = 3999	11%	9%
Willamette Valley/North Coast	n = 1786	8%	11%
Southern Oregon	n = 1149	8%	11%
East of the Cascades	n = 294	9%	12%
<b>More Urban</b>	n = 5843	11%	10%
More Rural	n = 1392	7%	8%

Survey Question: Today there are a lot of resources and information for maintaining or improving your home. What sources, if any, do you use when it comes to your home? Select all that apply.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

### 3.3.2.3. Home Maintenance/Repair Practices

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Respondents who owned their homes reported whether they typically hired a professional to carry out various home maintenance or repair needs – installing insulation or a new appliance, dealing with plumbing issues, fixing a door or window, or changing an air filter – or did the maintenance or repair themselves (or with friends or family).<sup>21</sup> Preferences around using a professional for home maintenance could speak to potential participation barriers. Many Energy Trust incentives require that a contractor install the measure, which may exclude people who are not inclined or do not have the resources to hire a professional. Further, knowing how demographic groups differ around using a professional for home maintenance may provide insights into how best to communicate information about energy efficiency to specific groups.

Overall, respondents were most likely to say they would hire a professional to install insulation, with just over half (53%) saying they would do so. Respondents were somewhat less likely to say they would hire a professional to install an appliance (43%), fix a plumbing issue (40%), or fix a door or window (35%). Relatively few respondents (8%) said they would hire a professional to change an air filter. Across all items except change air filter, a slightly higher, but statistically significant, percentage (3% to 4%) of program participants than nonparticipants said they would hire a professional. Participants and nonparticipants did not differ in the likelihood of saying they would hire a professional to change an air filter.

Low-income and electric-only customers reported using professionals less than did high-income and dual-fuel customers (Figure 3-29).<sup>22</sup> It is not surprising that low-income homeowners would be less likely to hire a contractor for home maintenance and repairs. The finding regarding fuel types may well be explained by the association between fuel type and income level: that is, electric-only customers are much more likely to be low- or moderate-income.

Compared to white respondents, Black and Asian American respondents reported using professionals *more* frequently for most activities, but Hispanic/Latino respondents reported using professionals *less* frequently. Similarly, compared to detached housing residents, those living in attached single-family housing and, to a lesser extent, multifamily dwellings<sup>23</sup> tended to report using professionals *more* frequently. Manufactured home residents reported using professionals *less* frequently.

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<sup>21</sup> This survey topic included only homeowners, as renters often rely on their landlords for the types of home maintenance and repair needs addressed here. Since this survey question excluded renters, the discussion excludes references to homeownership. However, the discussion references multifamily residents, as that category included owner-occupant of condominium units.

<sup>22</sup> Any trend in these regarding the use of professionals therefore suggests the opposite trend regarding doing it oneself; thus, only trends relating to the use of professionals are presented.

<sup>23</sup> Again, in these analyses, multifamily dwellings refer largely to owner-occupied condominiums.

Figure 3-29: Owner-Occupant Use of Home Maintenance Professionals, by Demographic Characteristic<sup>1</sup>

Group	Count	Install Insulation	Install Appliance	Plumbing	Fix Door or Window
All Respondents	n = 5160	53%	43%	40%	35%
Participants	n = 2520	56%	45%	43%	37%
Nonparticipants	n = 2639	52%	42%	38%	34%
<b>White</b>	n = 3935	54%	43%	39%	34%
Person of color:	n = 830	55%	44%	43%	41%
Black	n = 48	41%	73%	63%	56%
Native American	n = 41	34%	33%	9%	21%
Hispanic/Latino	n = 271	45%	28%	33%	25%
Asian American	n = 281	73%	66%	59%	60%
Other	n = 33	66%	39%	30%	47%
Two or more	n = 156	46%	34%	38%	40%
<b>Low Income</b>	n = 573	35%	25%	27%	22%
Moderate Income	n = 1369	44%	37%	36%	30%
High Income	n = 2584	59%	46%	42%	39%
<b>SF-Detached</b>	n = 4290	55%	44%	40%	35%
SF-Attached	n = 214	60%	52%	51%	44%
Multifamily	n = 253	49%	48%	50%	55%
Mobile/Manufactured	n = 345	35%	32%	27%	24%
<b>Dual Fuel</b>	n = 3287	58%	47%	42%	38%
Electric Only	n = 1573	42%	34%	33%	28%
Gas Only	n = 278	54%	44%	42%	39%
<b>Portland Metro</b>	n = 2966	57%	48%	42%	38%
Willamette Valley/North Coast	n = 1107	52%	41%	40%	34%
Southern Oregon	n = 832	45%	33%	35%	28%
East of the Cascades	n = 233	43%	28%	33%	25%
<b>More Urban</b>	n = 4110	55%	46%	41%	37%
More Rural	n = 1031	43%	31%	36%	27%

Survey Question: When you need to fix or replace something in this home/property, do you usually...hire a professional, or do it yourself (including getting help from friends or family)?

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.



Regional differences in responses were more consistent than for other survey items. Compared to respondents in the Portland Metro region, those in all other areas reported using professionals *less* frequently. The differences were somewhat greater for Southern Oregon and East of the Cascades than for Willamette Valley/North Coast. As with the findings for fuel type, it is possible that these differences may be related to regional differences in income level.<sup>24</sup>

### 3.3.3. Motivations

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Finally, we looked at customers' motivations and attitudes relating to energy efficiency and how they differed by race and ethnicity, income, region, home ownership, building type, and fuel type. These analyses cover respondents' attitudes and priorities relating to energy efficiency and energy use; their interest in energy efficiency financing; and their purchase of LED lighting. We conducted these analyses for all respondents – participants and nonparticipants – combined.

#### 3.3.3.1. *Energy-Related Attitudes*

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Respondents identified their attitudes and concerns about energy-related issues by rating their agreement with seven statements.<sup>25</sup> Across all groups, respondents most commonly indicated concerns about keeping energy bills low, with about three-quarters of respondents agreeing with related items, including about one-third of respondents who worried about having enough money to pay their energy bills (Table 3-6). Despite the overall focus on lowering bills, nearly two-thirds of respondents indicated that home comfort was an acceptable trade-off for higher bills. About half of respondents indicated a willingness to pay more for environmentally friendly products, and slightly fewer for renewable energy. About half of respondents indicated concern about power outages during storms or other emergencies.

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<sup>24</sup> We examined this possibility by looking at how the relationship between region and use of home maintenance professionals was related to income level. The analyses suggested that income level is more strongly related to the use of home maintenance professionals within Portland Metro than outside of Portland Metro. Briefly, within Portland Metro, low income appears to strongly reduce the use of professionals.

<sup>25</sup> Respondents rated their level of agreement on a scale from 1 (“strongly disagree”) to 5 (“strongly agree”). For this analysis, we considered a rating of 4 or 5 to indicate agreement.

*Table 3-6: Overall Agreement with Attitude Statements*

Statement	Percent
I'm always looking for ways to lower my energy bills	75%
If my energy/utility bill goes up, I feel like I must do something to lower it	71%
It is important for my home to be a comfortable temperature even if my utility bills are higher	63%
I often pay more for products that are environmentally friendly	57%
I am concerned that the electricity/power will go out during storms or emergencies	53%
I am willing to pay more for energy that comes from renewable source	45%
I worry whether there is enough money to pay my energy/utility bills	28%

Attitudes varied on all demographic variables, although less so for region. In general, group differences clustered such that people of color, low-income respondents, renters, and electric-only customers tended to place greater emphasis on keeping energy costs down and were less likely to indicate they would pay more for environmentally friendly products or renewable energy. Regional differences were less distinct, but generally indicated that customers outside the Portland Metro region were more concerned with affordability and less concerned with other matters (Figure 3-31 and Figure 3-30).

The most striking group differences are seen in the three items that perhaps more strongly reflect economic security (Figure 3-30). Specifically, people of color, low-income customers, renters, those not living in a detached home, and electric-only customers were more concerned about paying for energy bills, tended not to pay more for environmentally friendly products, and were not likely pay more for renewable energy. These groups that expressed greater economic insecurity also tended to take action to lower energy bills when they go up, and were less likely to agree that greater comfort is an acceptable trade-off for higher bills.

These groups were also more likely to report that they were always looking for ways to lower their energy bills, but the differences with white, high-income, homeowners, and dual-fuel customers were much less. This statement implies an interest in lowering energy bills rather than an imperative, which may explain why high-income respondents were nearly as likely as low-income ones to agree with it.

Concerns about storm-related power outages did not cluster demographically as closely as some other attitude items. People of color and electric-only customers tended to report this concern more than white respondents and dual-fuel customers. However, renters indicated less concern about power outages than homeowners and there were only minor difference based on income level. These differences may reflect geographic differences or past experiences with power outages.

Customers in the Southern Oregon and Willamette Valley/North Coast regions indicated greater financial concerns as well as greater concerns about power outages than those in Portland Metro. Customers from East of the Cascades indicated fewer differences from those in Portland Metro, although they were less willing to pay extra for renewable energy similar to those in the Willamette Valley/North Coast and Southern Oregon.

Figure 3-30: Attitudes and Concerns Showing Larger Demographic Differences<sup>1</sup>

Group	Count	I Worry About Having Money to Pay My Energy Bill	I Often Pay More for Eco-Friendly Products	I Am Willing to Pay More for Renewable Energy
All Respondents	n = 7257	28%	57%	45%
Direct Participants	n = 2925	22%	62%	48%
All Others	n = 4332	31%	55%	44%
<b>White</b>	n = 5186	26%	58%	47%
Person of color:	n = 1545	41%	51%	41%
Black	n = 151	60%	40%	27%
Native American	n = 98	49%	44%	33%
Hispanic/Latino	n = 628	48%	44%	37%
Asian American	n = 390	31%	61%	48%
Other	n = 42	31%	39%	45%
Two or more	n = 236	39%	59%	44%
<b>Low Income</b>	n = 1319	64%	43%	32%
Moderate Income	n = 2213	46%	49%	37%
High Income	n = 2948	14%	64%	54%
<b>Renter-Occupant</b>	n = 2098	47%	51%	43%
Owner-Occupant	n = 5052	22%	58%	46%
<b>SF-Detached</b>	n = 4789	23%	58%	46%
SF-Attached	n = 564	40%	60%	47%
Multifamily	n = 1203	41%	54%	46%
Mobile/Manufactured	n = 588	48%	42%	31%
<b>Dual Fuel</b>	n = 3817	22%	60%	50%
Electric Only	n = 3074	40%	50%	39%
Gas Only	n = 337	23%	64%	42%
<b>Portland Metro</b>	n = 3999	26%	59%	50%
Willamette Valley/North Coast	n = 1786	33%	55%	40%
Southern Oregon	n = 1149	37%	48%	36%
East of the Cascades	n = 294	25%	59%	41%
<b>More Urban</b>	n = 5843	27%	58%	47%
More Rural	n = 1392	35%	51%	34%

Survey Question: Please indicate whether you agree or disagree with the following statements. Agreement was rated on a scale from 1 (“strongly disagree”) to 5 (“strongly agree”). This figure shows the percentages of respondents giving a rating of 4 or 5.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

Figure 3-31: Attitudes and Concerns Showing Smaller Demographic Differences<sup>1</sup>

Group	Count	I Am Always Looking for Ways to Lower My Energy Bill	I Feel Like I Must Lower My Energy Bill if It Goes Up	Home Comfort is Important Even if Bills Are Higher	I Am Concerned About Power Outages
All Respondents	n = 7257	76%	71%	63%	54%
Direct Participants	n = 2925	79%	70%	65%	55%
All Others	n = 4332	75%	71%	63%	53%
<b>White</b>	n = 5186	75%	69%	64%	53%
Person of color:	n = 1545	<b>80%</b>	<b>79%</b>	<b>61%</b>	<b>58%</b>
Black	n = 151	81%	79%	59%	46%
Native American	n = 98	82%	80%	55%	69%
Hispanic/Latino	n = 628	80%	78%	60%	54%
Asian American	n = 390	80%	83%	62%	62%
Other	n = 42	76%	71%	76%	63%
Two or more	n = 236	82%	79%	59%	64%
<b>Low Income</b>	n = 1319	82%	83%	59%	57%
Moderate Income	n = 2213	79%	76%	59%	54%
High Income	n = 2948	74%	68%	67%	53%
<b>Renter-Occupant</b>	n = 2098	77%	77%	60%	50%
Owner-Occupant	n = 5052	76%	69%	65%	55%
<b>SF-Detached</b>	n = 4789	76%	70%	65%	55%
SF-Attached	n = 564	77%	72%	56%	48%
Multifamily	n = 1203	76%	77%	62%	49%
Mobile/Manufactured	n = 588	77%	73%	59%	61%
<b>Dual Fuel</b>	n = 3817	75%	69%	65%	52%
Electric Only	n = 3074	78%	76%	61%	57%
Gas Only	n = 337	70%	65%	66%	50%
<b>Portland Metro</b>	n = 3999	75%	70%	64%	52%
Willamette Valley/North Coast	n = 1786	75%	72%	65%	58%
Southern Oregon	n = 1149	82%	77%	61%	64%
East of the Cascades	n = 294	77%	72%	60%	37%
<b>More Urban</b>	n = 5843	75%	71%	64%	53%
More Rural	n = 1392	80%	74%	61%	58%

Survey Question: Please indicate whether you agree or disagree with the following statements. Agreement was rated on a scale from 1 (“strongly disagree”) to 5 (“strongly agree”). This figure shows the percentages of respondents giving a rating of 4 or 5.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

### 3.3.3.2. *Energy-Related Priorities*

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Respondents identified what they thought should be the top two energy-related priorities for Oregon, from the following list of seven items (with definitions provided in the survey):

- **Energy efficiency:** Making our homes more efficient (use less energy).
- **Renewable energy:** Switching to or using energy from the sun, wind water or waste.
- **Reliability:** Keeping the power on all the time (minimize outages).
- **Resilience:** Preparing homes, businesses and the power system for the unexpected (like storms or natural disasters).
- **Affordability:** Making energy affordable for everyone.
- **Assistance:** Helping people in need lower their energy costs.
- **Health and Comfort:** Maintaining good indoor air quality and comfortable temperatures.

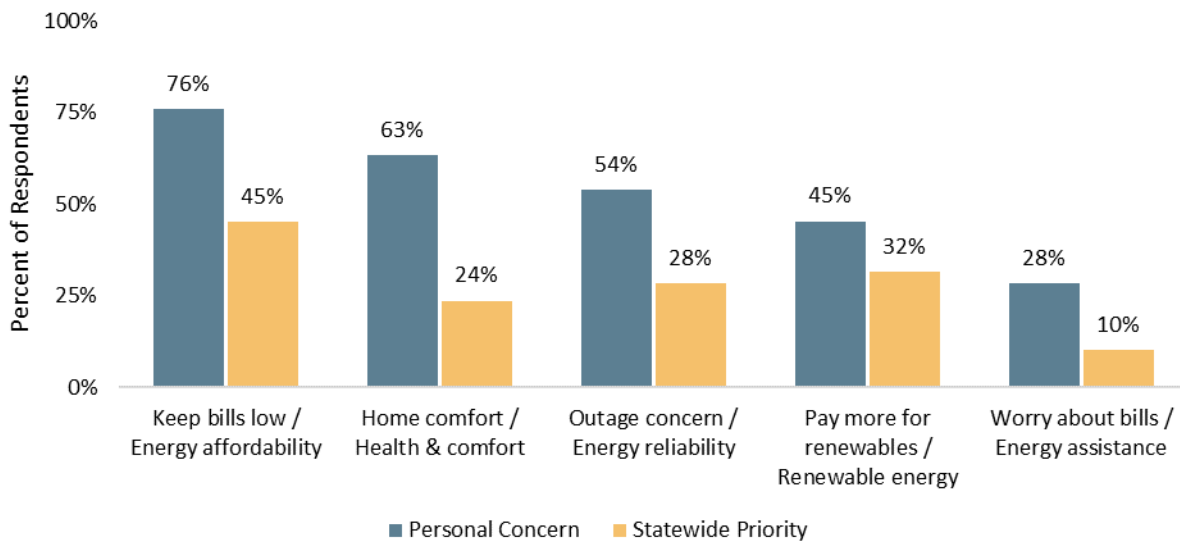
Energy affordability and energy efficiency tended to be identified most often across groups. Across all groups, nearly half (45%) identified affordability and energy efficiency as energy priorities for Oregon. Less commonly identified priorities were reliability (32%), renewable energy (28%), and health and comfort (24%). Assistance and resilience were least commonly identified – by 10% and 9% of respondents, respectively.

Overall, respondents' identifications of statewide priorities were generally consistent with their own personal concerns, identified in the previous section. Figure 3-32 shows that the statewide priorities matched well with related personal concerns items, with one exception.<sup>26</sup> Respondents did not identify "Health and Comfort" as a statewide priority in proportion to their emphasis on home comfort. The difference might reflect the different focus of the two questions – on statewide policies and actions to achieve a broader level of health and comfort, on the one hand, or on comfort of one's own home, paid for in terms of higher energy bills, on the other. Agreement with the latter says, "I am willing to pay higher energy bills to be comfortable in my own home." Endorsement of the former says, "I think it should be a statewide policy to help increase the health and comfort of everyone, including some who may not be able to pay for it themselves."

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<sup>26</sup> The generally higher percentages for personal concerns items than statewide priorities items reflects the difference in how the two sets of items were asked. The first asked for rated agreement, and respondents could agree with multiple items. The second asked respondents to pick only two of the seven items as priorities; it was not possible for a high percentage of respondents to have selected multiple items. Two statewide priority items – energy efficiency and resilience – were not directly comparable to any of the attitudes and concerns items and so were left off the figure.

Figure 3-32: Personal Attitudes and Concerns Compared with Identified Statewide Energy Priorities<sup>1</sup>



<sup>1</sup>For each set of labels, the personal concern (e.g., “keep bills low”) is identified first, followed by the statewide priority (e.g., “energy affordability”).

Results again clustered along demographic lines, although not as consistently as in the personal concerns (Figure 3-33). The groups that expressed greater economic insecurity – people of color, low-income respondents, renters, electric-only customers – tended to endorse affordability and energy assistance to a greater degree, and renewable energy to a lesser degree, than did other groups.

Although energy efficiency was one of the two most frequently identified priorities for all groups, it was a relatively lower priority for low-income respondents, renters, those living in multifamily and manufactured homes, and electric-only customers – than for other groups. Native Americans and Asian Americans prioritized efficiency more highly than white respondents while other race groups did not differ from white respondents.

Few of the comparisons by region yielded striking findings. Respondents outside of the Portland Metro region – particularly those in Southern Oregon and East of the Cascades – prioritized affordability and, to a lesser degree, reliability more highly.

Figure 3-33: Respondent Energy-Related Priorities, by Demographic Characteristic<sup>1</sup>

Group	Count	Energy Efficiency	Energy Affordability	Reliability	Renewable Energy	Energy Assistance
All Respondents	n = 7257	45%	45%	28%	32%	10%
Direct Participants	n = 2925	50%	42%	30%	34%	7%
All Others	n = 4332	43%	47%	28%	31%	11%
<b>White</b>	n = 5186	45%	44%	29%	33%	9%
Person of color:	n = 1545	47%	47%	23%	30%	15%
Black	n = 151	39%	55%	10%	23%	25%
Native American	n = 98	59%	56%	17%	25%	6%
Hispanic/Latino	n = 628	43%	50%	19%	28%	17%
Asian American	n = 390	54%	42%	24%	31%	14%
Other	n = 42	35%	36%	26%	33%	26%
Two or more	n = 236	46%	49%	32%	34%	9%
<b>Low Income</b>	n = 1302	36%	59%	18%	26%	22%
Moderate Income	n = 2208	40%	54%	26%	25%	13%
High Income	n = 2943	50%	38%	30%	37%	7%
<b>Renter-Occupant</b>	n = 2098	38%	55%	23%	30%	16%
Owner-Occupant	n = 5052	47%	42%	30%	32%	8%
<b>SF-Detached</b>	n = 4789	48%	42%	30%	31%	8%
SF-Attached	n = 564	46%	51%	23%	32%	14%
Multifamily	n = 1203	38%	54%	22%	33%	14%
Mobile/Manufactured	n = 588	32%	56%	30%	27%	23%
<b>Dual Fuel</b>	n = 3817	48%	40%	29%	34%	9%
Electric Only	n = 3074	39%	53%	27%	27%	13%
Gas Only	n = 337	52%	44%	26%	29%	7%
<b>Portland Metro</b>	n = 3999	46%	43%	28%	35%	10%
Willamette Valley/North Coast	n = 1786	44%	44%	26%	30%	11%
Southern Oregon	n = 1149	37%	53%	32%	19%	11%
East of the Cascades	n = 294	51%	51%	26%	28%	5%
<b>More Urban</b>	n = 5843	46%	44%	28%	33%	10%
More Rural	n = 1392	40%	51%	30%	24%	10%

Survey Question: What do you think is most important when it comes to Oregon’s energy use? Please select up to two. The figure shows the percentages of respondents selecting each item as one of two “most important” things.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

### 3.3.3.3. LED Purchase

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Respondents reported whether or not they had purchased any light bulbs in the past year and indicated whether they were LEDs or another type of lighting as well as where they bought them and whether they had seen a sign indicating they had received Energy Trust discounts. Overall, across all groups, 82% of respondents reporting buying any lighting and, of those who bought lighting, 68% reported buying LEDs. The majority of respondents who reported LED purchase did not confirm signage indicating Energy Trust discounts; thus, 10% of respondents could be identified as having bought discounted LEDs.

Reported LED purchases clustered in much the same way that attitudes and priorities did. Of all those who bought lighting, people of color, low-income respondents, renters, those not living in detached housing, and electric-only customers reported buying LEDs less frequently (Figure 3-34).<sup>27</sup> Reported LED purchase did not differ by region.

Across groups, respondents who bought LEDs most commonly reported buying their lighting at big box home improvement or hardware stores (56%), followed by discount retail chains<sup>28</sup> (34%) and membership stores (32%). They were least likely to buy lighting at local hardware stores (15%) and dollar stores (4%). Reported place of purchase varied by demographic factors. High-income respondents reported buying lighting at home improvement stores, hardware stores, or membership stores more frequently, and at discount chains or dollar stores less frequently, than did low-income respondents (Figure 3-35). The same differences existed for homeowners versus renters, and occupants of detached single-family versus other types of housing.

Overall, white respondents reported buying lighting at home improvement or hardware stores more frequently than did people of color. People of color, *considered together*, did not differ from white respondents in how frequently they reported buying lighting at other types of stores, but some differences existed for specific communities of color. The most striking of these were that, compared to white respondents, Asian Americans reported buying lighting in discount chains or dollar stores *less* frequently and at membership stores *more* frequently. Differences relating to fuel type and region were minimal.

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<sup>27</sup> Given that many renters may be responsible for replacing burned-out light bulbs in their units and that renters typically remain in their dwellings for a much shorter period of time than homeowners, it may be worth investigating whether renters may not see the value in “investing” in lighting that is supposed to last 10 times longer than a CFL.

<sup>28</sup> Fred Meyer (local chain owned by Kroger), Walmart, Target.



Figure 3-34: Lighting Purchase by Demographics<sup>1</sup>

Group	Count	Bought Any Lighting	Bought LED <sup>2</sup>	Bought Discounted LED
All Respondents	n = 7257	82%	56%	10%
Direct Participants	n = 2925	85%	64%	17%
All Others	n = 4332	80%	52%	7%
<b>White</b>	n = 5186	84%	59%	9%
Person of color::	n = 1545	73%	43%	13%
Black	n = 151	54%	18%	7%
Native American	n = 98	80%	60%	18%
Hispanic/Latino	n = 628	77%	45%	8%
Asian American	n = 390	68%	38%	20%
Other	n = 42	91%	66%	8%
Two or more	n = 236	75%	47%	15%
<b>Low</b>	n = 1302	75%	42%	7%
Moderate	n = 2208	77%	46%	10%
High	n = 2943	85%	64%	10%
<b>Renter-Occupant</b>	n = 2098	71%	38%	5%
Owner-Occupant	n = 5052	85%	62%	11%
<b>SF-Detached</b>	n = 4789	86%	63%	11%
SF-Attached	n = 564	77%	50%	7%
Multifamily	n = 1203	68%	33%	5%
Mobile/Manufactured	n = 588	80%	46%	8%
<b>Dual Fuel</b>	n = 3817	85%	63%	11%
Electric Only	n = 3074	76%	45%	8%
Gas Only	n = 337	85%	62%	11%
<b>Portland Metro</b>	n = 3999	82%	56%	10%
Willamette Valley/North Coast	n = 1786	82%	55%	10%
Southern Oregon	n = 1149	82%	55%	9%
East of the Cascades	n = 294	83%	57%	9%
<b>More Urban</b>	n = 5843	82%	56%	10%
More Rural	n = 1392	83%	55%	10%

Survey Question: Have you purchased or installed new light bulbs in the last year? What type of bulbs did you buy? Click on the image that's closest to what you bought.

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

<sup>2</sup>Out of respondents who reported buying any lighting.

Figure 3-35: Where Respondents Bought LEDs<sup>1</sup>

Group	Count	Home Improvement or Hardware Store	Discount Chain or Dollar Store	Membership Store	Miscellaneous
All Respondents	n = 4834	63%	35%	32%	24%
Direct Participants	n = 2108	66%	28%	36%	28%
All Others	n = 2725	61%	39%	30%	23%
<b>White</b>	n = 3609	64%	36%	32%	25%
Person of color:	n = 881	58%	36%	33%	23%
Black	n = 64	33%	33%	8%	35%
Native American	n = 53	46%	36%	32%	14%
Hispanic/Latino	n = 335	58%	45%	26%	18%
Asian American	n = 239	59%	27%	42%	28%
Other	n = 29	72%	25%	51%	14%
Two or more	n = 161	62%	33%	34%	25%
<b>Low Income</b>	n = 729	38%	53%	26%	18%
Moderate Income	n = 1348	55%	41%	30%	19%
High Income	n = 2244	70%	32%	34%	26%
<b>Renter-Occupant</b>	n = 1068	37%	53%	22%	19%
Owner-Occupant	n = 3705	69%	31%	34%	26%
<b>SF-Detached</b>	n = 3527	68%	31%	35%	25%
SF-Attached	n = 336	52%	48%	27%	24%
Multifamily	n = 593	41%	50%	18%	21%
Mobile/Manufactured	n = 331	48%	48%	28%	16%
<b>Dual Fuel</b>	n = 2787	67%	32%	35%	26%
Electric Only	n = 1772	55%	42%	27%	21%
Gas Only	n = 252	62%	31%	31%	29%
<b>Portland Metro</b>	n = 2743	65%	34%	31%	27%
Willamette Valley/North Coast	n = 1117	60%	38%	35%	25%
Southern Oregon	n = 742	57%	37%	32%	14%
East of the Cascades	n = 209	64%	35%	35%	20%
<b>More Urban</b>	n = 3907	64%	35%	32%	25%
More Rural	n = 908	57%	41%	33%	18%

Survey Question: Where did you buy new light bulbs? (If you bought online from any of these retailers, please select that retailer).

<sup>1</sup>For each set of comparisons, the reference group is listed first and shaded.

### 3.3.3.4. Interest in Energy Trust Financing

Interest in energy efficiency financing among homeowners was generally below 20% (Table 3-7). There were very few group differences in the level of interest in either low-interest loans or on-bill financing for energy efficiency improvements.

Table 3-7: Homeowner Interest in Energy Trust Financing Options

	All Respondents (n = 5,160)	Participants (n = 2,520)	Nonparticipants (n = 2,639)
Low-interest, no-fee loan	15%	17%	14%
On-bill financing	10%	12%	9%

### 3.4. Landlord Characteristics and Responses

Seventy survey respondents reported they owned or managed the property in question as a rental property – that is, they were landlords. Landlord respondents were reached incidentally through survey recruiting rather than systematically identified. These landlords were somewhat less concentrated in the Portland Metro and Willamette Valley/North Coast regions relative to other respondents (Table 3-8).

Table 3-8: Demographics of Landlord- Owned or -Managed Properties (n = 70)

Demographic Characteristic	Landlords (n = 70)	All Others (n = 7,187)
Region		
Portland Metro	53%	60%
Willamette Valley/North Coast	17%	20%
Southern Oregon	21%	12%
East of the Cascades	9%	7%
Urbanization		
More urban	73%	85%
More rural	27%	15%
Fuel Service Type		
Dual fuel	40%	56%
Electricity only	45%	37%
Natural gas only	14%	7%
Housing Type <sup>1</sup>		
Single-family-Detached	47%	72%
Single-family-Attached	22%	7%
Multifamily	16%	15%
Mobile/Manufactured	2%	6%

<sup>1</sup>A larger percentage of landlords (14%) than other respondents (1%) did not identify the housing type. Therefore, this table excludes those respondents from this comparison.

They also tended to be less concentrated in urban areas. Reflecting the greater concentration in Southern Oregon and in more-rural areas (see Section 3.1), they were somewhat more likely to be electricity-only customers than were other survey respondents. The share of single-family homes represented by landlord respondents was comparable to that for other respondents, but a relatively higher share of the landlord-owned or -managed properties were attached homes.

The properties about which the landlords were surveyed were predominantly market rate (Table 3-9). Two-thirds of tenants paid their own electricity and nearly three-quarters paid their own natural gas.

*Table 3-9: Market Characteristics of Landlord- Owned or -Managed Properties (n = 70)*

Characteristics	Percent
Housing Market Status	
Market-rate or conventional housing	64%
Public, subsidized, or affordable housing	6%
Housing for seniors or people with disabilities	2%
Not sure	20%
Prefer not to say	8%
Energy Bills Paid by Tenants	
Electricity	71%
Natural gas (only properties with natural gas service)	70%

Half (50%) of the surveyed landlords had been served by Energy Trust programs. This percentage was slightly higher than that for homeowners (39%), but the difference was not statistically significant. The percentage of landlords served was greater than for renters (28%).

Landlords generally were more aware of Energy Trust and the energy-related services it provides than were homeowners or renters (Table 3-10). About two-thirds reported knowing at least a little about Energy Trust, and comparable percentages reported awareness of free energy-related services and of rebates or discounts. Of those who were aware of the free services or of the rebates or discounts, about two-thirds were aware that Energy Trust offers those services.

Table 3-10: Awareness and Perceptions, Landlords Compared to Homeowners and Renters<sup>1</sup>

Survey Item	Landlords (n = 70)	Homeowners (n = 5,052)	Renters (n = 2,098)
Awareness of Energy Trust and Services			
Knows at least a little about Energy Trust	68%	<b>46%</b>	<b>18%</b>
Aware of any energy-related service	84%	80%	<b>54%</b>
Aware of any free energy-related service	71%	<b>59%</b>	<b>40%</b>
Aware that Energy Trust offers free energy-related service <sup>2</sup>	63%	50%	<b>30%</b>
Aware of rebates or discounts	67%	68%	<b>36%</b>
Aware that Energy Trust offers rebates or discounts <sup>2</sup>	73%	<b>47%</b>	<b>27%</b>
Perceived Top Energy Trust Areas of Involvement			
Energy efficiency	82%	72%	<b>59%</b>
Renewable energy	41%	43%	47%
Energy affordability	17%	24%	28%
Energy assistance	31%	<b>19%</b>	<b>19%</b>
Health and comfort	1%	2%	3%
Resilience	3%	3%	2%
Reliability	0%	3%	4%

<sup>1</sup> The summed counts of homeowners and renters (7,100) does not equal the count for all non-landlord respondents (7,187), identified in Table 3-8.

<sup>2</sup> The percentage who were aware that Energy Trust offers free energy-related service is out of all who were aware of the free services; similarly, the percentage who were aware that Energy Trust offers rebates or discounts is out of all who were aware of the rebates or discounts.

Three-quarters of landlords recognized that Energy Trust is involved in energy efficiency, while fewer identified other areas of involvement. Landlords were more similar to homeowners than to renters in how frequently they identified various areas of involvement. The main difference between landlords and the other groups is that landlords identified energy affordability more frequently than energy assistance, while the opposite order held for the other groups.

Landlords differed little from homeowners and renters in terms of barriers to participation, with two exceptions (Table 3-11). First, landlords who did not participate in Energy Trust programs cited lack of eligibility as the reason more frequently than did renters.<sup>29</sup> This may suggest a need to provide greater outreach to landlords to explain opportunities for improving the energy efficiency of rental properties.

<sup>29</sup> The difference with homeowners approached statistical significance, at  $p \approx 0.10$ .

Table 3-11: Landlord Participation Barriers, Compared to Homeowners and Renters

Survey Item	Landlords (n = 70)	Homeowners (n = 5,052)	Renters (n = 2,098)
Reasons for Nonparticipation in Energy Trust Programs			
Unaware of program	40%	38%	39%
Need more information	21%	37%	31%
Not eligible or qualified	27%	14%	<b>10%</b>
Other household priorities	5%	9%	3%
Can't afford project	17%	11%	8%
Insufficient discount or rebate	5%	7%	2%
Have low energy bills	5%	10%	10%
Not worth the time or effort	0%	5%	2%
Home Maintenance Information Sources			
Commercial source	50%	44%	<b>13%</b>
Utility company	52%	<b>28%</b>	<b>18%</b>
Online	41%	<b>55%</b>	35%
Social group	36%	46%	34%
Government	18%	<b>9%</b>	12%
Use Professional for Home Maintenance/Repair			
Install insulation	42%	54%	n/a
Install appliance	40%	43%	n/a
Fix plumbing issue	34%	40%	n/a
Fix door or window	31%	35%	n/a

Second, landlords identified three types of information sources on home maintenance – commercial sources (e.g., contractors or retailers), their utility company, and government agencies – more frequently than did other respondents.<sup>30</sup> The more frequent mention of commercial sources, given the fact that landlords did not use outside professionals for home maintenance and repair more frequently, is interesting. This may suggest that landlords more actively consult with outside professionals when planning maintenance and repair. In any case, these findings suggest that it might be beneficial for Energy Trust to work with contractors, home improvement stores, and utility companies to ensure that they educate landlords about Energy Trust programs.

Landlords also differed little from homeowners in what they thought should be Oregon's energy priorities (Table 3-12). They placed a somewhat higher absolute priority on energy affordability than did

<sup>30</sup> The difference between landlords and renters in the identification of government agencies as a resource approached statistical significance, at  $p < 0.10$ .

homeowners, although affordability was the second-highest priority for both groups. Landlords differed somewhat more from renters, placing greater priority on energy efficiency and less on energy assistance.

*Table 3-12: Landlord Energy Priorities, Compared to Homeowners and Renters*

Priority	Landlords (n = 70)	Homeowners (n = 5,052)	Renters (n = 2,098)
Energy efficiency	52%	47%	<b>38%</b>
Energy affordability	50%	42%	55%
Reliability	23%	30%	23%
Renewable energy	26%	32%	30%
Health and comfort	14%	<b>24%</b>	21%
Resilience	11%	10%	7%
Energy assistance	6%	8%	<b>16%</b>

### 3.5. DEI Baseline Validation

In 2018, Energy Trust conducted a Diversity, Equity and Inclusion (DEI) Baseline Study to assess how well Energy Trust was serving customers with differing demographics, income, and geography.<sup>31</sup> Because Energy Trust does not collect demographic data as part of its programs, Energy Trust staff explored whether they could use US Census data as a proxy for the demographics of participants and nonparticipants in assessing the equity of program services. This was done by comparing participation rates between Census tracts with different aggregate levels of income and racial diversity. Among the study's conclusions were:

1. High-income Census tracts showed a higher participation rate than low income Census tracts.
2. Census tracts that were moderately racially diverse showed a higher participation rate than those that were the least and most diverse.

Do the above findings tell us anything about the participation rates of households with certain demographic characteristics? For example, does the difference in participation rates between high- and low-income Census tracts reflect the difference in participation rates between high- and low-income households?<sup>32</sup>

<sup>31</sup> Energy Trust of Oregon. 2018 Diversity, Equity and Inclusion Data and Baseline Analysis. Published December 26, 2018. Available at: <https://www.energytrust.org/documents/energy-trust-of-oregon-2018-racial-diversity-equity-and-inclusion-data-and-baseline-analysis/>.

<sup>32</sup> "Participation rate" is defined here as the weighted percentage of survey respondents in a given group who were served by Energy Trust programs (i.e., all direct, indirect, and LED participants; see Section 3.2). Tract-level participation rate is based on the Census tract of the respondents' residence, while household-level participation rate is based on the household income level identified from reported income and family size, as described in Section 3.2 and Appendix A, Section A.6.

This question can be directly answered by examining what the survey data say about the participation rates for high- and low-income Census tracts and high- and low-income households. Table 3-13 shows that the tract-level and household-level participation rates correspond closely. The high- and low-income participation rates are similar at the tract and household levels, as are both the absolute and relative differences between the high- and low-income groups. The participation rate for high-income tracts is about 40% greater than that for low-income ones. Similarly, the participation rate for high-income households is 44% greater than that for low-income ones. Thus, the difference between high- and low-income tracts provides a good sense of the difference between high- and low-income households.

*Table 3-13: Participation Rates for High-Income and Low-Income Census Tracts Compared to Participation Rates for High-Income and Low-Income Households*

Income Level	Tract-Level Participation Rate	Household-Level Participation Rate
High	41.4%	40.0%
Low	29.7%	27.8%
Absolute difference	11.7%	12.2%
Relative difference <sup>1</sup>	39.6%	43.8%

<sup>1</sup>The relative difference is the absolute difference divided by the low-income percentage. For example, for tract-level participation rate, the relative difference is 11.7% divided by 29.7%.

Table 3-14 shows that the same does not hold true regarding race. In this case, the tract-level and household-level participation rates do not track closely. Comparing the relative differences between high- and low-racial-diversity tracts and between households of color and white households illustrates the differences. In this case, the participation rate for low-racial-diversity tracts is 43% greater than that for high-racial-diversity ones. By contrast, the participation rate for white households is 10% higher than that for households of color. Thus, the difference between high- and low-racial-diversity tracts *does not* provide a good sense of the difference between households of color and white households.

*Table 3-14: Participation Rates for High- and Low-Racial Diversity Census Tracts Compared to Participation Rates for Households of Color and White Households*

Racial Diversity Level	Tract-Level Participation Rate	Race	Household-Level Participation Rate
High	24.4%	Person of Color	33.1%
Low	34.9%	White	36.3%
Absolute difference	10.4%	Absolute difference	3.2%
Relative difference <sup>1</sup>	42.7%	Relative difference <sup>1</sup>	9.8%

<sup>1</sup>The relative difference is the absolute difference divided by the high-racial-diversity or the person of color percentage. For example, for tract-level participation rate, the relative difference is 10.4% divided by 24.4%.

Below, we present additional analyses that help shed light on why the assumptions behind the DEI Baseline Study are generally supported with regard to income but not for race. Specifically, we used data from the current survey to examine whether participants and nonparticipants show the same degree of



difference in high- and low-income tracts and in high- and low-racial diversity tracts. Presumably, if the relative difference between participants and nonparticipants is similar in high- and low-income or high- and low-racial-diversity Census tracts, then the Census tract-level participation differences might function as an acceptable proxy for household-level differences. That is, the difference in participation level between high- and low-income Census tracts might serve as a proxy for the difference between high- and low-income households, and likewise regarding racial/ethnic diversity.

However, if the relative difference between participants and nonparticipants is not similar in high- and low-income or high- and low-racial-diversity Census tracts, then Census tract-level differences cannot be an accurate proxy for household-level differences.

### 3.5.1. Relative Difference Between Participants and Nonparticipants in Income Level

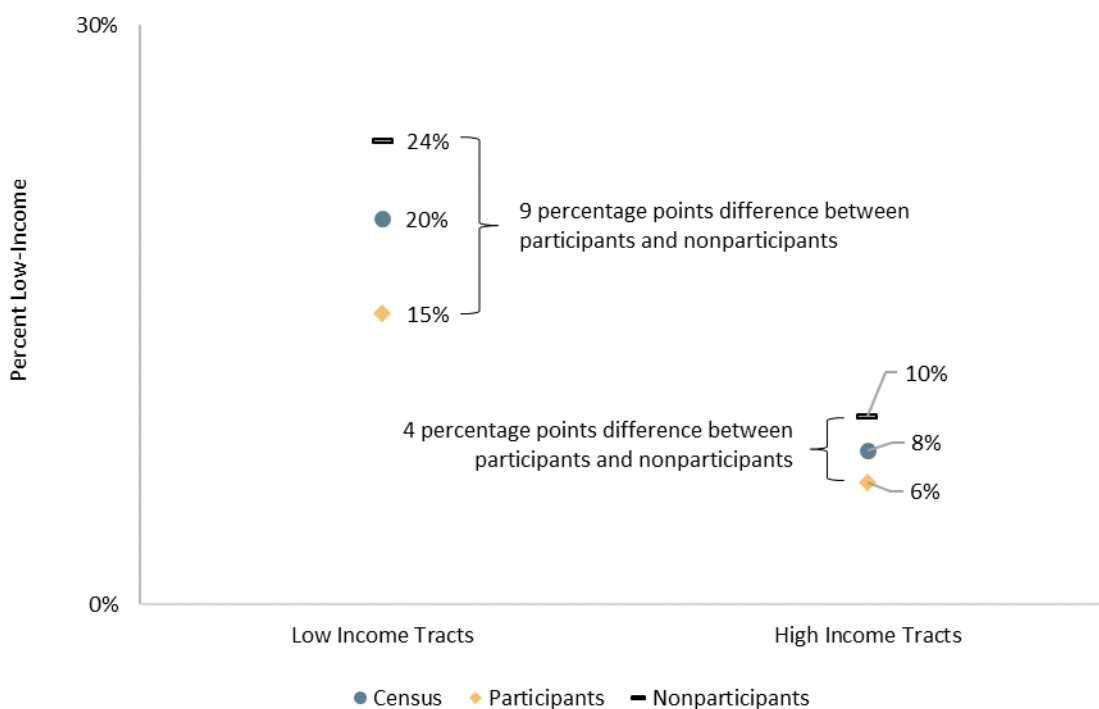
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We used data from the current survey to examine the relative difference between participants and nonparticipants in high- and low-income Census tracts. We specifically examined the percentage of low-income households within those groups. Low-income household was defined as described in Section 2.3. For this analysis, a high-income Census tract was one with a value of 1 on the income index that Energy Trust created to define the sample frame for this survey, and a low-income Census tract was one with a value of 5 on the index (see Appendix A.2).

The question was whether the *relative difference* in the percentage of low-income households among participants and nonparticipants is more-or-less the same in low- and high-income areas. As seen in

Figure 3-36 the survey results suggest that the relative difference between participants and nonparticipants is not precisely the same in low- and high-income areas. While nonparticipants were more frequently low-income than were participants, this difference was slightly *greater* in low- than high-income Census tracts. This is because participation in low-income areas appears to be skewed slightly toward the high-income residents of those areas.

Figure 3-36: Income Distribution by Participation Differs by Census Tract Income Level <sup>1</sup>



<sup>1</sup> The participant-nonparticipant difference is greater in high- tracts than low-income tracts.  $Q' (1 df) = 4.33, p < .05$ .

However, while the difference between low- and high-income tracts was statistically significant, it was not large. In low-income tracts, nonparticipants were 35% more likely to be low-income than were participants; in high-income tracts, nonparticipants were 37% more likely to be low-income than were participants (Table 3-15). This similarity in the relative differences between participants and nonparticipants across low- and high-income tracts reflects the above finding that tract-level differences are a fair approximation of the household-level differences.

Table 3-15: Absolute and Relative Differences in the Percentages of Participants and Nonparticipants that are Low Income, in Low- and High-Income Tracts

Income Level (Tract)	Low-Income Tracts	High-Income Tracts
Nonparticipant low-income %	24.0%	9.8%
Participant low-income %	15.1%	6.3%
Absolute difference	8.9%	3.5%
Relative difference	37.2%	35.4%

<sup>1</sup>The relative difference is the absolute difference divided by the nonparticipant percentage. For example, for low-income tracts, the relative difference is 8.9% divided by 24.0%.

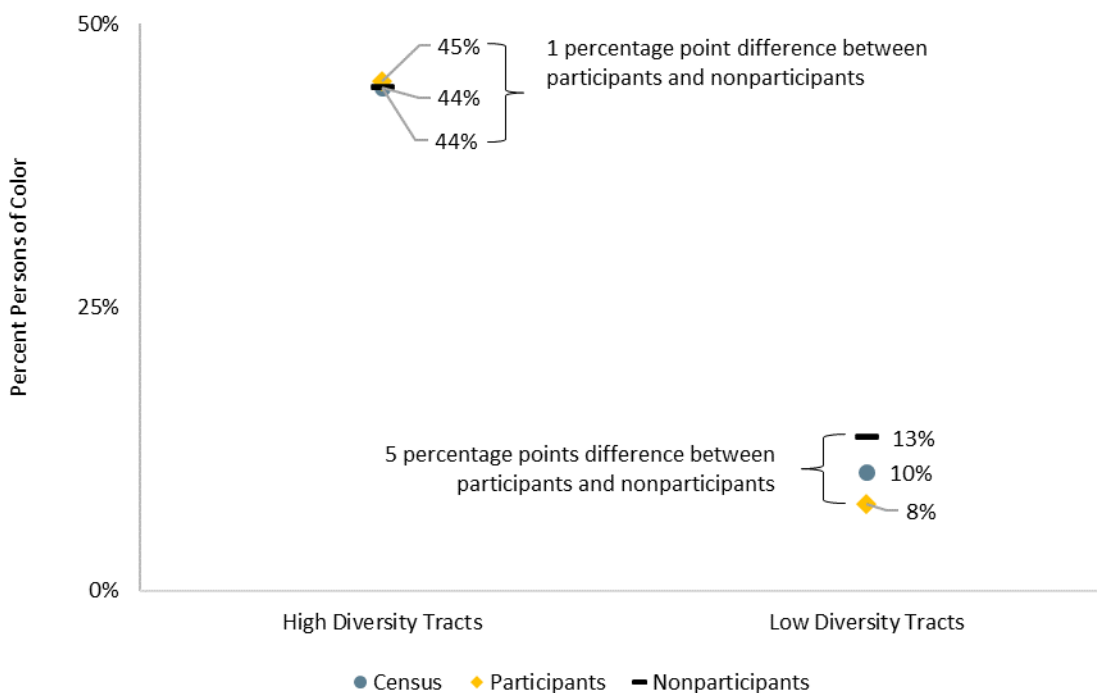
### 3.5.2. Relative Difference Between Participants and Nonparticipants in Race/Ethnicity

We also used data from the current survey to examine the relative difference between participants and nonparticipants in high- and low-racial-ethnic-diversity Census tracts – that is, Census tracts with relatively high or low concentrations of people of color. A high-racial-ethnic-diversity Census tract was one with a value of

5 on the racial diversity index that Energy Trust created to define the sample frame for this survey, and a low-racial-diversity Census tract was one with a value of 1 on the index (see Appendix A.2).

The question was whether the *relative difference* in the percentage of households of color among participants and nonparticipants is more-or-less the same in low- and high-racial diversity areas. Figure 3-37 shows that the relative difference between participants and nonparticipants is not similar in low- and high-racial-diversity areas. Households of color made up almost exactly the same percentage of nonparticipants and participants in high-racial-diversity tracts. By contrast, households of color made up a considerably larger percentage of nonparticipants than participants in low-racial-diversity tracts. This is because participation in low-racial-diversity areas appears to be skewed toward the white residents of those areas but that is not the case in high-racial-diversity areas.

Figure 3-37: Racial Make-up by Participation Differs by Racial Diversity



<sup>1</sup> The participant-nonparticipant difference is greater in low- than high-racial-diversity tracts.  $Q' (1 \text{ df}) = 5.33, p < .05$ .

In this case, the relative difference between participants and nonparticipants was not only statistically significant but large as well. In high-racial-diversity tracts, participants were just over 1% more likely to be people of color than were nonparticipants; in low-racial-diversity tracts, *nonparticipants* were 43% more likely to be people of color than were *participants* (Table 3-16). This reflects the above finding that tract-level differences do *not* closely approximate the household-level differences.

*Table 3-16: Absolute and Relative Differences in the Percentages of Participants and Nonparticipants that are People of Color, in Low- and High-Racial-Diversity Tracts*

Income Level (Tract)	Low-Racial-Diversity Tracts	High-Racial-Diversity Tracts
Nonparticipant person of color %	13.5%	44.4%
Participant person of color %	7.6%	44.9%
Absolute difference	5.9%	-0.5%
Relative difference	43.4%	-1.2%

<sup>1</sup>The relative difference is the absolute difference divided by the nonparticipant percentage. For example, for low-racial-diversity tracts, the relative difference is 5.9% divided by 13.5%.

### 3.5.3. DEI Baseline Validation: Conclusions

Results of the DEI Baseline Validation analyses indicate that neither the difference in participation between high- and low-income areas nor the difference in participation between areas with high and low concentrations of people of color is a perfect proxy for the difference in participation between high- and low-income customers or between people of color and white customers. However, it produces a much closer approximation of the difference between high- and low-income customers than of difference between white customers and people of color.

Do these results argue against using Census tract data as a proxy in assessing the equity of program services to high- versus low-income households? To some degree, that depends on what decisions the analysis informs and what the consequences are of making a decision based on an over- or under-estimate of the differences in question. Relying on the Census data would lead us to believe that high-income customers out-participate low-income ones by more than one-third, which would point to the need to increase efforts to engage low-income people and provide them with ways to participate. In this case, the results based on the survey data do not tell us anything fundamentally different. They would tell us that the difference is slightly larger than we thought, but both sources would point to the need to increase efforts with low-income customers.

By contrast, the results clearly argue against using Census tract demographics as a proxy for race in assessing the equity of program services. The survey results do point to a difference in participation, indicating a need to continue efforts to increase participation among customers of color. However, relying on the Census data would lead to the conclusion that white customer participation exceeds that of people of color by a much larger margin than it does.

There is another reason that Energy Trust should not rely on the Census racial diversity data as a proxy for participation by people of color, which is that those data do not well account for the heterogeneity of people of color. Unlike income level, where “low” and “high” have generally consistent meanings across tracts and households, nonwhite can mean many different things in different tracts and households. Thus, even if using the Census racial diversity data could provide an accurate picture of participation differences between white and nonwhite customers, it does not tell us anything about participation differences among specific race/ethnicity groups.

Should Energy Trust continue to use the Census data as a proxy for household differences in income, the results of this study might provide guidance on how to interpret, or adjust, the differences that are seen.

Thus, Energy Trust might track differences in participation between high- and low-income Census tracts over time and adjust those differences based on the degree to which the Census data overestimate the differences, as suggested by this study.

We cannot be sure that using Census data over time results in a constant level of over- or under-estimation of household differences. Any changes over time in the Census tract-level differences in participation might themselves reflect changes in the relative differences between participants and nonparticipants in the high- and low-income Census tracts. Conducting repeated research over time with statistically reliable samples to assess the actual household-level differences and “true up” the level of overestimation (or underestimation) of the Census tract-level data would be valuable. This might be done with less effort than the current Customer Insights Study by scaling down the scope of the survey, which might increase response rates.

In addition, adjusting the sample frame to increase the representation of people of color may help offset the lower response rates by people of color. This may help achieve completion targets with less overall research effort or even allow an increase in the overall sample of people of color to help produce greater precision and reliability of results.

## A. Appendix A: Detailed Methods

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The survey was implemented as a multi-mode survey in both English and Spanish, as follows:

- The first recruitment effort was a letter request to all sampled customers to take an online survey, with an inbound toll-free number provided for information or to complete the survey by phone.
- The second recruitment effort was a postcard to everyone who did not respond to the letter request, again requesting online survey completion, but also with the inbound phone number.
- The third and fourth recruitment efforts were follow-ups to non-responders to the letter and postcard as follows:
  - Emails to households for which the sample included email addresses for, with a link to the online survey as well as the inbound phone number.
  - Phone calls to households for which the sample did not include email addresses but included phone numbers.
  - Post cards to households for which the sample did not include email addresses or phone numbers, again with the inbound phone number.
- The fifth recruitment effort was a mailed paper survey to customers who did not respond to earlier efforts and who lived in the Census tracts with the highest levels of racial diversity.

The target survey population was all residential property owners and residents in Energy Trust’s Oregon service territory. Individuals were eligible to take the survey if they currently owned, managed (as a rental), or resided in the sampled premise or had resided there within the year prior to taking the survey.

The following subsections provide a description of the survey instrument and details about sample development and the above recruitment approach.

### A.1. Survey Instrument

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Energy Trust worked with Illume to develop the draft survey instrument. ADM provided feedback on the draft instrument. In discussing decision made about the survey instrument, we will refer to Energy Trust, Illume, and ADM together as “the survey team.”

The survey instrument covered customer awareness of energy efficiency and renewable energy services in Oregon generally; awareness of Energy Trust and participation in Energy Trust programs; energy-related attitudes; purchase of energy efficient lighting; and property maintenance practices. As a key objective of this year’s survey was to examine how Energy Trust participation varies by demographic and related characteristics of those in Energy Trust’s service territory, the survey also collected information relating on the survey respondent’s ownership and residency status regarding the property in question, building characteristics, and respondent demographics.

As described in detail in Section A.3, ADM implemented the survey through multiple modes: letter-push-to-web (with postcard follow-up), followed by email push-to-web or phone (depending on the availability

of an email address), and finally a mailed paper survey with a postage-paid return envelope. ADM programmed the survey to function as a self-administered survey on web and mobile platforms and as a phone survey. ADM tested each version of the survey instrument internally and provided links to Energy Trust for testing.

The paper survey was an abbreviated version of the web/phone survey. ADM and Energy Trust agreed to shorten the survey to reduce bulk and cost as well as to maximize the response rate. ADM worked with Energy Trust to identify non-essential questions for elimination as well as to re-organize some questions to improve survey flow and make it easier for respondents to follow skip instructions.

One area in which the web/phone and paper surveys differed was in establishing the survey respondent's relationship to the property in question. The web/phone survey included several questions to assess whether the respondent was a current or recent (within the past year) occupant; if an occupant, whether the respondent owned or rented the property; and, if not an occupant, whether the respondent owned or managed the property as a rental. In developing the paper survey, ADM and Energy Trust agreed to focus it on occupants rather than landlords. To simplify the instrument, we eliminated some of the questions used in the web/phone survey to establish residency. Instead, we included information on the front page of the survey booklet and the accompanying recruitment letter indicating that we did not need the recipient to take the survey if the identified premise was property they rented out to others, a business address, or a former residence from which they had moved more than a year previously. The paper survey retained questions asking whether the premise in question was the respondent's primary address and whether the respondent owned the property, rented it, or lived there through some other arrangement.

In addition to the above, the paper survey eliminated questions on the following subjects:

- Awareness of programs or services in Oregon that help various groups lower their utility bills.
- Use of "equal pay" utility bill option, to pay the same amount every month.
- Perception of Energy Trust's primary areas of involvement.

The full web/phone survey instrument and the mail-in instrument are included as Appendix C and Appendix D.

## A.2. Sample Development

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The population for this study is all Oregon utility premises on residential rate codes with electricity and/or natural gas service from Energy Trust's funding utilities, including both single-family and multifamily dwellings. Eligible respondents are all customers with confirmed utility service and involved in paying bills or managing home energy use, including homeowners, landlords, tenants, and home-based businesses.

Energy Trust specified an overall sampling approach that consisted of two components:

1. The **Core Sample**: A statewide stratified random sample of participants and nonparticipants across all Census tracts within Energy Trust's Oregon service territory. Stratification is based on a combination of two indices that Energy Trust developed for the 2018 Baseline Validation Analysis (see Section 3.5): the Racial Diversity Index and the Income Diversity Index. Energy Trust constructed both indices using variables from the Census Bureau's American Community Survey.

The Racial Diversity Index ranges from 1 (lowest diversity, or lowest percentage of people of color) to 5 (highest diversity, or highest percentage of people of color). The Income Diversity Index also ranges from 1 (most affluent) to 5 (least affluent). The combination of the two indices yields 25 strata. Strata representing both relatively high-income and relatively low-income areas as well as those with both relatively high and low concentrations of people of color were oversampled. The purpose of the oversampling was to ensure a sufficient sample from these areas for the DEI Baseline Validation analyses, which compare respondents from high- and low-income areas and those from areas with high- and low- concentrations of people of color (see Section 3.5)

2. The **Communities of Color Oversample**: An oversample of premises in Census tracts with the highest proportions of households in three key racial groups: Black, Native American, and Asian American households.

The purposes of the Communities of Color oversample are: to ensure a sufficient number of survey completions within each of the three targeted racial groups to allow valid comparisons among the racial/ethnic groups in survey responses; and to support the DEI Baseline Validation.

The sampling approach required that both the core sample and the Communities of Color oversample be stratified by program participation (participant vs. nonparticipant), with quotas sufficient to support comparisons between participants and nonparticipants and comparisons among demographic groups of participants and nonparticipants.

Energy Trust established quotas of 850 participants and 970 nonparticipants for the core sample and 275 participants and 910 nonparticipants for the Communities of Color oversample, for a total of 1,125 participants and 1,880 nonparticipants. Energy Trust also established completion targets for the three targeted racial/ethnic groups identified above as well as for Hispanic/Latino households and for the Census tracts representing the highest and lowest racial and income diversity.<sup>33</sup> Table A-1 shows the various quotas and completion targets.

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<sup>33</sup> Although Energy Trust established survey completion targets for Hispanic/Latino households, it did not include that group in the Communities of Color oversample as it expected that the core sample would provide a sufficient number of respondents from that group to achieve the completion targets.



Table A-1: Sample Size Targets

Sample Component	Participants	Nonparticipants	Total
Overall Sample			
Core Sample	850	970	1,720
Communities of Color Oversample	275	910	1,185
Total	1,125	1,870	3,005
Households of Color			
Asian American	80	115	195
Black	60	115	175
Hispanic/Latino	155	295	450
Native American	45	120	165
Diversity			
Highest Race Diversity Index	225	350	575
Lowest Race Diversity Index	145	215	360
Highest Income Diversity Index	225	280	505
Lowest Income Diversity Index	160	135	295

Energy Trust provided ADM with a sample frame dataset and sample design for the study. The sample frame consisted of 1,432,235 utility residential customers in Energy Trust's Oregon service territory. Energy Trust also identified the 20 Census tracts with the highest proportions of Black households (5 tracts), Native American households (10 tracts), and Asian American households (5 tracts).

ADM first drew the core sample. The sample frame for the core sample consisted of all households within Energy Trust's Oregon service territory, including those in the 20 Census tracts identified for the Communities of Color oversample. After the core sample was drawn, the remaining households in those 20 Census tracts constituted the sample frame for the Communities of Color oversample.

To ensure a sufficient core sample size, ADM's strategy was to sample at a rate of 20:1 for nonparticipants and 10:1 for participants. ADM first divided the sampling frame into participant and nonparticipant households and then divided the participant and nonparticipant frames into the 25 categories of the diversity index.<sup>34</sup> ADM then allocated the desired participant and nonparticipant sample counts across those 25 categories in proportion to the percentage of participant and nonparticipant households in each of those categories and randomly selected the desired number of participant and participant records from each of the 25 categories.

After drawing the core sample, ADM identified all the remaining households in the Communities of Color sample frame. In all cases, the count of remaining households was not large enough to achieve the 20:1 nonparticipant ratio and 10:1 participant ratio. Therefore, ADM selected all remaining households in the

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<sup>34</sup> As noted above, the 25-level diversity index results from combining the five levels of the racial diversity index and the five levels of the income diversity index.

Communities of Color sample frame. The final sample count totaled 38,125 records. The final sampling ratios were about 15:1 for nonparticipants and about 9:1 for participants. Table A-2 shows the final sample counts.

*Table A-2: Final Sample Counts*

Sample Component	Participants	Nonparticipants	Total
Overall Sample			
Core Sample	8,301	19,467	27,768
Communities of Color Oversample	2,218	8,139	10,357
Total	10,519	27,606	38,125
Sample Census Tracts with Highest Concentrations of Target Race Groups <sup>1</sup>			
Asian American	711	1,058	1,769
Black	796	1,707	2,503
Native American	989	5,937	6,926
Diversity			
Highest Race Diversity Index	4,112	13,513	17,625
Lowest Race Diversity Index	1,499	4,215	5,714
Highest Income Diversity Index	3,201	12,953	16,154
Lowest Income Diversity Index	1,548	2,680	4,228

<sup>1</sup> This includes the core sample and the Communities of Color oversample.

### A.3. Survey Implementation and Response

ADM administered the survey as a mixed-mode effort in both English and Spanish, with recruiting by mail, email, and phone. All recruitment efforts offered a \$15 incentive for completing the survey. Energy Trust provided the recruitment and survey scripts in English and Spanish. ADM obtained a total of 7,257 responses, for an overall response rate of 19%. The following subsections provide details of the survey implementation and response.

### A.4. Survey Implementation

From February 4 to 10, 2020, ADM conducted a short pre-test of the web survey using emailed invitations, with a subsample of 200 households. ADM received 12 responses to the pre-test and confirmed the survey was working as planned.

Once the survey form and programming had been tested and finalized, ADM administered the survey with up to five recruitment attempts to each household in the sample. Achieving the Communities of Color completion targets as cost effectively as possible was a high priority for Energy Trust. ADM and Energy Trust decided that this might be best achieved by first recruiting the entire sample through letters with postcard follow-ups, then recruiting non-responders by email (if email addresses were available) or phone, and then mailing a paper survey with a postage-paid return envelope to the remaining non-responders. Table A-3 illustrates this approach.

*Table A-3: Order and Type of Contact Attempts and Number of Records by Availability of Contact Information*

Contact	Email	Phone Number, No Email	Address Only
First contact	Letter	Letter	Letter
Second contact	Postcard	Postcard	Postcard
Third contact	Email	Phone	Postcard
Fourth contact	Email	Phone	Postcard
Fifth contact	Paper survey	Paper survey	Paper survey

Another important criterion for the implementation approach was flexibility – being able to adapt to changing circumstances. Thus, while ADM followed the above general approach, we adapted the approach for two recruitment modes – phone and paper survey – to achieve the most cost-effective results. Following are details of the implementation approach as designed as well as how ADM adapted the approach.

The initial recruitment attempt was a letter-push-to-web attempt. On February 11, ADM sent all sampled households an initial letter via postal mail with an invitation and a *personalized* link to the online survey. The letter was bilingual (English/Spanish) and branded with Energy Trust’s logo. It included a phone number that recipients could use to complete the survey by in-bound phone call during business hours.

From February 26 through March 4, ADM sent four batches of postcards (second recruitment attempt) to all non-respondents. The postcard included a recruitment message, in both English and Spanish, and personalized link to the survey. Energy Trust provided the recruitment message text.

The third and fourth recruitment attempts, from March 6 through March 16, were by postcard, email, or phone, depending on the type of contact information available. Households for which an email address was available received up to two email recruitments; those for which no email address is available but a phone number was available received up to two phone recruitments; and those for which neither an email address nor a phone number was available received up to two additional postcard recruitments. The fourth attempt followed the third one by about one week. As with the letter and postcard invitations, the email invitation included a personalized link to the online survey and the option for an in-bound phone survey.

At the time that we implemented the email and phone recruitment efforts, we had already surpassed the overall quotas for program participants and nonparticipants but were still lagging in reaching the targeted race groups. In consultation with Energy Trust, we decided to implement phone recruitments only with customers either in Census tracts with the highest racial diversity index or in one of the Census tracts with the highest concentration of one of the targeted groups (see Section A.1). This was the most efficient and cost-effective way to reach the targeted groups by phone. We did not similarly limit the email recruitments, as there is no additional marginal cost for each additional household recruited by email.

Finally, we mailed paper surveys, with a postage-paid return envelope, to households that did not respond to any of the above recruitment attempts. As with the initial letter invitation, the invitation to take the paper survey included a personalized link to the online survey and the option for an in-bound phone survey, for respondents preferring to complete the survey using those modes. We still were still lagging

in reaching the targeted race groups, despite having at that point far surpassed the overall quotas. We determined that sending the paper survey to all sampled customers who had not yet taken the survey would result in a large number of unneeded survey completions by non-targeted groups, at a very high cost. By contrast, sending it only to those with the highest racial diversity index or in one of the Census tracts with the highest concentration of one of the targeted groups would provide a reasonable chance of achieving the race targets cost effectively.

By this time, the statewide measures undertaken in response to the SARS-CoV-2 pandemic had limited our mailing vendor's ability to staff up; therefore, it was necessary to spread the distribution of the mailings out over a two-week period, from April 2 to April 15. To minimize the delay in mailing the survey, we decided to print the paper survey without unique identifiers on each survey. Printing a unique identifier on each survey would have required that the vendor match each survey to a specific addressed envelope, slowing the process down. We expected to be able to identify each returned survey from the return address on the return envelope as well as identifying information included in the request for the survey completion incentive. As noted below, we were able to do so for 97.5% of the returned paper surveys.

The various invitations generally gave a survey deadline of about two weeks following the date of the invitation. The invitation letter with the final mailed survey gave a deadline of May 15.

#### A.5. Survey Response

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Table A-4 shows the total number of sample records included, together with the number of survey completions and response rate, for each recruitment effort. Note that, in addition to excluding records for customers that had responded to earlier recruitment efforts, the final sample for the email and phone recruitment modes also excluded records that had contact information duplicating that of other records.<sup>35</sup>

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<sup>35</sup> In some cases, two or more records with different postal addresses had the same email address or phone number. We determined it was not appropriate to deduplicate on email address or phone number. In nearly all cases of duplicate phone and email addresses, the duplicate records appeared to represent units of a common multifamily property and had different contact names and so were separate households. Although they shared a common email or phone contact, we did not see a justification for deduplicating on that basis in recruitment efforts using the postal address. Moreover, although it is uncommon, it is possible to transfer a phone number to another person (<https://www.telus.com/en/bc/support/article/transfer-mobile-number-another-person>). In such a case, if two or more records show the same phone number, only one is correct, but we would not know which one it is.

Table A-4: Survey Recruitment Efforts and Completions by Recruitment Mode

Recruitment Mode	Recruited	Completed	Response Rate
Letter/postcard:			
Total sent	38,125		
Number returned as undeliverable	4,421		
Effective sample	33,696	4,237	12.6%
Email:			
Total available <sup>1</sup>	21,068		
Total recruitments sent <sup>2</sup>	18,047		
Number returned as undeliverable	769		
Effective sample	17,278	1,667	9.6%
Phone:			
Total available <sup>3</sup>	6,554		
Number in targeted race Census tracts <sup>4</sup>	2,750		
Effective sample <sup>5</sup>	2,544	198	7.8%
Mailed paper survey			
Total available	38,125		
Number in targeted race Census tracts <sup>4</sup>	19,702		
Total sent <sup>6</sup>	15,204	1,155	7.6%
Letter/postcard + email or phone + mail	38,125	7,257	19.0%

<sup>1</sup> Net of duplicate emails. As noted above, we did not deduplicate the entire sample on emails, as nearly all duplicate email addresses were associated with unique postal addresses. However, we deduplicated the email campaign as we could send only one invitation to each email.

<sup>2</sup> Excludes 3,021 customers who responded to the letter/postcard recruitment and either completed the survey or were disqualified.

<sup>3</sup> Net of duplicate phone numbers. See note #2 of this table.

<sup>4</sup> Racial diversity index equals 5 or Census tract is one of 20 with highest concentrations of a targeted group.

<sup>5</sup> Excludes 206 customers who responded to the letter/postcard recruitment and either completed the survey or were disqualified.

<sup>6</sup> Excludes 1,689 sampled customers for whom the letter and/or postcards were returned as undeliverable and 2,809 who either completed the survey or were disqualified from the survey before the mailed survey launch.

Table A-5 shows the survey completions broken out by the target groups identified in Table A-1. We achieved all quotas.<sup>36</sup> The table shows that we overshot all other quotas by large margins, generally more so for participants than nonparticipants.<sup>37</sup>

<sup>36</sup> Note that respondents who self-identified as belonging to more than one of the targeted race groups were counted toward the quota for all identified groups. Of 1,519 survey respondents who self-identified as belonging to any targeted race group, 63 (4.1%) identified as belonging to two or more of those groups.

<sup>37</sup> For the highest income diversity index, completions were 637% and 592% of the quotas for participants and nonparticipants, respectively; 637% divided by 592% = 1.08. The comparable figures for Hispanic/Latino households were 154% and 132%, for a ratio of 1.16.

Table A-5: Completions Compared to Targets<sup>1</sup>

Sample Component	Participants		Nonparticipants		Total	
	Count	% Target	Count	% Target	Count	% Target
Overall Sample						
Core Sample	2,666	314%	2,296	237%	4,962	273%
Com. of Color Oversample	905	329%	1,361	150%	2,266	191%
Total	3,571	317%	3,657	195%	7,228	241%
Households of Color						
Asian American	211	136%	417	141%	628	140%
Black	81	135%	133	116%	214	122%
Hispanic/Latino	88	196%	131	110%	219	134%
Native American	307	384%	186	162%	493	253%
Diversity						
Highest Race Diversity Index	1,621	720%	2,231	637%	3,852	670%
Lowest Race Diversity Index	498	343%	393	183%	891	248%
Highest Income Divers. Index	1,110	493%	1,980	707%	3,090	612%
Lowest Income Divers. Index	497	311%	311	230%	808	274%

<sup>1</sup> As noted above, 29 responses to the paper survey that did not provide sufficient information to identify the respondent. Those responses accounted for 2.5% of the paper survey responses and 0.4% of all survey responses. We were able to determine the participation status for 26 of those based on responses to survey questions, but we could not determine whether they were in the core sample or Communities of Color oversample nor what their race and income diversity index scores were. Therefore, the counts in the "Overall Sample" and "Diversity" sections of this table do not include those respondents.

## A.6. Data Preparation, Analysis, and Presentation

The following subsections provide details on data weighting, the categorization of respondents by race, ethnicity, and income level, and the data analysis methods.

### Data Weighting

We conducted all comparisons using data weighted to offset potential biases introduced through the sample design, survey implementation procedures, and respondent self-selection. Recall that our sample had two components. One was a "core" stratified random sample, where the strata were Census tracts that were similar in terms of composition by race (percentage nonwhite households) and income (percentage low-income households). The first component oversampled strata with relatively high-income and low-income areas as well as those with both relatively high and low concentrations of people of color. The second component, the Community of Color oversample, sampled from Census tracts with the highest proportions of Black, Native American, and Asian American households.

Thus, weighting by to offset the over-sampled Census tracts was a minimum requirement. We did this by applying a Communities of Color-specific weight to the households in the Communities of Color

oversample and a stratum-specific weight to households that were in the core sample. We refer to this collectively as this sampling weight.

But applying the sampling does not guarantee that the sample is representative on other important variables, like program participation, income, or race. Higher response rates among program participants, high-income customers, or those from a given race or ethnic group could bias the survey results. We therefore weighted on participation status (see Section 3 for details) and a combination of race and income to achieve results that most accurately reflect the population.

The weight for each level or category of each of these characteristics was constructed as the ratio of that characteristic's share of the population to its share of the sample. Thus, if a given characteristic is underrepresented in the sample relative to the population, it receives a weight greater than 1.0 (in proportion to the degree of the underrepresentation), and if it is overrepresented relative to the population, it receives a weight less than 1.0 (in proportion to the degree of the overrepresentation).

We created the race-by-income level weight by cross-tabulating race (white or person of color) by three annual household income levels in both the sample and population. This weight offset an underrepresentation of people of color among medium- and high-income respondents.

The final weight for each comparison was the product of the sampling weight, the race-by-income weight, and the appropriate participation weight.

### Categorization by Race and Ethnicity

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The survey allowed respondents to use more than one race category to identify themselves. In presenting survey results, however, we categorized respondents based on exclusive race or ethnicity categories. Categorizing respondents into non-exclusive categories (e.g., someone who self-identified as white and Native American would be in both categories) would not allow us to test the statistical significance of differences between categories, as doing so would violate the assumption of independence of observations.

We used the following categories:

- Asian American only
- Black only
- Hispanic/Latino
- Native American only
- Other only
- Two or more races
- White only

We categorized anyone as Hispanic/Latino if they selected that identification for themselves, regardless of whether they selected any other identification.

Respondents identifying themselves as Asian Indian and Chinese were the two largest constituents of the Asian American category. Each of those groups made up more than twice as many respondents as any other Asian nationality. The next most common were Vietnamese, Japanese, Korean, Hawaiian/Pacific Islander, and Filipino, in that order.

The “Other” race group was composed either of respondents who identified themselves as Middle Eastern /North African or who selected “other” but did not specify.

The most common combinations of two or more races involved white and either Hispanic/Latino, Asian, American Indian, and Black, in that order, followed by Hispanic/Latino and American Indian. Other somewhat common combinations were Hispanic/Latino and Black, Black and American Indian, Hispanic/Latino and Asian, and Black and Asian, all with similar frequencies.

### Categorization by Income Level

The survey-respondent groupings we examined was that by income level (low-, moderate-, and high-income). Following both federal government and Energy Trust practices, we used household annual income and household size together to define the above categories. Thus, for example, a larger household must have a higher annual income than does a smaller one to be classified as high-income.

We adapted the classification scheme that Energy Trust used to identify moderate income households in 2019 (Table A-6). In this classification, if a household of a given size has an annual income below the minimum level to be identified as “moderate” for households of that size, that household is identified as low-income; if the annual income is within the minimum and maximum thresholds (inclusive), it is defined as moderate-income; if the annual income is above the maximum threshold, it is defined as high-income.

*Table A-6: Energy Trust 2019 Moderate Income Definitions*

Number of Persons in Household	Minimum Household Income	Maximum Household Income
One	\$23,095	\$54,240
Two	\$30,201	\$62,040
Three	\$37,307	\$69,720
Four	\$44,413	\$77,520
Five	\$51,519	\$83,760
Size	\$58,625	\$89,880
Seven	\$59,958	\$96,120
Eight or more	\$61,290	\$102,360

However, we did not have each household’s exact annual income. We had only survey responses, with the respondents selecting from the following categories:

- Under \$30,000
- \$30,000 to \$49,999
- \$50,000 to \$69,999
- \$70,000 to \$99,999
- \$100,000 to \$199,999
- \$200,000 or higher



We mapped the above income categories into the Energy Trust definitions using the midpoints of each of the middle four categories and the threshold incomes of the low (\$30,000) and high (\$200,000) income categories. We based the mapping on where the median or threshold income was relative to the Energy Trust minimum and maximum “moderate” household incomes. Thus, for example, we classified all two-or-more-person households with an income of less than \$30,000 as low-income since that income is below the Energy Trust minimum “moderate income” thresholds for all such households. As a further example, we classified three-person households with an annual income in the \$50,000-to-\$69,999 range as “moderate” income because the midpoint of that category (\$60,000) falls within the Energy Trust minimum and maximum “moderate” household incomes (\$37,307 and \$69,720, respectively). Table A-7 shows the resulting classifications.

*Table A-7: Customer Insights Study Low-, Moderate-, and High-Income Definitions*

Number of Persons in Household	Reported Annual Household Income					
	Under \$30,000	\$30,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 to \$199,000	\$200,000 or More
One	Moderate	Moderate	High	High	High	High
Two	Low	Moderate	Moderate	High	High	High
Three	Low	Low	Moderate	High	High	High
Four	Low	Low	Moderate	High	High	High
Five	Low	Low	Moderate	Moderate	High	High
Six	Low	Low	Moderate	Moderate	High	High
Seven	Low	Low	Moderate	Moderate	High	High
Eight or more	Low	Low	Low	Moderate	High	High

We recognize that the above may misclassify some households. Since it uses the midpoint of the reported income categories, it may misclassify households that are near the low or high end of any given income category. For example, as noted above, a three-person household in the \$50,000-to-\$69,999 annual income range is classified as “moderate” income. However, someone at the very top of the \$50,000-to-\$69,999 range would fall just slightly outside of the Energy Trust moderate income boundaries and so technically would be considered high-income. Generally, such cases likely would affect a relatively small proportion of households, and those misclassified “upward” likely balance out those misclassified “downward.”

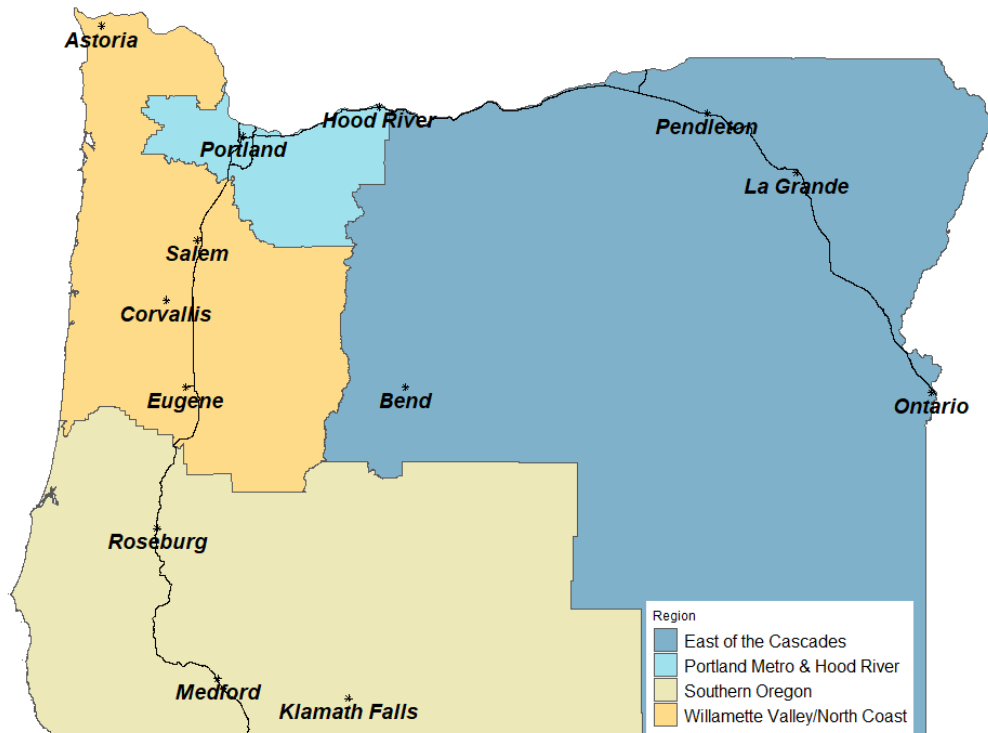
Similarly, the above approach classifies all one-person households with an income of less than \$30,000 as moderate-income since that income is above the Energy Trust minimum “moderate income” threshold for one-person households. However, this approach also classifies anyone with an annual household income of less than \$23,095 (the Energy Trust minimum “moderate” income level) as moderate-income. We could not find U.S. Census data that allowed us to estimate the proportion of one-person households with incomes below the above low-income threshold, and so we cannot determine what proportion of households may be misclassified as moderate-income in our analysis.

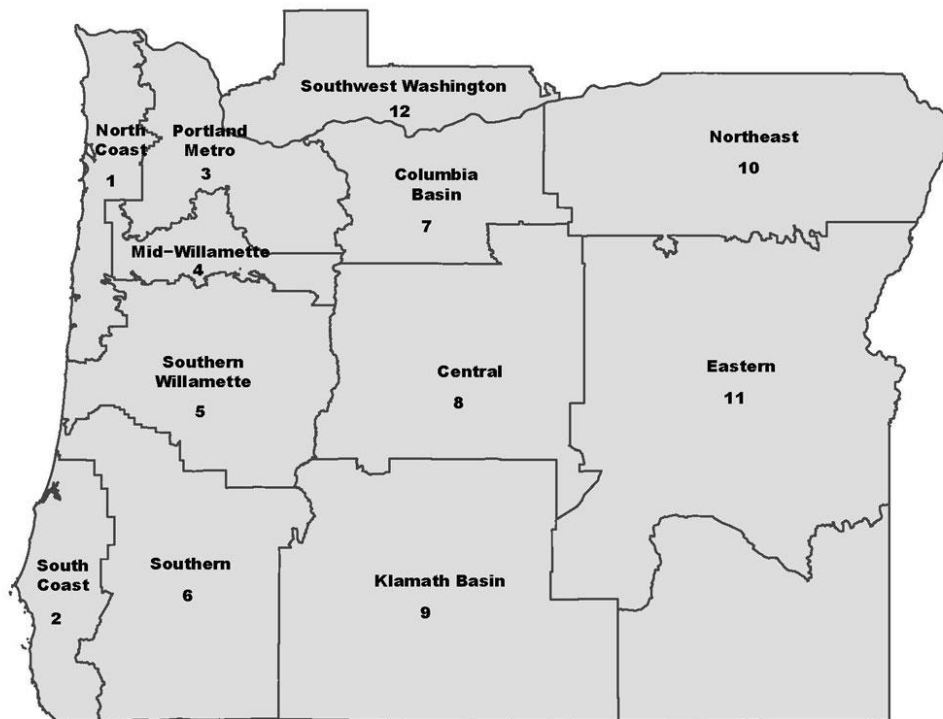
The main downside of misclassifying the income levels of households is that it would tend to reduce our ability to identify income-related differences in survey responses.

## Categorization by Region

Energy Trust divided its Oregon service territory into four regions (Figure A-1; upper map) to permit analysis of survey results by geographic area. Energy Trust developed the four regions by combining the nine existing trade ally regions (lower map). The purpose was to create areas that correspond to economic regions of the state and are large enough to provide enough survey responses in each region to permit reliable analyses.

Figure A-1: Energy Trust Regions





### Categorization by Urban or Rural

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We categorized respondent households as either urban or rural, based on a five-point index that Energy Trust developed for the 2018 Baseline Validation Analysis. Energy Trust constructed the index using data from the Census Bureau’s American Community Survey. The index ranges from 1 (most urban) to 5 (least urban). For the analyses in this report, we dichotomized the index into high (value of 1 or 2) and low (value of 3 to 5).

#### A.7. DEI Analysis Additional Information

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This section of the appendix presents additional information for the DEI Baseline Validation analysis.

#### DEI Analysis Tables

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Table A-8 shows the distribution of income levels across the various subgroups examined in the DEI analyses.

Table A-8: Sample Income Level by Local Income Level and Program Participation<sup>1</sup>

Income Level (Sample)	Low-Income Census Tracts				High-Income Census Tracts			
	<i>n</i>	Part. (1,018)	Nonpart. (1,801)	Census	<i>n</i>	Part. (435)	Nonpart. (264)	Census
High	739	33%	22%	29%	523	80%	67%	68%
Moderate	1215	44%	43%	48%	124	14%	24%	25%
Low	865	23%	35%	20%	52	6%	9%	8%

<sup>1</sup>Percentages are rounded to the nearest whole number.

Table A-9 shows the distribution of self-identified race/ethnicity across the various subgroups examined in the DEI analyses.

Table A-9: Racial/Ethnic Identification by Local Racial Diversity and Program Participation<sup>1</sup>

Race (Sample)	High-Racial-Diversity Census Tracts				Low-Racial-Diversity Census Tracts			
	<i>n</i>	Part. (1,517)	Nonpart. (2,075)	Census	<i>n</i>	Part. (457)	Nonpart. (368)	Census
White	2,445	68%	68%	56%	749	93%	88%	90%
Person of Color	1,147	32%	32%	44%	76	7%	12%	10%
Black	139	3%	4%	4%	0	0%	0%	0%
Native American	50	1%	2%	1%	4	0%	1%	0%
Hispanic/Latino	493	10%	17%	26%	35	2%	7%	5%
Asian American	305	13%	5%	9%	13	2%	1%	1%
Other	26	1%	0%	0%	3	0%	1%	0%
Two or more	134	4%	3%	4%	21	2%	4%	2%

<sup>1</sup>Percentages are rounded to the nearest whole number.

## Data Analysis

The analyses for this report consisted almost exclusively of comparisons of respondent groups on nominal- or ordinal-level responses to survey items. Thus, the dependent variables were generally percentages, for which we used the z-test for proportions to test for group differences. We note exceptions as they occur in the presentation of results.

It is worth noting here that frequently, a small difference between two groups is statistically significant while a much larger difference is not. For example, a difference of 5% vs. 3% may be statistically significant while one of 46% vs. 38% is not. This is because the variance of a proportion is calculated in such a manner that the closer the proportion is to 0 or 1, the smaller the variance is, and the closer a proportion is to 0.5, the greater the variance is. Specifically, where *p* stands for the proportion, the variance is calculated as:

$$\sqrt{p(1 - p)/n}$$

Generally, significance test statistics are a ratio of the difference between groups to the variance within the groups. So if the variance within two groups is very small, then a small difference between those two groups may be statistically significant; by contrast, if the variance within two groups is large, then a moderate difference between those two groups may not be statistically significant.

## B. Appendix B: Additional Tables and Analyses

The tables below supplement information in the body of the report. These show awareness of Energy Trust solar PV services, additional respondent demographic data, and the interrelationships among customer characteristics.

*Table B-1: Existence of Solar Panels on Building and Awareness of Energy Trust Solar-Related Services*

Group	Count	Building Has Solar Panels	Free Assessment of Home's Solar Potential	Custom-ized Bid for Installing Solar Panels	Discounts for Solar Panels	Help Finding Contractor to Install Solar Panels	Awareness of None
All Respondents	5159	4%	12%	6%	16%	9%	78%
Participants	2520	7%	14%	7%	19%	11%	75%
Nonparticipants	2638	<b>3%</b>	<b>11%</b>	6%	14%	<b>9%</b>	80%
<b>White</b>	3935	4%	12%	7%	17%	10%	78%
Person of color:	829	4%	<b>9%</b>	<b>4%</b>	<b>14%</b>	<b>6%</b>	81%
Black	48	0%	21%	<b>22%</b>	26%	<b>20%</b>	71%
Native American	41	0%	13%	13%	13%	13%	82%
Hispanic/Latino	270	1%	<b>7%</b>	4%	<b>11%</b>	<b>6%</b>	<b>84%</b>
Asian American	281	7%	<b>7%</b>	<b>2%</b>	16%	<b>3%</b>	77%
Other	33	1%	23%	6%	16%	17%	77%
Two or more	156	5%	10%	5%	11%	6%	83%
<b>Low Income</b>	573	1%	7%	5%	9%	5%	87%
Moderate Income	1369	2%	10%	5%	11%	6%	84%
High Income	2584	6%	<b>14%</b>	7%	<b>19%</b>	<b>12%</b>	<b>75%</b>
Owner-Occupant	5051	5%	12%	6%	16%	9%	79%
<b>SF-Detached</b>	4290	5%	13%	7%	17%	10%	77%
SF-Attached	214	0%	10%	6%	12%	10%	83%
Multifamily	253	1%	<b>7%</b>	<b>3%</b>	<b>10%</b>	<b>5%</b>	<b>84%</b>
Mobile/Manufactured	345	1%	<b>5%</b>	<b>2%</b>	<b>8%</b>	<b>3%</b>	<b>89%</b>
<b>Dual Fuel</b>	3287	5%	14%	7%	18%	10%	77%
Electric Only	1572	3%	<b>10%</b>	<b>5%</b>	<b>14%</b>	<b>8%</b>	<b>81%</b>
Gas Only	278	6%	<b>8%</b>	4%	<b>11%</b>	<b>6%</b>	<b>86%</b>
<b>Portland Metro</b>	2966	4%	14%	7%	17%	11%	76%
Willamette Valley/North Coast	1107	4%	12%	7%	<b>15%</b>	<b>8%</b>	<b>81%</b>
Southern Oregon	831	5%	<b>6%</b>	<b>4%</b>	<b>14%</b>	<b>5%</b>	<b>83%</b>
East of the Cascades	233	5%	<b>9%</b>	4%	13%	7%	<b>83%</b>
<b>More Urban</b>	4110	4%	13%	7%	17%	10%	77%
More Rural	1030	3%	<b>6%</b>	5%	<b>12%</b>	<b>7%</b>	<b>84%</b>

Table B-2: Additional Customer Characteristics

Group	Number of Respondents	Percent of Customers
Age of Household Members		
Under five years	765	10%
Five to 17 years	1,611	22%
18 to 24 years	808	11%
25 to 44 years	2,725	37%
45 to 64 years	2,996	43%
65 and older	2,415	36%
Size of Household		
One person	1,625	23%
Two persons	2,784	41%
Three persons	1,093	14%
Four or five persons	1,254	17%
Six or more persons	227	3%
Annual Household Income		
Less than \$30k	1,659	20%
\$30,000 to \$49,999	1,106	15%
\$50,000 to \$69,999	878	13%
\$70,000 to \$99,999	1,063	16%
\$100,000 to \$199,999	1,395	21%
\$200,000 or more	380	6%
Don't know	545	8%
Employment Status of Household Members		
Employed	4,273	60%
Self-employed	965	14%
Retired	2,319	34%
Stay at home parent/caregiver	552	7%
Unemployed-medical/disability	678	8%
Unemployed-other	424	5%
Other	34	1%
Respondent Education Level		
Elementary school	83	1%
Some high school	226	2%
High school graduate	1,061	13%
Some college	1,946	27%
College graduate	2,315	35%
Postgraduate degree	1,417	21%
Don't know	78	1%

The following tables illustrate the interrelationships among customer characteristics. Each table shows one demographic or housing variable cross-tabulated with all others. In all cases, percentages sum down columns rather than across rows. Across the three tables, each characteristic (e.g., low income) can be found as both a column variable and a row variable. This allows the reader to view each set of relationships in two ways – for example, to see the percentage of low-income respondents who are homeowners or to see the percentage of homeowners who are low-income.

*Table B-3: Customer Characteristics, by Race*

Group	White (n = 5,186)	Person of Color (n = 1,545)
Income Level		
Low	14%	32%
Moderate	34%	29%
High	52%	39%
Home Ownership		
Owner-occupant	75%	55%
Renter-occupant	24%	44%
Other	0%	1%
Residence Type		
Single-family-detached	71%	56%
Single-family-attached	6%	10%
Multifamily	15%	27%
Mobile/manufactured	7%	7%
Energy Trust Utility Service Type		
Electricity only	39%	47%
Natural gas only	8%	4%
Dual fuel	53%	49%
Energy Trust Region		
Portland Metro	56%	70%
Willamette Valley and North Coast	22%	19%
Southern Oregon	14%	8%
East of the Cascades	8%	3%
Urbanization		
More urban	83%	89%
More rural	17%	11%



Table B-4: Customer Characteristics, by Income

Group	Low (n = 1,319)	Moderate (n = 2,213)	High (n = 2,948)
Race			
White	66%	85%	86%
Person of Color	34%	15%	14%
Asian American	5%	3%	6%
Black	2%	2%	0%
Hispanic/Latino	21%	7%	4%
Native American	1%	1%	0%
Other	0%	1%	1%
Two or more	5%	3%	3%
Home Ownership			
Owner-occupant	47%	62%	84%
Renter-occupant	52%	38%	15%
Other	1%	1%	0%
Residence Type			
Single-family-detached	51%	56%	81%
Single-family-attached	11%	8%	5%
Multifamily	24%	25%	11%
Mobile/manufactured	15%	11%	2%
Energy Trust Region			
Portland Metro	48%	51%	65%
Willamette Valley and North Coast	26%	26%	18%
Southern Oregon	19%	16%	10%
East of the Cascades	7%	6%	7%
Energy Trust Utility Service Type			
Electricity only	59%	54%	28%
Natural gas only	6%	7%	7%
Dual fuel	35%	39%	65%
Urbanization			
More urban	79%	80%	88%
More rural	21%	20%	12%

Table B-5: Characteristics, by Home Ownership

Group	Owner-occupant (n = 5,052)	Renter-occupant (n = 2,098)
Race		
White	86%	72%
Person of Color	14%	28%
Asian American	4%	6%
Black	0%	3%
Hispanic/Latino	5%	14%
Native American	0%	1%
Other	1%	1%
Two or more	3%	4%
Income Level		
Low	11%	31%
Moderate	29%	43%
High	59%	26%
Residence Type		
Single-family-detached	86%	23%
Single-family-attached	4%	16%
Multifamily	4%	53%
Mobile/manufactured	7%	8%
Other	0%	0%
Energy Trust Utility Service Type		
Electricity only	29%	72%
Natural gas only	8%	4%
Dual fuel	62%	26%
Energy Trust Region		
Portland Metro	56%	63%
Willamette Valley/North Coast	22%	20%
Southern Oregon	14%	12%
East of the Cascades	7%	6%
Urbanization		
More urban	83%	88%
More rural	17%	12%

Table B-6: Characteristics, by Residence Type

Group	Single-family-detached (n = 4,789)	Single-family-attached (n = 564)	Multifamily (n = 1,203)	Mobile/ Manufactured (n = 588)
Race				
White	86%	74%	73%	82%
Person of Color	14%	26%	27%	18%
Asian American	4%	5%	6%	3%
Black	1%	2%	4%	1%
Hispanic/Latino	6%	15%	10%	10%
Native American	0%	0%	1%	2%
Other	0%	1%	1%	0%
Two or more	3%	3%	5%	2%
Income Level				
Low	13%	25%	23%	33%
Moderate	28%	37%	47%	50%
High	60%	38%	30%	16%
Home Ownership				
Owner-occupant/	90%	38%	15%	69%
Renter-occupant	9%	59%	84%	31%
Other	1%	2%	1%	0%
Energy Trust Utility Service Type				
Electricity only	23%	46%	90%	84%
Natural gas only	8%	6%	2%	7%
Dual fuel	69%	48%	9%	8%
Energy Trust Region				
Portland Metro	56%	66%	72%	38%
Willamette Valley/North Coast	22%	19%	17%	29%
Southern Oregon	14%	10%	8%	27%
East of the Cascades	8%	5%	3%	7%
Urbanization				
More urban	84%	88%	91%	71%
More rural	16%	12%	9%	29%

Table B-7: Characteristics, by Utility Fuel Service Type

Group	Electricity Only (n = 3,074)	Natural Gas Only (n = 337)	Dual Fuel (n = 3,817)
Race			
White	80%	91%	83%
Person of Color	20%	9%	17%
Asian American	4%	1%	6%
Black	2%	0%	1%
Hispanic/Latino	10%	5%	6%
Native American	1%	0%	0%
Other	0%	0%	1%
Two or more	3%	2%	3%
Income Level			
Low	24%	14%	12%
Moderate	43%	35%	25%
High	33%	51%	63%
Home Ownership			
Owner-occupant	50%	83%	86%
Renter-occupant	49%	14%	13%
Other	1%	2%	1%
Residence Type			
Single-family-detached	39%	82%	89%
Single-family-attached	8%	6%	7%
Multifamily	38%	4%	3%
Mobile/manufactured	15%	7%	1%
Other	0%	0%	0%
Energy Trust Region			
Portland Metro	55%	11%	67%
Willamette Valley / North Coast	21%	49%	18%
Southern Oregon	18%	11%	10%
East of the Cascades	6%	30%	5%
Urbanization			
More urban	80%	68%	90%
More rural	20%	32%	10%

Table B-8: Characteristics, by Region

Group	Portland Metro (n = 3,999)	Willamette Valley/North Coast (n = 1,786)	Southern Oregon (n = 1,149)	East of the Cascades (n = 294)
<b>Race</b>				
White	79%	85%	89%	91%
Person of Color	21%	15%	11%	9%
Asian American	7%	2%	1%	0%
Black	2%	0%	0%	0%
Hispanic/Latino	8%	9%	5%	4%
Native American	0%	1%	1%	1%
Other	1%	0%	0%	0%
Two or more	3%	2%	4%	3%
<b>Income Level</b>				
Low	14%	20%	24%	17%
Moderate	30%	39%	41%	31%
High	56%	40%	35%	52%
<b>Home Ownership</b>				
Owner-occupant	69%	73%	75%	76%
Renter-occupant	30%	26%	24%	22%
Other	1%	1%	1%	2%
<b>Residence Type</b>				
Single-family-detached	66%	71%	70%	79%
Single-family-attached	8%	6%	5%	5%
Multifamily	21%	14%	10%	8%
Mobile/manufactured	5%	9%	14%	7%
Other	0%	0%	0%	0%
<b>Utility Service Type</b>				
Electricity only	38%	40%	56%	33%
Natural gas only	1%	16%	6%	30%
Dual fuel	60%	44%	38%	37%
<b>Urbanization</b>				
More urban	100%	68%	60%	52%
More rural	0%	32%	40%	48%

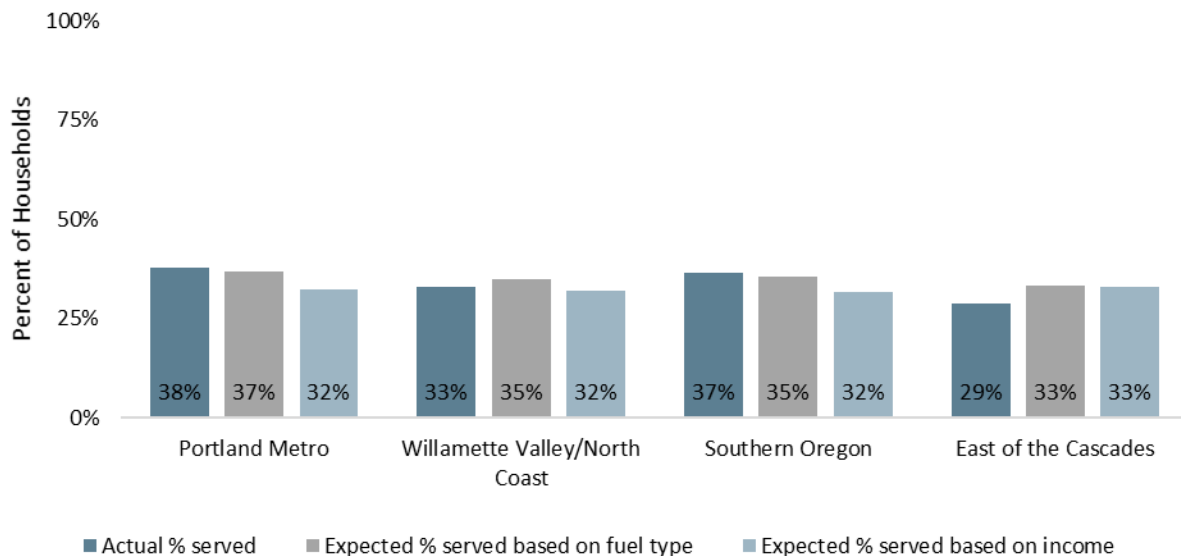
Table B-9: Characteristics, by Urbanization

Group	More Urban (n = 5,843)	More Rural (n = 1,392)
Race		
White	81%	87%
Person of Color	19%	13%
Asian American	6%	0%
Black	1%	0%
Hispanic/Latino	8%	6%
Native American	0%	1%
Other	1%	0%
Two or more	3%	4%
Income Level		
Low	16%	23%
Moderate	32%	41%
High	52%	36%
Home Ownership		
Owner-occupant	70%	77%
Renter-occupant	29%	22%
Other	1%	2%
Residence Type		
Single-family-detached	68%	71%
Single-family-attached	8%	5%
Multifamily	19%	10%
Mobile/manufactured	6%	13%
Other	0%	0%
Energy Trust Utility Service Type		
Electricity only	39%	52%
Natural gas only	6%	14%
Dual fuel	55%	34%
Energy Trust Region		
Portland Metro	69%	1%
Willamette Valley/North Coast	17%	44%
Southern Oregon	10%	34%
East of the Cascades	4%	21%

To examine whether regional differences in fuel type or income level might better account for the regional difference in percentage of households served, we compared the actual percentage of households served in each region to the percentages that would be served if driven only by income differences and fuel type differences. For example, to calculate the percentage served in the Portland Metro region that would be expected if driven entirely by income differences, we summed the products of the percentage served among low-, moderate- and high-income households and the percentages of low-, moderate-, and high-income households in the Portland Metro region. We did the same for the other three regions. We computed the expected served percentages if driven entirely by fuel type differences in the same way.

Figure B-1 shows the results of the above analysis. These results do not provide strong evidence that regional differences in either fuel type or income better account for the regional differences in service level than the other.

*Figure B-1: Households Served by Region: Actual Percentage and Percentage Expected Based on Income and on Fuel Type*



## C. Appendix C: Web Survey Instrument

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### English Version

#### A. ONLINE INTRODUCTION AND PIN VERIFICATION

[ASK SECTION IF THEY ARE COMING FROM THE LETTER OR POSTCARD URL]

PROGRAMMING NOTE: FOR PERSONALIZED LETTERS OR POSTCARDS, EVERYONE SHOULD RECEIVE A PIN THAT, WHEN ENTERED, WILL PULL IN THEIR SAMPLE INFORMATION.

Thank you for agreeing to take this survey. Your feedback will help Energy Trust of Oregon understand how Oregonians use energy in their homes, and how to help you save energy and money.

It takes approximately 10 minutes to complete the survey. To thank you for your time, you will receive a \$15 Visa® e-gift card after you complete the survey.

After each question, just click the right-arrow button.

And remember, there are no right or wrong answers - we want your honest feedback!

1. Continue in English
2. Continue in Spanish

[SHOW SUBSEQUENT QUESTIONS IF/WHEN THE PIN IS NOT PIPED IN FROM THE EMAIL – INCLUDING LETTER/POSTCARD ENTRY OR PHONE ENTRY]

A1. Please enter your access number. This is the 7-character number (5 digits and 2 letters) on the letter or postcard you received. If you don't have your number, please call [PHONE NUMBER] or email [EMAIL] and we will provide it.

[SHOW IMAGE OF POSTCARD OR EMAIL WITH PIN CIRCLED IN RED ON EACH]

1. Your Access Number: [7 CHARACTER FIELD]

[VALIDATE THAT CARD NUMBER IS ON FILE AND HAS NOT BEEN USED BY ANOTHER RESPONDENT YET.]

[IF CARD NUMBER IS ON FILE AND NOT YET USED, SKIP TO A6]

A2. [ASK IF CARD PIN IS NOT ON FILE] Sorry, but the number that you entered cannot be found. Please re-enter the access number from the card that you received in the mail, or from a customer service representative.

1. Your Access Number: [7 CHARACTER FIELD]

A3. [IF CARD NUMBER NOT ON FILE AGAIN, THANK AND TERMINATE WITH THIS MESSAGE:] Unfortunately, we are unable to locate that access number. Please call [PHONE NUMBER] or email [EMAIL] and we can help you find the right number. We appreciate your time and apologize that it's not working right now. [CODE AS "TERMINATE"]

A4. [IF CARD NUMBER IS ON FILE BUT HAS ALREADY BEEN USED] Our records show that a survey has already been completed for the number you entered. Please enter an unused access number.



1. Your Access Number: [7 CHARACTER FIELD]

A5. [IF RE-ENTERED CARD NUMBER ALREADY USED, THANK AND TERMINATE WITH THIS MESSAGE:]  
Unfortunately, we are unable to continue with the access number that you entered. We appreciate your time and apologize for any inconvenience this has caused. [CODE AS “TERMINATE”]

A6. [IF/WHEN VALID PIN FOUND] Great, your record has been found.

Please use the next button at the bottom of the screen to move forward.

If you need to leave the survey, you may re-open the survey at the same place you left by clicking on the link from the original device used (your phone, computer, or tablet).

All of your responses are confidential.

1. Continue in English
2. Continue in Spanish

## B. PHONE INTRODUCTION

[TELEPHONE OUTREACH WILL BE USED AS A FOLLOW-UP TO EMAIL AND MAIL EFFORTS]

B1. Hello, my name is [INTERVIEWER NAME] and I'm calling from [PHONE SURVEY VENDOR] on behalf of Energy Trust of Oregon. We are doing a brief survey about how Oregonians use power and heat, to help more people lower their utility bills. We'll give you a \$15 gift card as a thank you for your time.

B2. I'd like to speak with an adult in your home uses power and heat. Are you involved with things like paying the bills, buying new lights, appliances or electronics, or adjusting the thermostat? [SINGLE RESPONSE]

1. Yes
2. No, respondent available
3. No, respondent currently not available [RESTATE INTRODUCTION, AND SKIP TO Q2]
4. No, refused [TERMINATE]

[INTERVIEWER NOTE: IF AT ANY POINT IN THE INTRODUCTION THE RESPONDENT MENTIONS THAT THEY HAVE LIMITED ENGLISH SKILLS, PLEASE OFFER TO SWITCH TO A SPANISH INTERVIEWER (IF AVAILABLE) OR RECORD LANGUAGE PREFERENCE FOR A CALL-BACK]

[INTERVIEWER NOTE: IF THE RESPONDENT EXPRESSES THAT THEY'D NOT THE RIGHT PERSON BECAUSE THEY'RE A RENTER, OR THEIR HOUSEHOLD DOESN'T PAY THE BILLS, REASSURE THEM THAT THAT'S OKAY – WE'RE JUST LOOKING FOR THE PERSON IN THEIR HOUSEHOLD WHO IS MOST INVOLVED IN ELECTRICITY AND/OR NATURAL GAS DECISIONS IN THE HOME, EVEN IF THEY ARE RENTERS OR THE LANDLORD PAYS THE BILLS.]

[INTERVIEWER NOTE: IF SOMEONE SAYS THEY ARE A LANDLORD OR OWN BUT DON'T OCCUPY THE BUILDING, YOU CAN RESPOND, “THAT’S GREAT! WE WANT TO HEAR FROM PEOPLE LIKE YOU. I HAVE A COUPLE OF QUESTIONS ABOUT THAT LATER.”]

[INTERVIEWER NOTE: IF RESPONDENTS WANTS MORE INFORMATION ON THE PURPOSE OF THE STUDY, SAY, “ENERGY TRUST OF OREGON WANTS TO ENSURE THAT ALL OREGONIANS ARE BENEFITING FROM

ENERGY EFFICIENCY AND RENEWABLE ENERGY, SO WE'RE TALKING TO A WIDE RANGE OF PEOPLE ABOUT THEIR HOMES ."]

[ONCE CONTACT FOUND] [REPEAT IF NEEDED: My name is [INTERVIEWER NAME], and] we are talking to people in Oregon about how they use energy in their homes for Energy Trust of Oregon. We are offering a \$15 Visa® e-gift card for you to complete a short survey.

[IF LANDLORD AND THEY SAY IT'S NOT APPLICABLE: Actually that's great! We're looking to speak with property owners, managers and landlords, and we'd really value your opinion.]

[IF NEEDED: I work for [PHONE SURVEY VENDOR], a national research company that is conducting research for Energy Trust of Oregon. I don't work directly for a utility company.]

[CONTINUE WHEN KNOWLEDGEABLE PERSON IDENTIFIED, ELSE CALL BACK]

B3. Great! We are offering a \$15 Visa® gift card for you to complete a survey.

### C. RELATIONSHIP TO PREMISE

[ASK SECTION IF THERE IS LINKED SAMPLE DATA WITH AN ADDRESS ON FILE; SKIP IF THEY ARE COMING FROM A NON-INDIVIDUAIZED COMMUNITY URL]

#### Programming Notes:

All web respondents should be able to skip questions by clicking "continue" – No required answers. Because respondents can skip questions easily, we did not write "Prefer not to answer" or "Refused" as options.

The following numbering should be used for "standardized" response options:

96: For "None of these" or "Not applicable" (wording may vary depending on question)

97: Other (Specify)

98: For "Don't know" or "Not sure" or "Don't remember" (wording may vary depending on question)

99: Refused on phone or prefer not to answer (or skipped online)

C1. [ASK IF ADDRESS ON FILE] We have your address as <ADDRESS>. Do you currently live at <ADDRESS>?:

1. Yes, I live at that address
2. No, but I used to live there (old address)
4. No, but I own or manage it (as a rental)
3. No, I don't live there, own or manage it
97. Something else (specify)

C2. [ASK IF C1=2] It sounds like you moved recently. How long ago did you move from <ADDRESS>?

1. Less than 1 year ago
2. More than one year ago [THANK AND TERMINATE: Thank you for that information. Based on your responses you are not eligible to continue this survey.]

C3. [ASK IF C1=2] Is your new home in Oregon?

1. Yes, in Oregon
2. No, I moved outside of Oregon

C4. [ASK IF C1 =1] Is <ADDRESS> your primary residence?

1. Yes, it's my primary residence
2. No, another address is my primary residence

[Reviewers: For the Communities of Color Oversample, Energy Trust may ask local community-based organizations to distribute or share a survey link to their members/constituents, possibly by email (eNewsletter) or social media. This is a back-up strategy if we cannot get enough responses (cost-effectively) through personalized letters and email.]

[Programming note: If possible, provide community-specific bit.ly URLs that have a town/area name pre-coded so we can tell the source; still, we want to confirm where people are coming from.]

C5. [ASK IF THERE IS NO ADDRESS ON FILE OR C1=2 OR 4] Can you please provide your home address?

This information will be used to understand whether energy programs and services to save money in Oregon are reaching people across the state.

All of your responses are confidential and will only be used to make sure Energy Trust is serving everyone.

1. [Street address]
2. [Apartment or unit number]
3. [City]
4. [State] [TERMINATE if not in Oregon: Thank you for that information. Because this survey is about energy use in Oregon, you are not eligible to continue the survey.]
5. [ZIP]

[PROGRAMMING: FILL IN ADDRESS FOR THOSE WITH BLANK ADDRESS FOR REST OF SURVEY]

C6. [ASK IF C1=1OR2OR98 OR NO ADDRESS ON FILE] [READ IF C1=1OR97: Do you] [READ IF C1=2: Did you] (or someone in your household) rent or own the home at <ADDRESS>?

1. Rent
2. Own
3. I live there but don't pay rent
97. Other (Specify)
98. Not sure

C7. [ASK IF C1<>1OR2] What best describes the home at <ADDRESS>?

1. Home where I live all/most of the time
2. Second home where I live some of the time (i.e. vacation home)
3. Property that I rent out to others
4. Business address (not a home) [THANK AND TERMINATE] [Thank you for that information. Because this is a business address, we do not need you to continue with this survey. Thank you very much for your time.]
96. I don't know – Not my address
97. Other (Specify)

C8. [ASK IF C1 <>1OR2] Who lives at <ADDRESS>? [MULTIPLE RESPONSE] (SELECT ALL THAT APPLY)

1. Year-round tenants/renters
2. Short-term tenants/renters (including vacation renters)

3. A business [THANK AND TERMINATE: Thank you for that information. Because we are interested in learning about buildings used as residences, you are disqualified from the survey.]
4. I use it as a second/vacation home
5. It is vacant all/most of the time
97. Other (Specify)

C9. [ASK IF (C7 = 3OR97) OR (C8=1,2,5,97)] t sounds like <ADDRESS> may be a rental property. Do you own or manage this property as a rental? Select all that apply.

1. Own
2. Manage
97. Other (Specify)

PROGRAMMING:

HOUSEHOLD CLASSIFICATION (FOR ASSIGNMENT OF REMAINING SURVEY SECTIONS):

OWNER: IF C6 == 2 OR (C6 == MISSING & (C7 == 1 OR 2 OR C8 == 4)) (HOMEOWNER)

RENTER: IF C6 == 1 OR 3

LANDLORD: IF [C1 == 4OR97 & (C9 == 1OR2)] (LANDLORD OR PROPERTY MANAGER)

OWN\_OCC: IF OWNER AND (C4 == 1 OR C7 == 1 OR ADDRESS NOT ON FILE) (OWNER-OCCUPIED)

OWN\_VAC: IF OWNER AND (IF C7 == 2 OR C8 == 4 OR 5) (OWNER/VACATION USE)

OWNER, RENTER AND LANDLORD should be mutually-exclusive categories in the end.

IF NEEDED, IF ANYONE ENDS UP WITHOUT AN ASSIGNMENT, DEFAULT TO OWNER

FOR MISSING OWN\_OCC/OWN\_VAC, DEFAULT TO OWN\_OCC

#### D. BUILDING CHARACTERISTICS

[READ IF OWNER OR RENTER] For the rest of this survey, we'll be asking questions about the home you currently live in. [READ IF LANDLORD] For the rest of this survey, we'll be asking questions about the property at <ADDRESS>, though some of the questions may sound like they're about your personal home. Please answer for the property at <ADDRESS> that you own or manage. [READ IF OWN\_VAC] For the rest of this survey, we'll be asking questions about the property at <ADDRESS>, though some of the questions may sound like they're about your primary home. Please answer for the property at <ADDRESS>.

D1. What best describes the building at <ADDRESS>?

1. Single-family detached home
2. Single-family attached home (side-by-side units with shared walls, like a townhouse or rowhouse)
3. Duplex (2 units)
4. Building with 3 or more units (apartments or condos)
5. Guest house or accessory dwelling unit
6. Mobile or manufactured home
97. Other (Specify)

D2. [ASK IF D1=4,97] About how many units are in the building?

1. 2
2. 3-4
3. 5-9
4. 10-19
5. 20-49
6. 50+
97. Other (Specify)

[CLASSIFY AS MULTIFAMILY IF D1=3OR4OR OR D2<97]

D3. [SKIP IF LANDLORD] Approximately how many years have you lived at <ADDRESS>?

1. Less than 1 year
2. 1-2 years
3. 3-5 years
4. 6-10 years
5. More than 10 years

#### E. AWARENESS OF ENERGY SERVICES IN OREGON

[ASK EVERYONE]

E1. Have you heard of any of the following free products or services in Oregon that help people lower their electric or heating use? [ROTATE; MULTIPLE RESPONSE]

1. Free Energy Saver Kits (box with light bulbs, showerheads, or low-flow faucets)
2. Free home energy assessment or audit
3. Free appliance recycling (e.g., old refrigerators)
4. Free air sealing, duct sealing or weatherization
5. Free mobile/manufactured home tune-up (air and duct sealing)
96. None of these [EXCLUSIVE]

98. Not sure [EXCLUSIVE]

E2. [ASK IF E1<96] What organizations offer the free products or services that you've heard about? [ROTATE; MULTIPLE RESPONSE]

1. PGE / Portland General Electric
2. Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
3. Avista
4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. State of Oregon
8. Oregon Weatherization Assistance Program
9. Local government agency [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>) [IF COUNTY=BLANK OR MAIL SURVEY: (e.g., Community Action / Community Services)]
10. Local nonprofit (e.g., food bank, school, other organization)
97. Other (Specify)
98. Not sure

E3. Have you heard of any of rebates (money back) or discounts for installing any of the following energy efficient products, equipment or appliances? [ROTATE; MULTIPLE RESPONSE]

1. Rebates or discounts for lighting
2. Rebates or discounts for heating, cooling or water heating equipment (such as furnaces, heat pumps, fireplaces and water heaters)
3. Rebates or discounts for appliances (such as refrigerators, dishwashers, clothes washers/dryers)
4. Rebates or discounts for insulation, air/duct sealing or windows
5. Rebates or discounts solar or renewable energy systems
6. Rebates or discounts on Smart thermostats
96. None of these [EXCLUSVE]
97. Other (Specify)
98. Not sure [EXCLUSVE]

E4. [ASK IF (E3=1-12 OR E3 =97)] What organizations offer the rebates or discounts for energy efficiency products, equipment or appliances that you've heard about? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. PGE / Portland General Electric
2. Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
3. Avista
4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. State of Oregon
8. Oregon Weatherization Assistance Program
9. Local government agency [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>) [IF COUNTY=BLANK OR MAIL SURVEY: (e.g., Community Action / Community Services)]
10. Local nonprofit (e.g., food bank, school, other organization)
11. Retail store (Walmart, Lowes, Home Depot, Sears)
12. Manufacturer
97. Other (Specify)
98. Not sure [EXCLUSVE]

E5. Have you heard of any programs or services that help the following groups of people lower their utility bills? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. Low-income households
2. Moderate-income households
3. Renters and tenants
4. Mobile/manufactured home owners
96. None of these [EXCLUSVE]
97. Other (Specify)
98. Not sure [EXCLUSVE]

E6. [ASK IF E5=1-4 OR E5=97] What organizations offer the programs or services for low- or moderate-income households, renters/tenants or mobile/manufactured home owners that you've heard about? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. PGE / Portland General Electric
2. Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
3. Avista

4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. State of Oregon
8. Oregon Weatherization Assistance Program
9. Local government agency [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>) [IF COUNTY=BLANK OR MAIL SURVEY: (e.g., Community Action / Community Services)]
10. Local nonprofit (e.g., food bank, school, other organization)
97. Other (Specify)
98. Not sure

E7. Have you heard of any other programs or services in Oregon that help people lower their power or heating bills?

1. Yes
2. No
98. Not sure

E8. [IF E7= 1] What other programs or services have you heard about that help people lower their power or heating bills?

E9. [IF E7= 1] What organizations offer these other programs or services?

E10. Today there are a lot of resources and information for maintaining or improving your home. What sources, if any, do you use when it comes to your home? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. Me / myself [FIX THIS OPTION]
2. Contractor or builder
3. YouTube videos
4. Websites, blog, or other online sources
5. Energy Trust of Oregon
6. Local government agency [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>) [IF COUNTY=BLANK OR MAIL SURVEY: (e.g., Community Action / Community Services)]
7. Friends or family
8. My landlord
9. My electric utility company
10. My gas utility company
11. My city/town
12. State of Oregon
13. My church, synagogue, mosque, or place of worship
14. Neighborhood/community organization
15. Staff at home improvement stores (like Home Depot or Lowes)
96. None of these[EXCLUSVE]
97. Other (Specify)
98. Not sure [EXCLUSVE]

#### F. UTILITY RELATIONSHIIP

F1. What utility bills do you pay for this home/building? Select all that apply. [MULTIPLE RESPONSE]

1. Electricity

2. Natural Gas
3. Oil or propane
96. None of these [EXCLUSVE]
97. Other (Specify)

F1a. [ASK IF LANDLORD] What utility bills do tenants pay for this home/building?

1. Electricity
2. Natural Gas
3. Oil or propane
96. None of these [EXCLUSVE]
97. Other (Specify)

F2. How do you heat this home/building? Select all that apply. [MULTIPLE RESPONSE]

1. Natural gas
2. Electricity
3. Oil
4. Propane/bottled gas
5. Wood
97. Other (Specify)
98. Not sure [EXCLUSVE]

F3. Do you use an “Equal Pay” option for your electric bill or gas bill, where you pay the same amount every month (to smooth out your bills)?

1. Yes
2. No
97. Other (Specify)
98. Not sure

F4. [SKIP IF LANDLORD] Did you receive any energy or fuel assistance in 2019? (i.e., help paying your electric or heating bills from a government program, local program, utility or another organization)

1. Yes
2. No
98. Not sure

## G. ATTITUDINAL QUESTIONS

[ASK EVERYONE]

G1. Please indicate whether you agree or disagree with the following statements: [IF PHONE: Use a scale of 1-5 where 5 is “strongly agree” and 1 is “strongly disagree.”] [RANDOMIZE; SCALE OF 1-5 WITH EACH POINT MARKED] [PROGRAMING NOTE: Add a numeric label to each of the scale labels]

- A. I worry whether there is enough money to pay my energy/utility bills.
- B. If my energy/utility bill goes up, I feel like I must do something to lower it.
- C. It is important for my home to be a comfortable temperature even if my utility bills are higher.
- D. I am concerned that the electricity/power will go out during storms or emergencies.
- E. I often pay more for products that are environmentally-friendly.
- F. I’m always looking for ways to lower my energy bills.



G. I am willing to pay more for energy that comes from renewable sources.

G2. What do you think is most important when it comes to Oregon's energy use? Please select up to two. [RANDOMIZE; LIMIT WEB RESPONSES TO TWO]

Renewable energy: Switching to or using energy from the sun, wind water or waste

Reliability: Keeping the power on all the time (minimize outages)

Assistance: Helping people in need lower their energy costs

Energy efficiency: Making our homes more efficient (use less energy)

Resilience: Preparing homes, businesses and the power system for the unexpected (like storms or natural disasters)

Affordability: Making energy affordable for everyone

Health and Comfort: Maintaining good indoor air quality and comfortable temperatures

H. AWARENESS OF ENERGY TRUST OF OREGON

[ASK EVERYONE]

H1. Before today, had you ever heard of Energy Trust of Oregon?

1. Yes
2. No
98. Not Sure

H2. When you hear "Energy Trust of Oregon", what do you think of?

H3. [ASK IF H1=1] We're curious to know how familiar you are with Energy Trust of Oregon. Would you say...

1. Before today, I'd never heard of Energy Trust of Oregon
2. I've heard the name "Energy Trust of Oregon," but that's about it
3. I know a little about the discounts, money back and services that Energy Trust offers
4. I know a lot about the discounts, money back and services Energy Trust offers
97. Other (Specify)

[PROGRAMMING:

Generate ETO\_AWARE=1 if H1 = 1 AND (H3 = 2 OR 3 OR 4 OR 97) (such that ETO\_AWARE=0 if H1=2 OR 98 OR H3=1).

Ask remaining questions in section if ETO\_AWARE=1]

H4. [ASK IF ETO\_AWARE] Have you heard or learned about Energy Trust from any of the following people or organizations? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. My utility company
2. A contractor
3. Sales assistant (store or retailer)
4. A local or community organization
5. My city, town or local government
6. Friends or family (word of mouth)
97. Someone else (specify)
98. Don't remember

H5. [ASK IF ETO\_AWARE] Where have you seen or heard information about Energy Trust of Oregon? Select all that apply. [ROTATE; MULTIPLE RESPONSE]

1. TV / Television
2. Radio or streaming radio
3. Print publication or newspaper
4. Online advertisement
5. A website
6. Online video or streaming video
7. Billboard
8. My utility bill
9. Direct mail (letter or postcard)
10. Social media (like Facebook or Twitter)
11. In a store / retailer
97. Somewhere else (specify)
98. Don't remember

H6. [ASK IF ETO\_AWARE] Based on what you've seen or heard about Energy Trust of Oregon, what are the top two things that Energy Trust is involved with? Select up to two. [ROTATE; ALLOW ONLY TWO RESPONSES]

1. Reliability: Keeping the power on all the time (minimize outages)
2. Renewable energy: Switching to or using energy from the sun, wind, water or waste
3. Assistance: Helping people in need lower their energy costs
4. Energy efficiency: Making our homes more efficient (use less energy)
5. Resilience: Preparing homes, businesses and the power system for the unexpected (like storms or natural disasters)
6. Affordability: Making energy affordable for everyone
7. Health and Comfort: Maintaining good indoor air quality and comfortable temperatures
97. Other (Specify)
98. Not sure

H7. [ASK IF ETO\_AWARE AND (RENTER OR OWNER)] Have you ever participated in an Energy Trust of Oregon program?

That could mean getting an Energy Saver Kit, getting free light bulbs or a discount or money back from Energy Trust (for energy-efficient light bulbs, smart thermostats, appliances, etc.), using a free service (like an assessment or audit), or using an Energy Trust contractor to install a heating or cooling system, water heater, windows insulation, etc.

1. Yes, I participated in my current home
2. Yes, I participated in a previous home that I owned or rented
3. No, but I looked into Energy Trust of Oregon programs or services
4. No, I have never participated or looked into participating
97. Other (Specify)
98. Not sure

H8. [ASK IF ETO\_AWARE AND LANDLORD] Have you every participated in an Energy Trust of Oregon program at one of your rental properties?

That could mean getting a discount, money back or free service from Energy Trust (for energy-efficient light bulbs, smart thermostats, appliances, etc.), getting an energy assessment or audit, or using an Energy Trust contractor to install a heating or cooling system, water heater, windows insulation, etc.

1. Yes, this property participated or received equipment
2. Yes, another property I own/manage participated or received equipment
3. No, but I looked into Energy Trust of Oregon programs or services
4. No, I have never participated or looked into participating
97. Other (Specify)
98. Not sure

H9. [SKIP IF H7=1OR2 OR H8=1OR2] What are the main reasons you haven't used one of Energy Trust of Oregon's programs, services or discounts? Select all that apply. [MULTIPLE RESPONSE, ROTATE OPTIONS]

1. I wasn't aware of programs like this
2. My bills aren't high enough to worry about
3. I cannot afford the project / purchase
4. It's not worth the time or effort
5. The discount or rebate isn't enough
6. I'm not eligible / qualified
7. [SHOW IF RENTER] My landlord deals with that
8. [SHOW IF RENTER] I do not want to ask my landlord
9. There are other issues with my home that need to be fixed first
10. I need more information
97. Something else (Specify)

H10. [ASK IF ANY ANSWER CHOSEN IN H9 AND ONLINE OR PHONE SURVEY] [RANDOMIZE TO 25% OF ONLINE AND PHONE RESPONDENTS] Can you say more about why you answered this way? [OPEN END]

H11. [SKIP IF H7=1OR2 OR H8=1OR2] What would make it easier for you to participate in an Energy Trust program in the future? [OPEN END]

H12. [SKIP IF RENTER] Would you be interested in either of these financing options for making energy efficiency improvements?






1. Low-interest loan (with no fees) for making energy-efficient improvements
2. On-bill financing for making energy-efficient improvements (repay the loan on your utility bills)
3. Neither of these
97. Other (Specify)

#### I. LIGHTING PURCHASE DEEP DIVE

I1. Have you purchased or installed new light bulbs in the last year for [IF OWN\_OCC OR RENTER: your home] [IF LANDLORD OR OWN\_VAC: for <ADDRESS>]?

1. Yes
2. No
97. Other, specify
98. Not sure

12. [ASK IF I1=1] What type of bulbs did you buy? Click on the image below that's closest to what you bought. [USE IMAGES BELOW WITH THE WEB BASED PROGRAMMING; INCLUDE ASSOCIATED TEXT IN WEB – READ ASSOCIATED TEXT FOR PHONE] [MULTIPLE RESPONSE; SELECT ALL THAT APPLY]

<p><b>LED – Screw-In</b></p>  <p>LED (light-emitting diode) bulbs come in a variety of shapes. Many LEDs look like standard incandescent bulbs and screw into regular light sockets. They emit less heat and last longer than incandescents. Many are ENERGY STAR® certified.</p>	<p><b>LED – Linear</b></p>  <p>These linear lights are similar to tube fluorescent bulbs but are more energy efficient. They may have two prongs at the end where they will fit into an existing, or upgraded, socket.</p>
<p><b>Incandescent or Halogen</b></p>  <p>Standard-shaped bulbs with a wire filament that go in screw-in sockets. Halogen bulbs are similar, but more efficient, than standard incandescent bulbs. Other shapes and sizes are often used in spotlights or floodlights</p>	<p><b>Linear Fluorescent</b></p>  <p>These are long tube light bulbs that can range from 4 to 12 feet. They go into lighting bays that are often covered by a plastic film. Their ends have two prongs that plug into the sockets</p>
<p><b>CFL bulbs</b></p>  <p>The most common type of CFL is spiral-shaped - made with a glass tube bent into a “twisty” shape. Sometimes the twisty shape is covered like the picture on the right.</p>	<p><b>Something else</b></p> <p>(please describe it):</p> <hr/>

13. [ASK IF I1=1] Where did you buy new light bulbs? (If you bought online from any of these retailers, please select that retailer). [RANDOMIZE; MULTIPLE SELECT]

1. Dollar Tree
2. Ace Hardware
3. Fred Meyer
4. Goodwill
5. Bi-Mart
6. Dollar General

7. Walmart
8. The Home Depot
9. Target
10. True Value
11. Walgreens
12. Habitat ReStore
13. Costco
14. Batteries Plus
15. Lowes
16. Do-it-Best
17. Amazon.com [FIX THIS TO TOP OR BOTTOM]
97. Somewhere else (specify)
98. Don't remember

I4. [ASK IF I1=1] Were the bulbs you bought marked or advertised as discounted or on sale, or as "Instant discounts on Energy STAR® LEDs" from Energy Trust? Select all that apply. [MULTIPLE RESPONSE]

1. Marked/advertised as "discounted" or "on sale"
2. Marked/advertised as "Instant discounts on STAR® LEDs" from Energy Trust of Oregon
96. None of these
98. Don't remember

#### J. CONTRACTORS

[SKIP IF RENTER]

J1. When you need to fix or replace something in this home/property, do you usually...hire a professional, or do it yourself (including getting help from friends or family)? [RANDOMIZE ORDER]

Hire a professional, Do it myself (including help from friends/family), Not sure

- Plumbing issues (like a clogged or leaky drain or pipe)
- Install a new appliance
- Change the air filter in your furnace or air conditioner
- Fix a door or window
- Install insulation

#### K. SOLAR PV

[ASK EVERYONE]

K1. Does [IF OWN\_OCC OR RENTER: your home; IF LANDLORD OR OWN\_VAC: this building] have solar panels? (solar photovoltaic system?)

1. Yes
2. No
98. Not sure

K2. [SKIP IF RENTER] Before today, were you aware that Energy Trust of Oregon offers any of the following? Select all that apply. [RANDOMIZE RESPONSES, MULTIPLE RESPONSE]

1. Free assessment of your home's solar potential
2. A customized bid for the cost (and benefits) of installing solar panels

3. Discounts for installing solar panels (additional incentives beyond the federal tax credit)
4. Help finding a contractor to install solar panels
96. No, I was not aware of any of these before today [EXCLUSVE]

#### L. OCCUPANT CHARACTERISTICS

[SHOW FOR EVERYONE, EVEN OWNERS] Energy Trust of Oregon wants to serve everyone - all races, ethnicities, income levels, and communities. The next few questions will be used to make sure Energy Trust is serving everyone. Anything you share will remain confidential.

L1. [ASK IF RENTER OR LANDLORD] Which of the following describes the property at <ADDRESS>?

1. Public, subsidized or affordable housing
2. Housing for seniors or people with disabilities
3. Market-rate or conventional housing
97. Other (Specify)
98. Not sure

L2. [ASK IF LANDLORD] Do tenants at this property use any forms of rental assistance, like housing choice vouchers (Section 8) or subsidies from local or government organizations, to pay rent?

1. Yes
2. No
98. Not sure (please describe) [ALLOW OPEN END]

#### M. OCCUPANT CHARACTERISTICS FOR OWNERS/RENTERS

[Note that everyone will have seen the screen above about “Energy Trust wants to serve everyone”]

[SKIP SECTION IF LANDLORD]

M1. Which categories describe your race, ethnicity or origin? Select all that apply. [DO NOT ROTATE; MULTIPLE RESPONSE]

1. White or Caucasian
2. Hispanic, Latino or Spanish
3. Black or African American
4. Native American or Alaska Native
5. Middle Eastern or North African
6. Asian Indian
7. Chinese
8. Vietnamese
9. Filipino
10. Korean
11. Japanese
12. Other Asian
13. Native Hawaiian or Other Pacific Islander
97. Some other race, ethnicity or origin
99. Prefer not to answer

M2. What is the primary language spoken at home?

1. English

2. Spanish
3. Chinese - Mandarin
4. Chinese - Cantonese
5. Japanese
6. Korean
7. Tagalog (including Filipino)
8. Vietnamese
9. Russian
10. Arabic
11. Hindi
12. Persian (including Farsi)
13. French
14. German
97. Other (Specify)

M3. How many people in each age group live in your home full-time? Don't forget to include yourself!

1. Children under 5 years-old
2. Children 5–17 years old
3. Adults 18–24 years old
4. Adults 25–44 years old
5. Adults 45–64 years old
6. Adults age 65 or older

M4. Which of the following ranges describes your total 2019 household income before taxes?

1. Less than \$30,000 per year
2. \$30,000 - \$49,999
3. \$50,000 - \$69,999
4. \$70,000 - \$99,999
5. \$100,000 - \$199,999
6. \$200,000 or more
98. Don't know

M5. We are interested in the employment status of adults in your household. Do any of the adults in your household fit into these categories? Select all that apply.

1. Employed for wages or salary
2. Self-employed
3. Retired
4. Stay-at-home parent or caregiver
5. Not employed for medical or disability reasons
6. Not employed for other reasons
97. Other (Specify)

M6. What is your highest level of education?

1. Elementary
2. Some high school
3. High school graduate
4. Some college
5. College graduate

- 6. Postgraduate degree
- 98. Don't know

#### N. CONCLUSION

N1. Thank you for your time today! As a thank you for completing this survey, we will send you a \$15 Visa® gift card that you can use like a debit card.

N2. If you prefer to receive the gift card by EMAIL, please enter your name and email address. Email gift cards can be used like a debit card anywhere you shop online.

- 1. Name:
- 2. Email Address:

N3. If you prefer to receive the gift card by MAIL, please enter your name and confirm your mailing address. Physical gift cards can be used like a debit card anywhere you shop (in a store or online).

- 1. Name:
- 2. Street Address: [READ IN FROM ABOVE; allow corrections]
- 3. Unit or Apartment Number: [READ IN FROM ABOVE; allow corrections]
- 4. City: [READ IN FROM ABOVE; allow corrections]
- 5. ZIP code: [READ IN FROM ABOVE; allow corrections]

N4. Thank you. If you provided an email address to receive the e-gift card, please look for an email from \_\_\_\_\_ within the next 4-6 weeks. If you provided a mailing address, please look for an envelope from \_\_\_\_\_ within the next 4-6 weeks.

#### Spanish Version

##### A. PRESENTACIÓN EN LINEA Y NUMERO DE ACCESO

[ASK SECTION IF THEY ARE COMING FROM THE LETTER OR POSTCARD URL]

PROGRAMMING NOTE: FOR PERSONALIZED LETTERS OR POSTCARDS, EVERYONE SHOULD RECEIVE A PIN THAT, WHEN ENTERED, WILL PULL IN THEIR SAMPLE INFORMATION.

Gracias por participar en esta encuesta. Será de gran ayuda para Energy Trust of Oregon a fin de entender como los residentes de Oregón usan la electricidad en sus casas. Le tomará aproximadamente 10 minutos completar la encuesta. Le daremos una tarjeta de regalo con \$15 a modo de agradecimiento por su tiempo. Esta le llegará por correo electrónico.

Después de cada pregunta, haga click en el botón que se encuentra a la izquierda. Recuerde que no hay respuestas correctas o incorrectas, sólo buscamos respuestas honestas.

- 1. Continuar en Inglés
- 2. Continuar en Español

[SHOW SUBSEQUENT QUESTIONS IF/WHEN THE PIN IS NOT PIPED IN FROM THE EMAIL – INCLUDING LETTER/POSTCARD ENTRY OR PHONE ENTRY]

A1. Por favor ingrese su número de acceso. Este es un número de 7 caracteres (5 dígitos y dos letras) en la carta o tarjeta postal que recibió. Si no tiene este número puede llamar al [PHONE NUMBER] o enviar un correo electrónico al [EMAIL] y se lo daremos.



[SHOW IMAGE OF POSTCARD OR EMAIL WITH PIN CIRCLED IN RED ON EACH]

1. Su número de acceso: [7 CHARACTER FIELD]

[VALIDATE THAT CARD NUMBER IS ON FILE AND HAS NOT BEEN USED BY ANOTHER RESPONDENT YET.]

[IF CARD NUMBER IS ON FILE AND NOT YET USED, SKIP TO A6]

A2. [ASK IF CARD PIN IS NOT ON FILE] El número que ingresó es incorrecto. Por favor, ingrese nuevamente el número de acceso que se encuentra en la tarjeta que recibió en el correo, o de algunos de nuestros representantes de atención al cliente.

1. Su número de acceso: [7 CHARACTER FIELD]

A3. [IF CARD NUMBER NOT ON FILE AGAIN, THANK AND TERMINATE WITH THIS MESSAGE:] Lamentablemente, no podemos localizar su número de acceso. Por favor llame [PHONE NUMBER] o comuníquese por correo electrónico al [EMAIL] y lo ayudaremos a ubicar el número correcto. Le agradecemos por su tiempo y lamentamos que no esté funcionando en este momento. [CODE AS "TERMINATE"]

A4. [IF CARD NUMBER IS ON FILE BUT HAS ALREADY BEEN USED] Nuestros registros indican que una encuesta ya ha sido completada con ese número. Por favor ingrese su número de acceso.

1. Su número de acceso: [7 CHARACTER FIELD]

A5. [IF RE-ENTERED CARD NUMBER ALREADY USED, THANK AND TERMINATE WITH THIS MESSAGE:] Lamentablemente no Podemos continuar con el número que ingresó. Le agradecemos por su tiempo y lamentamos la inconveniencia que le puede haber ocasionado [CODE AS "TERMINATE"]

A6. [IF/WHEN VALID PIN FOUND] Bien, su registro ha sido encontrado.

Por favor utilice el botón de la derecha para avanzar.

Si tiene que dejar de completar encuesta, puede abrirla nuevamente y continuar en el mismo lugar en que dejó siguiendo el enlace desde el aparato que utilizó originalmente (su teléfono, computadora o tableta).

Todas sus respuestas serán confidenciales.

1. Continuar en Inglés
2. Continuar en Español

## B. PRESENTACION TELEFONICA

B1. Hola, le habla \_\_\_\_\_ de \_\_\_\_\_ en nombre de Energy Trust of Oregon. Estamos haciendo una breve encuesta sobre el modo en que los residentes de Oregón usan la electricidad y calefacción con el objetivo de ayudarlos a reducir el costo de las facturas de servicios públicos. Le daremos una tarjeta de regalo con \$15 a modo de agradecimiento por su tiempo.

B2. Quisiera hablar con un adulto en su hogar que use la electricidad y calefacción. ¿Ud se encarga de cosas como pagar las facturas, comprar nuevas bombillas, nuevos artefactos eléctricos o aparatos electrónicos, o bien ajustar el termostato?

1. Sí

2. No; hay un encuestado disponible
3. No; en este momento, no hay un encuestado disponible
4. No, no quiso participar [TERMINAR]

B3. ¡Excelente! Le ofrecemos una tarjeta de regalo Visa® con \$15 por completar una encuesta.

[INTERVIEWER NOTE: IF AT ANY POINT IN THE INTRODUCTION THE RESPONDENT MENTIONS THAT THEY HAVE LIMITED ENGLISH SKILLS, PLEASE OFFER TO SWITCH TO A SPANISH INTERVIEWER (IF AVAILABLE) OR RECORD LANGUAGE PREFERENCE FOR A CALL-BACK]

[INTERVIEWER NOTE: IF THE RESPONDENT EXPRESSES THAT THEY'D NOT THE RIGHT PERSON BECAUSE THEY'RE A RENTER, OR THEIR HOUSEHOLD DOESN'T PAY THE BILLS, REASSURE THEM THAT THAT'S OKAY – WE'RE JUST LOOKING FOR THE PERSON IN THEIR HOUSEHOLD WHO IS MOST INVOLVED IN ELECTRICITY AND/OR NATURAL GAS DECISIONS IN THE HOME, EVEN IF THEY ARE RENTERS OR THE LANDLORD PAYS THE BILLS.]

[INTERVIEWER NOTE: IF SOMEONE SAYS THEY ARE A LANDLORD OR OWN BUT DON'T OCCUPY THE BUILDING, YOU CAN RESPOND, "THAT'S GREAT! WE WANT TO HEAR FROM PEOPLE LIKE YOU. I HAVE A COUPLE OF QUESTIONS ABOUT THAT LATER."]

[INTERVIEWER NOTE: IF RESPONDENTS WANTS MORE INFORMATION ON THE PURPOSE OF THE STUDY, SAY, "ENERGY TRUST OF OREGON WANTS TO ENSURE THAT ALL OREGONIANS ARE BENEFITING FROM ENERGY EFFICIENCY AND RENEWABLE ENERGY, SO WE'RE TALKING TO A WIDE RANGE OF PEOPLE ABOUT THEIR HOMES ."]

[ONCE CONTACT FOUND] [REPEAT IF NEEDED: Mi nombre es [INTERVIEWER NAME], y estamos hablando con los residentes de Oregón acerca del uso de la electricidad en sus hogares en nombre de Energy Trust of Oregon.

[IF LANDLORD AND THEY SAY IT'S NOT APPLICABLE: Si está bien! Estamos también queriendo hablar con dueños de propiedades o administradores y nos encantaría contar con su opinión.]

[IF NEEDED: Yo trabajo para [PHONE SURVEY VENDOR], una empresa de investigación a nivel nacional que está realizando un estudio para Energy Trust of Oregon. No trabajo directamente para una compañía de energía eléctrica.]

[CONTINUE WHEN KNOWLEDGEABLE PERSON IDENTIFIED, ELSE CALL BACK]

B3. Bueno. A modo de agradecimiento por su tiempo, le enviaremos una tarjeta de regalo con \$15 al finalizar la encuesta.

### C. RELACIÓN CON EL SITIO

C1. [ASK IF ADDRESS ON FILE] Tenemos su dirección registrada en <ADDRESS>. ¿Actualmente vive en <ADDRESS>?:

1. Sí, vivo en esa dirección
2. No, pero solía vivir allí (dirección antigua)
3. No, pero soy propietario/la administro (vivienda en alquiler)
4. No, no vivo en esa dirección, no soy propietario y no la administro
98. Otra (especifique)

C2. [ASK IF C1=2] Al parecer, se mudó hace poco. ¿Hace cuánto se mudó de <ADDRESS>?

1. Hace menos de un año
2. Hace más de un año. Gracias por esta información. No califica para esta encuesta.

C3. [ASK IF C1=2] ¿Está ubicada su nueva residencia en Oregón?

1. Sí, en Oregón
2. No, me mudé fuera de Oregón

C4. [ASK IF C1 =1] ¿Es <ADDRESS> su residencia principal?

1. Sí, es mi residencia principal
2. No, tengo otra dirección como mi residencia principal

C5. [ASK IF THERE IS NO ADDRESS ON FILE OR C1=2 OR 4] ¿Cuál es su dirección? Esta información nos será útil para determinar si los programas y servicios diseñados para brindar ayuda con el ahorro de energía en Oregón están siendo utilizados en todo el Estado.

Todas sus respuestas serán confidenciales y solo se utilizarán a fin de determinar si Energy Trust está brindando servicios en todo el Estado.

1. [Calle]
2. [Unidad o número de departamento]
3. [Ciudad]
4. [Estado] [TERMINAR si no es en Oregon; Gracias por esta información. Como esta encuesta está dirigida a residents de Oregón, Ud. no califica para esta encuesta]
5. [Código postal]

C6. [ASK IF C1=1OR2OR98 OR NO ADDRESS ON FILE] ¿ READ IF C1=1OR98: Alquila o es] [READ IF C1=2: Alquiló o fue ] ... propietario (usted u otra persona del hogar) de la propiedad en <ADDRESS>?

1. Alquilo
2. Soy propietario
3. Vivo allí, pero no pago alquiler
97. Otra (especifique)
98. No estoy seguro

C7. [ASK IF C1<>1OR2] ¿Qué opción describe mejor la propiedad en <ADDRESS>?

1. Casa donde vivo todo o la mayor parte del tiempo
2. Segunda casa o casa de vacaciones
3. Propiedad en alquiler (la alquilo a otras personas)
4. Dirección comercial (no es una casa) [THANK AND TERMINATE]
96. No lo sé; no es mi dirección
97. Otra (especifique)

C8. [ASK IF C1<>1OR2] ¿Quién vive en <ADDRESS>? (Seleccione todas las opciones que correspondan)

1. Inquilinos durante todo el año
2. Inquilinos a corto plazo (incluye los inquilinos en época de vacaciones)
3. Un comercio [THANK AND TERMINATE] Gracias por esta información. Como estamos interesados sólo en residentes de casas particulares, Ud. no califica para esta encuesta.
4. La uso como segunda casa o casa de vacaciones
5. Está vacía todo el tiempo/la mayor parte del tiempo

97. Otra (especifique)

C9. [FOR LANDLORDS] Al parecer, <ADDRESS> es una propiedad en alquiler. ¿Es propietario o administra esta propiedad en alquiler? Seleccione todas las opciones que correspondan.

1. Soy propietario
2. La administro
97. Otra (especifique)

#### D. CLASIFICACION DEL HOGAR

[IF YOU LIVE IN HOME] Durante el resto de esta encuesta, le haremos preguntas sobre la casa donde vive actualmente.

[FOR LANDLORDS AND SECOND HOMES] Durante el resto de esta encuesta, le haremos preguntas sobre la propiedad en <ADDRESS>, aunque parezca que algunas de las preguntas se traten de su residencia personal. Responda las preguntas sobre la propiedad en <ADDRESS> de la que Ud. es propietario o dá en alquiler.

[READ IF SECOND/VCACATION HOME] Durante el resto de esta encuesta, le haremos preguntas sobre la propiedad en <ADDRESS>, aunque parezca que algunas de las preguntas se traten de su residencia principal. Responda las preguntas sobre la propiedad en <ADDRESS>

D1. ¿Qué opción describe mejor la propiedad en <ADDRESS>

1. Casa unifamiliar independiente
2. Casa unifamiliar conjunta (unidades pegadas con paredes compartidas) (townhouse)
3. Dúplex (2 unidades)
4. Inmueble con 3 o más unidades (departamentos o condominios)
5. Casa de huéspedes o unidad de vivienda complementaria
6. Casa móvil o prefabricada
97. Otra (especifique)

D2. [FOR APARTMENTS] ¿Cuántas unidades hay en el edificio aproximadamente?

1. 2
2. 3 a 4
3. 5 a 9
4. 10 a 19
5. 20 a 49
6. Más de 50
97. Otra (especifique)

D3. [SKIP IF LANDLORD] ¿Aproximadamente cuántos años hace que vive en <ADDRESS>?

1. Menos de un año
2. Entre 1 y 2 años
3. Entre 3 y 5 años
4. Entre 6 y 10 años
5. Más de 10 años

#### E. CONOCIMIENTO DE ENERGY TRUST

E1. ¿Ud. tiene conocimiento o escuchó hablar de alguno de los siguientes productos o servicios gratuitos en Oregón que brindan ayuda para que las personas puedan disminuir el gasto en electricidad o calefacción? Seleccione todas las opciones que correspondan.

1. Kits gratuitos para ahorrar energía (caja con focos/bombillas, regaderas de ducha o grifos de flujo bajo)
2. Evaluación o auditoría gratuita de energía del hogar
3. Reciclaje gratuito de artefactos eléctricos (p. ej., refrigeradores viejos)
4. Sellado de aire o conductos, o climatización (weatherization) gratuitos
5. Mantenimiento (tune up) gratuito de casas móviles/prefabricadas (sellado de aire y conductos)
96. Ninguna de las anteriores
97. No estoy seguro

E2. [IF YES] ¿Qué organizaciones ofrecen los productos o servicios gratuitos que conoce?

1. PGE/Portland General Electric
2. Pacific Power/Pacific Power & Light (PP&L)/PacifiCorp
3. Avista
4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. Estado de Oregón
8. Programa de Asistencia de Climatización de Oregón (Weatherization Assistance Program)
9. Agencia gubernamental local IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>) [IF COUNTY=BLANK OR MAIL SURVEY: (ej., Community Action / Community Services)]
10. Acción sin fines de lucro local (ej. Comedores gratuitos, escuelas u otras organizaciones)
97. Otra (especifique)
98. No estoy seguro

E3. ¿Ud. ha escuchado sobre reembolsos o descuentos (rebates) para instalar productos, equipos o artefactos eléctricos de bajo consumo?

1. Reembolsos o descuentos para focos/bombillas
2. Reembolsos o descuentos para sistemas de calefacción, aires acondicionados, calentadores de agua (horno, bomba de calor, etc.)
3. Reembolsos o descuentos para artefactos eléctricos (como Refrigeradores, lavavajillas, lavadoras o secadoras)
4. Reembolsos o descuentos para insulación, sellado de aire o conductos en ventanas
5. Reembolsos o descuentos por sistemas de energía solar o renovable
6. Reembolsos o descuentos en termostatos inteligentes
96. Ninguno de estos
97. Otros (especifique)
98. No estoy seguro

E4. [IF YES] ¿Qué organizaciones ofrecen los reembolsos (rebates) o descuentos de los que escuchó hablar? Seleccione todas las opciones que correspondan.

1. PGE/Portland General Electric
2. Pacific Power/Pacific Power & Light (PP&L)/PacifiCorp
3. Avista

4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. Estado de Oregón
8. Programa de Asistencia de Climatización (Weatherization Assistance Program) de Oregón
9. Agencia gubernamental local [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>)] [IF COUNTY=BLANK OR MAIL SURVEY: (ej., Community Action / Community Services)]
10. Organización sin fines de lucro (ej., comedores gratuitos, escuelas y otras organizaciones)
11. Tienda (Walmart, Lowes, Home Depot, Sears)
12. Fabricante
97. Otra (especifique)
98. No estoy seguro

E5. ¿Ud. tiene conocimiento de algún programa o servicio que ayude a los siguientes grupos de personas a disminuir el costo de sus facturas de servicios públicos? Seleccione todas las opciones que correspondan.

1. Hogares de bajos ingresos
2. Hogares de ingresos moderados
3. Inquilinos
4. Propietarios de casas móviles o prefabricadas
96. Ninguna de las anteriores
97. Otra (especifique)
98. No estoy seguro

E6. ¿Qué organizaciones ofrecen los programas o servicios para hogares de ingresos bajos o moderados, inquilinos o propietarios de casas móviles o prefabricadas de los que Ud. escuchó hablar? Seleccione todas las opciones que correspondan.

1. PGE/Portland General Electric
2. Pacific Power/Pacific Power & Light (PP&L)/PacifiCorp
3. Avista
4. Northwest Natural
5. Cascade Natural Gas
6. Energy Trust of Oregon
7. Estado de Oregón
8. Programa de Asistencia de Climatización (Weatherization Assistance Program) de Oregón
9. Agencia gubernamental local [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>)] [IF COUNTY=BLANK OR MAIL SURVEY: (ej., Community Action / Community Services)]
10. Organización sin fines de lucro (ej., comedores gratuitos, escuelas y otras organizaciones)
97. Otra (especifique)
98. No estoy seguro

E7. ¿Conoce algún otro programa o servicio en Oregón que ayude a las personas a reducir el costo de sus facturas de electricidad o calefacción?

1. Sí
2. No
98. No estoy seguro

E8. [IF YES] ¿Qué otros programas o servicios conoce que ayuden a las personas a reducir el costo de sus facturas de electricidad o calefacción?

E9. [IF YES] ¿Qué organizaciones ofrecen estos programas o servicios?

E10. Actualmente, existen muchos recursos y mucha información para mantener o mejorar su hogar. ¿Qué recursos utiliza para su hogar, si es que usa alguno? Seleccione todas las opciones que correspondan.

1. Lo hago yo mismo
2. Contratista o constructor
3. Videos de YouTube
4. Sitios web, blogs u otros recursos en línea
5. Energy Trust of Oregon
6. Agencia gubernamental local [IF WEB OR PHONE: (like <COUNTY\_AGENCY\_NAME>)] [IF COUNTY=BLANK OR MAIL SURVEY: (ej., Community Action / Community Services)]
7. Amigos o familiares
8. El propietario de la vivienda que alquilo
9. Mi empresa de servicio público de electricidad
10. Mi empresa de servicio público de gas
11. Mi ciudad o barrio
12. Estado de Oregón
13. Mi iglesia, sinagoga, mezquita o templo
14. Una organización comunitaria o barrial
15. Personal de las tiendas de mejora para el hogar (como Home Depot o Lowes)
96. Ninguna de las anteriores
97. Otra (especifique)
98. No estoy seguro

#### F. RELACION CON COMPANIAS DE SERVICIOS PUBLICOS

F1. ¿Qué facturas de servicios públicos paga en esta casa/propiedad? Seleccione todas las opciones que correspondan.

1. Electricidad
2. Gas natural
3. Combustible de calefacción o gas propano
96. Ninguna de las anteriores
97. Otra (especifique)

F1a. [ASK IF LANDLORD] ¿Qué facturas de servicios públicos pagan sus inquilinos en esta casa/propiedad?

1. Electricidad
2. Gas natural
3. Combustible or gas propano
4. Ninguna de estas [EXCLUSVE]
97. Otra (especifique)

F2. ¿Cómo calefacciona esta casa/propiedad? Seleccione todas las opciones que correspondan.

1. Gas natural
2. Electricidad
3. Combustible de calefacción
4. Gas propano/envasado
5. Leña
97. Otra (especifique)

98. No estoy seguro

F3. ¿Utiliza la opción de “Pago Fijo” para su factura de electricidad o gas, donde paga la misma cantidad todos los meses (para aliviar el costo de sus facturas)?

1. Sí

2. No

97. Otra (especifique)

98. No estoy seguro

F4. ¿Recibió alguna asistencia de energía o combustible en 2019 (es decir, ayuda para pagar sus facturas de electricidad o calefacción proveniente de un programa gubernamental, un programa local, una empresa de servicios públicos u otra organización)?

1. Sí

2. No

98. No estoy seguro

#### G. ACTITUDES

G1. Indique si está de acuerdo o en desacuerdo con las siguientes afirmaciones: [IF PHONE: Use una escala del 1 al 5 donde 5 es “completamente de acuerdo” y 1 es completamente en desacuerdo”

A. Me preocupa no contar con suficiente dinero para pagar mis facturas de electricidad o servicios públicos.

B. Si mi factura de electricidad o servicios públicos aumenta, siento que debo hacer algo para reducirla.

C. Es importante que mi hogar tenga una temperatura agradable, aunque la factura de electricidad sea más alta.

D. Me preocupa que la electricidad/energía se corte durante tormentas o emergencias.

E. A menudo pago más por productos ecológicos.

F. Siempre estoy buscando formas de reducir el costo de mis facturas de electricidad.

G. Estoy dispuesto a pagar más por energía que provenga de fuentes renovables.

G2. ¿Qué aspecto considera que es el más importante en cuanto al uso de energía eléctrica en Oregon? Seleccione las dos opciones más importantes.

Energía renovable: cambiar a energía proveniente del sol, viento, agua o de desechos

Confiabilidad: mantener un flujo constante de energía en todo momento (minimizar los cortes)

Asistencia: ayudar a las personas que lo necesitan a reducir el costo de la energía eléctrica

Eficiencia energética: hacer que nuestros hogares sean más eficientes (que consuman menos energía)

Capacidad de adaptación/recuperación: preparar los hogares, negocios y el sistema de energía para imprevistos (tormentas o desastres naturales)

Accesibilidad: hacer que la energía sea accesible para todos

Salud y comodidad: Mantener la calidad del aire del interior y temperaturas agradables

#### H. CONOCIMIENTO DE ENERGY TRUST OF OREGON

H1. ¿Conocía con anterioridad a Energy Trust of Oregon?



1. Sí
2. No
98. No estoy seguro

H2. Cuando escucha “Energy Trust of Oregon”, ¿en qué piensa?

H3. Queremos saber cuánto sabe de Energy Trust of Oregon. ¿Usted diría que...?

1. Nunca había escuchado sobre Energy Trust of Oregon con anterioridad
2. Había escuchado el nombre “Energy Trust of Oregon”, pero solo eso
3. Conozco un poco sobre los descuentos, reembolsos y servicios que ofrece Energy Trust
4. Conozco mucho sobre los descuentos, reembolsos y servicios que ofrece Energy Trust
97. Otra (especifique)

H4. ¿Había escuchado o conoce a Energy Trust por medio de alguna de las siguientes personas u organizaciones? Seleccione todas las opciones que correspondan.

1. Mi empresa de servicios públicos
2. Un contratista
3. Un asistente de ventas (tienda o negocio)
4. Una organización local o comunitaria
5. El gobierno local, de mi barrio o ciudad
6. Amigos o familiares (boca a boca)
97. Otro (especifique)
98. No lo recuerdo

H5. ¿Dónde ha visto o escuchado información sobre Energy Trust of Oregon? Seleccione todas las opciones que correspondan

1. TV/televisión
2. Radio o radio por Internet
3. Publicación o periódico impresos
4. Publicidad en línea
5. Sitio web
6. Video en línea o por Internet
7. Cartel publicitario
8. Mi factura de servicios públicos
9. Correo directo (carta o tarjeta postal)
10. Redes sociales (Facebook o Twitter)
11. Tienda o negocio
97. En otro lugar (especifique)
98. No lo recuerdo

H6. En base a lo que vio o escuchó sobre Energy Trust of Oregon, ¿cuáles son dos cosas de las que Energy Trust se ocupa más? Seleccione hasta dos opciones:

1. Confiabilidad: mantener un flujo constante de energía en todo momento (minimizar los cortes)
2. Energía renovable: cambiar a o usar energía proveniente del sol, viento, agua o desechos
3. Asistencia: ayudar a las personas que lo necesitan con el costo de la energía
4. Eficiencia energética: hacer que nuestros hogares sean más eficientes (que consuman menos energía)

5. Capacidad de adaptación/recuperación: preparar los hogares, los negocios y el sistema de energía para imprevistos (tormentas o desastres naturales)
6. Accesibilidad: hacer que la energía sea accesible para todos
7. Salud y comodidad: Mantener una buena calidad del aire del interior y temperaturas agradables
97. Otra (especifique)
98. No estoy seguro

H7. [FOR RENTERS AND HOMEOWNERS] ¿Participó alguna vez en algún programa de Energy Trust of Oregon?

Esto podría ser recibir un kit para ahorrar energía, bombillas/focos gratis o un descuento o reembolso (rebate) de Energy Trust (por la compra de focos/bombillas de bajo consumo, termostatos inteligentes, artefactos eléctricos del hogar, etc.), recibir una evaluación o auditoría de su hogar o utilizar un contratista de Energy Trust para la instalación de un sistema de calefacción o refrigeración, calentador de agua, insulación para ventanas, etc.

1. Sí, participé en mi casa actual
2. Sí, participé en una casa anterior de la que era propietario o que alquilaba
3. No, pero busqué información sobre los programas o servicios de Energy Trust of Oregon
4. No, nunca participé ni busqué participar
97. Otra (especifique)
98. No estoy seguro

H8. [FOR LANDLORDS] ¿Participó alguna vez en un programa de Energy Trust of Oregon en una de sus propiedades de alquiler?

Esto podría ser recibir un kit para ahorrar energía, focos/bombillas gratis o un descuento o reembolso (rebate) de Energy Trust (por la compra de focos/bombillas de bajo consumo, termostatos inteligentes, artefactos eléctricos del hogar, etc.), recibir una evaluación o auditoría de su hogar o utilizar un contratista de Energy Trust para la instalación de un sistema de calefacción o refrigeración, calentador de agua, insulación para ventanas, etc.

1. Sí, esta propiedad participó o recibió equipos
2. Sí, otra propiedad de la que soy dueño o que administro participó o recibió equipos
3. No, pero busqué información sobre los programas o servicios de Energy Trust of Oregon
4. No, nunca participé ni busqué participar
97. Otra (especifique)
98. No estoy seguro

H9. ¿Cuáles son los motivos principales por los que no ha utilizado uno de los programas, servicios o descuentos de Energy Trust of Oregon? Seleccione todas las opciones que correspondan.

1. No conocía este tipo de programas
2. Mis facturas no son tan altas como para preocuparme
3. No puedo afrontar el costo del proyecto o la compra
4. No vale la pena el tiempo o esfuerzo
5. El descuento o reembolso no es suficiente
6. No califico/no reúno los requisitos
7. El propietario de la casa que alquilo se ocupa de eso

8. No quiero pedírselo al propietario de la casa que alquilo
9. Hay otros problemas en mi casa que deben solucionarse antes
10. Necesito más información
97. Otra (especifique)

H10. ¿Puede brindar más detalles sobre por qué respondió así?

H11. ¿Qué haría más fácil que participe en un programa de Energy Trust en el futuro?

H12. [SKIP IF RENTER] ¿Le interesaría cualquiera de estas opciones de financiación para ayudar a reducir el costo de sus facturas de servicios públicos?



1. Préstamo con tasa de interés baja (sin cargos) por hacer mejoras en la eficiencia energética
2. Financiación contrafactura por realizar mejoras de eficiencia energética (devuelva el préstamo con las facturas de servicios públicos)
3. Ninguna de las anteriores
4. Otra (especifique)

#### I. LIGHTING PURCHASE DEEP DIVE

I1. ¿Ha adquirido o instalado nuevos focos/bombillas en el último año para [IF OWN\_OCC OR RENTER: su hogar ][LANDLORD: <ADDRESS>]?

1. Sí
2. No
98. Otro (especifique)
99. No estoy seguro

I2. [IF YES] ¿Qué tipo de focos/bombillas compró? A continuación, haga clic en la imagen que más se acerque a lo que compró.

<p><b>Luces LED: a rosca</b></p>  <p>Los focos LED (diodo emisor de luz) vienen en distintas formas. Muchos focos LED se parecen a los focos estándar incandescentes y se colocan en los portalámparas comunes. Emiten menos calor y duran más que los focos incandescentes. Muchos cuentan con la certificación ENERGY STAR®.</p>	<p><b>Luces LED: lineales</b></p>  <p>Estas luces lineales son similares a los tubos fluorescentes, pero tienen una mayor eficiencia energética. Pueden tener dos puntas en el extremo para poder colocarlas en portalámparas existentes o modernos.</p>
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<p><b>Incandescentes o halógenos</b></p>  <p>Focos con forma estándar y un filamento de alambre, que se colocan en los portalámparas a rosca. Los focos halógenos son similares, pero más eficientes que los focos incandescentes estándar. A menudo, se usan otras formas y otros tamaños en los focos y reflectores.</p>	<p><b>Fluorescente lineal</b></p>  <p>Son los focos alargados con forma de tubo que pueden medir entre 4 y 12 pies. Se colocan en compartimentos para luces que, a menudo, pueden cubrirse con un film plástico. Sus extremos tienen dos puntas que se enchufan en los portalámparas.</p>
<p><b>Focos LFC</b></p>  <p>El tipo más común de lámpara fluorescente compacta (LFC) es el que tiene forma de espiral, que se fabrica con un tubo de vidrio doblado de manera “serpenteante”. A veces, la parte serpenteante está cubierta, como en la foto de la derecha.</p>	<p><b>Otra opción</b></p> <p>(describala):</p> <hr/>

13. ¿En dónde compró nuevos focos/bombillas? (Si los compró en línea en alguna de las siguientes tiendas, selecciónela).

1. Dollar Tree
2. Ace Hardware
3. Fred Meyer
4. Goodwill
5. Bi-Mart
6. Dollar General
7. Walmart
8. The Home Depot
9. Target
10. True Value
11. Walgreens
12. Habitat ReStore
13. Costco
14. Batteries Plus
15. Lowes
16. Do-it-Best
17. Amazon.com
97. En otro lugar (especifique)
98. No lo recuerdo

I4. ¿Los focos/bombillas que compró estaban marcados, se publicitaban como productos con descuento, en oferta o como “descuentos instantáneos en LED ENERGY STAR®” de Energy Trust? Seleccione todas las opciones que correspondan.

1. Marcadas o publicitadas como productos “con descuento” o “en oferta”
2. Marcadas o publicitadas como “descuentos instantáneos en LED ENERGY STAR®” de Energy Trust of Oregon
96. Ninguna de estas opciones
98. No lo recuerdo

#### J. CONTRATISTAS

[SKIP IF RENTER]

J1. Cuando debe reparar o reemplazar algo en esta casa o propiedad, ¿qué hace habitualmente? ¿Contrata a un profesional o lo hace Ud. mismo (o con ayuda de amigos o familiares)?

Contrato a un profesional, Lo hago yo mismo (o con ayuda de amigos o familiares) No estoy seguro

- Problemas de plomería (como un desagüe o una tubería tapados o con pérdidas)
- Instalar un nuevo aparato eléctrico
- Cambiar el filtro de aire del horno o aire acondicionado
- Reparar una puerta o ventana
- Instalar insulación

#### K. PANELES SOLARES

K1. ¿La propiedad donde vive tiene paneles solares? (¿Sistema fotovoltaico solar?)

1. Sí
2. No

98. No estoy seguro

K2. [SKIP IF RENTER] ¿Sabía con anterioridad que Energy Trust of Oregon ofrece alguno de los siguientes servicios? Seleccione todas las opciones que correspondan.

1. Evaluación gratuita del potencial solar de su hogar
2. Un presupuesto personalizado del costo (y los beneficios) de la instalación de paneles solares
3. Descuentos por la instalación de paneles solares (incentivos adicionales además del crédito impositivo federal)
4. Ayuda para encontrar un contratista que instale paneles solares
96. No, no conocía ninguno de estos servicios hasta hoy

#### L. CARACTERISTICAS DEL OCUPANTE

[SHOW FOR EVERYONE] Energy Trust of Oregon quiere prestar servicios a todos: todas las razas, etnias, niveles de ingresos y comunidades. Las próximas preguntas se usarán para garantizar que Energy Trust esté prestando servicios a todos. Todos los datos que comparta serán confidenciales.

L1. [FOR RENTERS AND LANDLORDS] ¿Cuáles de las siguientes opciones describen la propiedad en <ADDRESS>?

1. Vivienda pública, subsidiada o accesible

2. Residencia para ancianos o personas con discapacidades
3. Vivienda convencional o con precio de mercado
97. Otra (especifique)
98. No estoy seguro

L2. [ASK IF LANDLORD] ¿Los inquilinos de esta propiedad utilizan alguna forma de ayuda para el alquiler, como cupones de elección de viviendas (Sección 8) o subsidios de organizaciones locales o gubernamentales, para pagar el alquiler?

1. Sí
2. No
97. No estoy seguro (por favor explique)

M. DATOS DEMOGRAFICOS DEL OCUPANTE (SOLO PROPIETARIOS/INQUILINOS)

[Note that everyone will have seen the screen above about “Energy Trust wants to serve everyone”]

[SKIP SECTION IF LANDLORD]

M1. ¿Qué categorías describen su raza, etnia u origen? Seleccione todas las opciones que correspondan.

1. Blanco o caucásico
2. Hispano, latino o español
3. Negro o afroamericano
4. Nativo de América del Norte o de Alaska
5. De Medio Oriente o África del Norte
6. Asiático Indio
7. Chino
8. Vietnamita
9. Filipino
10. Coreano
11. Japonés
12. Otro origen asiático
13. Nativo de Hawái o de otra de las Islas del Pacífico
97. Otra raza, etnia u origen
98. Prefiero no responder

M2. ¿Cuál es el idioma principal que se habla en su casa?

1. Inglés
2. Español
3. Chino (mandarín)
4. Chino (cantonés)
5. Japonés
6. Coreano
7. Tagalo (incluido el filipino)
8. Vietnamita
9. Ruso
10. Árabe
11. Hindi
12. Persa (incluido el farsi)
13. Francés

- 14. Alemán
- 97. Otra (especifique)

M3. ¿Cuántas personas de cada rango de edades viven en su casa en todo momento? No olvide incluirse a usted.

- Niños menores de 5 años
- Niños de entre 5 y 17 años
- Adultos de entre 18 y 24 años
- Adultos de entre 25 y 44 años
- Adultos de entre 45 y 64 años
- Adultos mayores de 65 años

M4. ¿Cuál de los siguientes rangos describe los ingresos totales de su hogar en 2019 antes de impuestos?

- 1. Menos de \$30,000 por año
- 2. Entre \$30,000 y \$49,999
- 3. Entre \$50,000 y \$69,999
- 4. Entre \$70,000 y \$99,999
- 5. Entre \$100,000 y \$199,999
- 6. \$200,000 o más
- 98. No lo sé

M5. Nos interesa la situación laboral de los adultos de su hogar. ¿Entra en estas categorías alguno de los adultos de su hogar? Seleccione todas las opciones que correspondan.

- 1. Empleado con un sueldo o salario
- 2. Trabajador independiente
- 3. Jubilado
- 4. Padre, madre o cuidador que se queda en el hogar
- 5. Desempleado por motivos médicos o de discapacidad
- 6. Desempleado por otros motivos
- 97. Otra (especifique)

M6. ¿Cuál es su nivel más alto de educación?

- 1. Escuela primaria
- 2. Escuela secundaria (incompleta)
- 3. Graduado de escuela secundaria
- 4. Universidad (incompleta)
- 5. Graduado de la universidad
- 6. Título de posgrado
- 98. No lo sé

## N. CONCLUSION

N1. ¡Gracias por su tiempo! A modo de agradecimiento por completar esta encuesta, le enviaremos una tarjeta de regalo Visa® con \$15 que puede usar como una tarjeta de débito.

N2. Si prefiere recibir la tarjeta de regalo por CORREO ELECTRÓNICO, ingrese su nombre y dirección de correo electrónico. Las tarjetas de regalo enviadas por correo electrónico se pueden usar como una tarjeta de débito en cualquier sitio donde compre en línea.

1. Nombre:
2. Dirección de correo electrónico:

N3. Si prefiere recibir la tarjeta de regalo por CORREO, ingrese su nombre y confirme la dirección postal. Las tarjetas de regalo físicas pueden usarse como una tarjeta de débito en cualquier lugar donde haga compras (en una tienda o en línea).

1. Nombre:
2. Calle:
3. Número de unidad o departamento:
4. Ciudad:
5. Código postal:

N4. Gracias. Si proporcionó una dirección de correo electrónico para recibir la tarjeta de regalo electrónica, busque un correo electrónico de \_\_\_\_\_ en el plazo de las próximas 4 a 6 semanas. Si proporcionó una dirección postal, busque un sobre de \_\_\_\_\_ en el plazo de las próximas 4 a 6 semanas.



## D. Appendix D: Mail-In Survey Instrument

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### English Version

### Energy Trust of Oregon 2020 Customer Insights Study

Thank you for taking the time to complete this survey! Your answers to the questions will help us understand how Oregonians use power and heat in their homes, which will help more people lower their energy bills using Energy Trust's services. Please follow the instructions carefully so that you answer the correct questions.

Remember that the survey is about the address shown on the enclosed letter. But if that address is a property that you rent out to others or is a business address, or if you moved from that address more than one year ago, then we do not need you to take the survey.

When you have completed the survey, please mail it back to us using the included stamped and addressed envelope.

1. Is the address on the enclosed letter your primary residence?
  - Yes, it's my primary residence
  - No, another address is my primary residence
2. Do you (or someone in your household) rent or own the home at that address? Please select one.

- Own → Please skip to question 4
- Rent
- I live there but don't pay rent
- Other (Please briefly describe here)

If you selected any of these, please answer question 3

- Not sure → Please answer question 3

Please answer **either** question 3 **or** question 4, depending on how you answered question 2, but not both.

3. Which of the following describes the property at that address? Please select one.

- Public, subsidized or affordable housing
- Housing for seniors or people with disabilities
- Market-rate or conventional housing
- Other (Please describe)

- Not sure

Please skip to question 5.

4. What best describes the home at that address? Please select one.

- Property that I rent out to others
- Business address (not a home)
- Home where I live all/most of the time
- Second home where I live some of the time (i.e. vacation home)
- Other (Please describe)

Please continue with question 5.

Thank you, but you do not qualify for this survey and do not need to return the survey.

For the rest of this survey, we'll be asking questions about the property at the address on the enclosed letter. Please answer for the property at that address.

5. What best describes this building? Please select one.

- Single-family detached home
- Single-family attached home (side-by-side units with shared walls, like a townhouse or rowhouse)
- Guest house or accessory dwelling unit
- Mobile or manufactured home
- Duplex (2 units)
- Building with 3 or more units (apartments or condos) → Please answer question 6
- Other (Please describe) → And then please answer question 6

If you selected any of these responses, please skip to question 7

If your answer to question 5 was “building with 3 or more units” or “other,” please also answer question 6.

6. About how many units are in the building? Please select one.

- 2
- 3-4
- 5-9
- 10-19
- 20-49
- 50+
- Other (Please briefly describe)

Everyone: Please answer question 7.

7. Approximately how many years have you lived at that address? Please select one.

- Less than 1 year
- 1-2 years
- 3-5 years
- 6-10 years
- More than 10 years

8. Have you heard of any of the following free products or services in Oregon that help people lower their electric or heating use? Please select all that apply.

- Free Energy Saver Kits (box with light bulbs, showerheads, or low-flow faucets)
- Free home energy assessment or audit
- Free appliance recycling (e.g., old refrigerators)
- Free air sealing, duct sealing or weatherization
- Free mobile/manufactured home tune-up (air and duct sealing)
- None of these → Please skip to question 10
- Not sure → Please skip to question 10

If you selected any of these, please also answer question 9.

If you selected “none of these” or “not sure,” please skip to question 10.

If you selected any of the other responses, please also answer question 9.

9. What organizations offer the free products or services that you’ve heard about? Select all that apply.

- PGE / Portland General Electric
- Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
- Avista
- Northwest Natural
- Cascade Natural Gas
- Energy Trust of Oregon
- State of Oregon
- Oregon Weatherization Assistance Program
- Local government agency
- Local nonprofit (e.g., food bank, school, other organization)
- Other (Please describe)
- Not sure

10. Have you heard of any of rebates (money back) or discounts for installing any of the following energy efficient products, equipment or appliances? Select all that apply.

- Rebates or discounts for lighting
- Rebates or discounts for heating, cooling or water heating equipment (such as furnaces, heat pumps, fireplaces and water heaters)
- Rebates or discounts for appliances (such as refrigerators, dishwashers, clothes washers/dryers)
- Rebates or discounts for insulation, air/duct sealing or windows
- Rebates or discounts solar or renewable energy systems
- Rebates or discounts on Smart thermostats
- Other (Please describe)

- None of these → **Please skip to question 12**
- Not sure → **Please skip to question 12**

**If you selected any of these, please also answer question 11.**

**If you selected “none of these” or “not sure,” please skip to question 12.**

**If you selected any of the other responses, please also answer question 11.**

11. What organizations offer the rebates or discounts for energy efficiency products, equipment or appliances that you’ve heard about? Select all that apply.

- PGE / Portland General Electric
- Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
- Avista
- Northwest Natural
- Cascade Natural Gas
- Energy Trust of Oregon
- State of Oregon
- Oregon Weatherization Assistance Program
- Local government agency
- Local nonprofit (e.g., food bank, school, other organization)
- Retail store (Walmart, Lowes, Home Depot, Sears)
- Manufacturer
- Other (Please describe)

12. Today there are a lot of resources and information for maintaining or improving your home. What sources, if any, do you use when it comes to your home? Select all that apply.

- Me / myself
- Contractor or builder
- YouTube videos
- Websites, blog, or other online sources
- Energy Trust of Oregon
- Local government agency
- Friends or family
- My landlord
- My electric utility company
- My gas utility company
- My city/town
- State of Oregon
- My church, synagogue, mosque, or place of worship
- Neighborhood/community organization
- Staff at home improvement stores (like Home Depot or Lowes)
- None of these
- Other (Please briefly describe)
- Not sure

13. What utility bills do you pay for this home/building? Select all that apply.

- Electricity
- Natural Gas
- Oil or propane
- None of these
- Other (Please briefly describe)

14. How do you heat this home/building? Select all that apply.

- Natural gas
- Electricity
- Oil
- Propane/bottled gas
- Wood
- Other (Please briefly describe)
- Not sure

15. Please indicate whether you agree or disagree with the following statements. Please check one box for each statement:

	Strongly Disagree	Some-what Disagree	Neither Agree nor Disagree	Some-what Agree	Strongly Agree	Not Sure
I worry whether there is enough money to pay my energy/utility bills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If my energy/utility bill goes up, I feel like I must do something to lower it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for my home to be a comfortable temperature even if my utility bills are higher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am concerned that the electricity/power will go out during storms or emergencies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often pay more for products that are environmentally friendly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm always looking for ways to lower my energy bills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am willing to pay more for energy that comes from renewable sources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. What do you think is most important when it comes to Oregon’s energy use? Please select up to two.

- Renewable energy:** Switching to or using energy from the sun, wind water or waste
- Reliability:** Keeping the power on all the time (minimize outages)
- Assistance:** Helping people in need lower their energy costs
- Energy efficiency:** Making our homes more efficient (use less energy)
- Resilience:** Preparing homes, businesses and the power system for the unexpected (like storms or natural disasters)
- Affordability:** Making energy affordable for everyone
- Health and Comfort:** Maintaining good indoor air quality and comfortable temperatures

17. When you hear “Energy Trust of Oregon,” what do you think of?

18. We're curious to know how familiar you are with Energy Trust of Oregon. Would you say... (select one)

- Before today, I'd never heard of Energy Trust of Oregon → **Please skip to question 25 on page 8.**
- I've heard the name "Energy Trust of Oregon," but that's about it
- I know a little about the discounts, money back and services that Energy Trust offers
- I know a lot about the discounts, money back and services Energy Trust offers
- Other (Please briefly describe)

**If you selected any of these, please also answer questions 19 through 24.**

**If you had never heard of Energy Trust of Oregon before today, please skip to question 25 on page 8.**

**If you said you had heard of Energy Trust of Oregon before today, please answer questions 19 through 24, in the grey box, before continuing with question 25.**

19. Have you heard or learned about Energy Trust from any of the following people or organizations? Select all that apply.

- My utility company
- A contractor
- Sales assistant (store or retailer)
- A local or community organization
- My city, town or local government
- Friends or family (word of mouth)
- Someone else (Please briefly describe)
- Don't remember

20. Where have you seen or heard information about Energy Trust of Oregon? Select all that apply.

- TV / Television
- Radio or streaming radio
- Print publication or newspaper
- Online advertisement
- A website
- Online video or streaming video
- Billboard
- My utility bill
- Direct mail (letter or postcard)
- Social media (like Facebook or Twitter)
- In a store / retailer
- Somewhere else (Please briefly describe)
- Don't remember

21. Have you ever participated in an Energy Trust of Oregon program? Please select one.

That could mean getting an Energy Saver Kit, getting free light bulbs or a discount or money back from Energy Trust (for energy-efficient light bulbs, smart thermostats, appliances, etc.), using a free service (like an assessment or audit), or using an Energy Trust contractor to install a heating or cooling system, water heater, windows insulation, etc.

- Yes, I participated in my **current** home
- Yes, I participated in a **previous** home that I owned or rented
- Not sure
- No, but I looked into Energy Trust programs or services
- No, I have never participated or looked into participating
- Other (Please briefly describe)

→ Please skip to question 24

→ Continue with question 22

↓  
Continue with question 22

**If you selected either “yes” response or “not sure,” please skip to question 24. If you selected “no” or “other,” please continue with questions 22 and 23.**

22. What are the main reasons you haven’t used one of Energy Trust of Oregon’s programs, services or discounts? Select all that apply.

- I wasn’t aware of programs like this
- My bills aren’t high enough to worry about
- I cannot afford the project / purchase
- It’s not worth the time or effort
- The discount or rebate isn’t enough
- I’m not eligible / qualified
- My landlord deals with that
- I do not want to ask my landlord
- There are other issues with my home that need to be fixed first
- I need more information
- Something else (Please briefly describe)

23. What would make it easier for you to participate in an Energy Trust program in the future?

**If you rent your home, please skip to question 25.**

24. Would you be interested in either of these financing options for making energy efficiency improvements? Select all that apply.

- Low-interest loan (with no fees) for making energy-efficient improvements
- On-bill financing for making energy-efficient improvements (repay the loan on your utility bills)
- Neither of these
- Other (Please briefly describe)



25. Have you purchased or installed new light bulbs in the last year for that address?




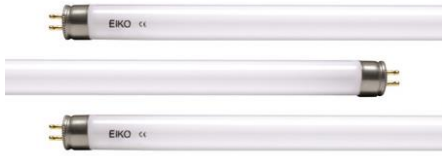

- Yes → Please answer questions 26 through 28 before continuing to question 29.
- No
- Not sure
- Other (Please explain)

→ If you selected any of these, please skip to question 29 on the next page.

If you selected “yes,” please also answer questions 26 through 28 before continuing to question 29.

If you selected “no,” “not sure,” or “other,” please skip to question 29 on the next page.

26. What type of bulbs did you buy? Circle the image below that’s closest to what you bought. Circle all types that you bought.

<p><b>LED – Screw-In</b></p>  <p>LED (light-emitting diode) bulbs come in a variety of shapes. Many LEDs look like standard incandescent bulbs and screw into regular light sockets. They emit less heat and last longer than incandescents. Many are ENERGY STAR® certified.</p>	<p><b>LED – Linear</b></p>  <p>These linear lights are similar to tube fluorescent bulbs but are more energy efficient. They may have two prongs at the end where they will fit into an existing, or upgraded, socket.</p>
<p><b>Incandescent or Halogen</b></p>  <p>Standard-shaped bulbs with a wire filament that go in screw-in sockets. Halogen bulbs are similar, but more efficient, than standard incandescent bulbs. Other shapes and sizes are often used in spotlights or floodlights</p>	<p><b>Linear Fluorescent</b></p>  <p>These are long tube light bulbs that can range from 4 to 12 feet. They go into lighting bays that are often covered by a plastic film. Their ends have two prongs that plug into the sockets</p>
<p><b>CFL bulbs</b></p>  <p>The most common type of CFL is spiral-shaped - made with a glass tube bent into a “twisty” shape. Sometimes the twisty shape is covered like the picture on the right.</p>	<p><b>Something else</b> (Please describe it):</p>

27. Where did you buy new light bulbs? (If you bought online from any of these retailers, please select that retailer). Select all that apply.

- |   |   |
|---|---|
| <input type="checkbox"/> Dollar Tree    | <input type="checkbox"/> Walgreens  |
| <input type="checkbox"/> Ace Hardware   | <input type="checkbox"/> Habitat ReStore  |
| <input type="checkbox"/> Fred Meyer     | <input type="checkbox"/> Costco   |
| <input type="checkbox"/> Goodwill       | <input type="checkbox"/> Batteries Plus   |
| <input type="checkbox"/> Bi-Mart        | <input type="checkbox"/> Lowes  |
| <input type="checkbox"/> Dollar General | <input type="checkbox"/> Do-it-Best   |
| <input type="checkbox"/> Walmart        | <input type="checkbox"/> Amazon.com   |
| <input type="checkbox"/> The Home Depot | <input type="checkbox"/> Somewhere else (please <input style="width: 150px; height: 20px; border: 1px solid black;" type="text"/> |
| <input type="checkbox"/> Target         | Identify briefly)   |
| <input type="checkbox"/> True Value     | <input type="checkbox"/> Don't remember   |

28. Were the bulbs you bought marked or advertised as discounted or on sale, or as “Instant discounts on Energy STAR® LEDs” from Energy Trust? Select all that apply.

- Marked/advertised as “discounted” or “on sale”
- Marked/advertised as “Instant discounts on STAR® LEDs” from Energy Trust of Oregon
- None of these
- Don't remember

29. Does this building have solar panels? (solar photovoltaic system?)

- Yes
- No
- Not sure

**If you rent your home, please skip to question 32.**

30. When you need to fix or replace something in this home/property, do you usually hire a professional or do it yourself (including help from friends or family)? Please check one box for each statement:

	Hire a professional	Do it myself or with help from friends or family	Not Sure
Plumbing issues (like a clogged or leaky drain or pipe)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install a new appliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change the air filter in your furnace or air conditioner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fix a door or window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

31. Before today, were you aware that Energy Trust of Oregon offers any of the following? Select all that apply.

- Free assessment of your home’s solar potential
- A customized bid for the cost (and benefits) of installing solar panels
- Discounts for installing solar panels (additional incentives beyond the federal tax credit)
- Help finding a contractor to install solar panels
- No, I was not aware of any of these before today

**Energy Trust of Oregon wants to serve everyone - all races, ethnicities, income levels, and communities. The next few questions will be used to make sure Energy Trust is serving everyone. Anything you share will remain confidential.**

32. Which categories describe your race, ethnicity or origin? Select all that apply.

- |   |   |
|---|---|
| <input type="checkbox"/> White or Caucasian               | <input type="checkbox"/> Filipino   |
| <input type="checkbox"/> Hispanic, Latino or Spanish      | <input type="checkbox"/> Korean   |
| <input type="checkbox"/> Black or African American        | <input type="checkbox"/> Japanese   |
| <input type="checkbox"/> Native American or Alaska Native | <input type="checkbox"/> Other Asian  |
| <input type="checkbox"/> Middle Eastern or North African  | <input type="checkbox"/> Native Hawaiian or Other Pacific Islander              |
| <input type="checkbox"/> Asian Indian                     | <input type="checkbox"/> Some other race, ethnicity or origin (please identify) |
| <input type="checkbox"/> Chinese                          | <input type="text"/>  |
| <input type="checkbox"/> Vietnamese                       | <input type="checkbox"/> Prefer not to answer                                   |

33. What is the primary language spoken at home?

- |   |  |
|---|--|
| <input type="checkbox"/> English                      | <input type="checkbox"/> Arabic                    |
| <input type="checkbox"/> Spanish                      | <input type="checkbox"/> Hindi                     |
| <input type="checkbox"/> Chinese - Mandarin           | <input type="checkbox"/> Persian (including Farsi) |
| <input type="checkbox"/> Chinese - Cantonese          | <input type="checkbox"/> French                    |
| <input type="checkbox"/> Japanese                     | <input type="checkbox"/> German                    |
| <input type="checkbox"/> Korean                       | <input type="checkbox"/> Other (please identify)   |
| <input type="checkbox"/> Tagalog (including Filipino) | <input type="text"/>                               |
| <input type="checkbox"/> Vietnamese                   | <input type="checkbox"/> Prefer not to answer      |
| <input type="checkbox"/> Russian                      |  |

34. How many people in each age group live in your home full-time? Don't forget to include yourself!

- |                            |                      |
|----------------------------|----------------------|
| Children under 5 years-old | <input type="text"/> |
| Children 5–17 years old    | <input type="text"/> |
| Adults 18–24 years old     | <input type="text"/> |
| Adults 25–44 years old     | <input type="text"/> |
| Adults 45–64 years old     | <input type="text"/> |
| Adults age 65 or older     | <input type="text"/> |

35. Which of the following ranges describes your total 2019 household income before taxes?

- Less than \$30,000 per year
- \$30,000 - \$49,999
- \$50,000 - \$69,999
- \$70,000 - \$99,999
- \$100,000 - \$199,999
- \$200,000 or more
- Don't know

36. We are interested in the employment status of adults in your household. Do any of the adults in your household fit into these categories? Select all that apply.

- Employed for wages or salary
- Self-employed
- Retired
- Stay-at-home parent or caregiver
- Not employed for medical or disability reasons
- Not employed for other reasons
- Other (please briefly describe)

37. What is your highest level of education?

- Elementary
- Some high school
- High school graduate
- Some college
- College graduate
- Postgraduate degree
- Don't know

**Thank you for your time today! As a thank you for completing this survey, we will send you a \$15 Visa® gift card that you can use like a debit card.**

**You may receive your gift card by email or postal mail. Please provide the name your and either your email address or your mailing address. (No need to provide both.)**

<b>Name:</b>  
<b>Email address (if you want the gift card by email):</b>  
<b>Postal address (if you want the gift card by postal mail):</b>
<b>Street address:</b> _____
<b>Unit or apt. number:</b> _____
<b>City:</b> _____
<b>Zip code:</b> _____

Thank you. If you provided an email address to receive the e-gift card, please look for an email from ADM Associates (@admenergy.com) **within the next 4-6 weeks**. If you provided a mailing address, please look for an envelope from ADM Associates **within the next 4-6 weeks**.

**Thank You!**  
**Please use the included stamped and addressed envelope to return the survey**

**Spanish Version**

## Energy Trust of Oregon 2020 Customer Insights Study

¡Gracias por tomarse el tiempo de llenar la encuesta! Sus respuestas a las preguntas nos ayudarán a entender como los habitantes de Oregón usan la electricidad y calefacción en sus hogares, lo que ayudará a que más personas reduzcan sus facturas de energía usando los servicios de Energy Trust. Le pedimos que sigan las instrucciones cuidadosamente para que responda las preguntas correctas.

Por favor, recuerde que esta encuesta es sobre la dirección indicada al inicio de la carta adjunta. Pero si esta dirección es una propiedad que usted le alquila a otros, es una dirección comercial o si se mudó de esa dirección hace más de un año, entonces no necesitamos que llene la encuesta. Gracias por su consideración y el tiempo prestado.

Cuando haya llenado la encuesta, por favor envíela usando el sobre con la estampilla y la dirección marcada.

1. ¿Es la dirección indicada al inicio de la carta adjunta su residencia principal?

- Sí, es mi residencia principal
- No, tengo otra dirección como mi residencia principal

2. ¿Alquila o es propietario (usted u otra persona del hogar) de la propiedad en esta dirección?

- Soy propietario → **Por favor conteste la pregunta 4**
- Alquilo
- Vivo allí, pero no pago alquiler
- Otra (especifique)

Si ha seleccionado cualquiera de estas respuestas, por favor responda la pregunta 3.

- No estoy seguro → **Por favor conteste la pregunta 3**

**Dependiendo cómo haya respondido la pregunta 2, por favor conteste la 3 o la 4 pero no ambas.**

3. ¿Cuáles de las siguientes opciones describen la propiedad en esta dirección?

- Vivienda pública, subsidiada o accesible
- Residencia para ancianos o personas con discapacidades
- Vivienda convencional o con precio de mercado
- Otra (especifique)

- No estoy seguro
- Por favor continúe con la pregunta 5.**

4. ¿Qué opción describe mejor la propiedad en esta dirección?

- Propiedad en alquiler (la alquilo a otras personas)
- Dirección comercial (no es una casa)
- Casa donde vivo todo o la mayor parte del tiempo
- Segunda casa o casa de vacaciones
- Otra (especifique)

**Por favor continúe con la pregunta 5.**

**Muchas gracias, desafortunadamente usted no califica para esta encuesta y no necesita reenviarla.**

**Para el resto de esta encuesta le haremos preguntas sobre la vivienda en la dirección indicada al inicio de la carta adjunta. Por favor responder de acuerdo con la dirección indicada.**

5. ¿Qué opción describe mejor la propiedad en esta dirección?

- Casa unifamiliar independiente
- Casa unifamiliar conjunta (unidades pegadas con paredes compartidas) (casa adosada)
- Casa de huéspedes o unidad de vivienda complementaria
- Casa móvil o prefabricada
- Dúplex (2 unidades)
- Inmueble con 3 o más unidades (departamentos o condominios)
- Otra (especifique) → **Y luego por favor conteste la pregunta 6**

Si ha seleccionado cualquiera de estas respuestas, por favor continúe con la pregunta 7

→ **Por favor conteste la pregunta 6**

Si su respuesta la pregunta 5 fue “Inmueble con 3 o más unidades” u “Otra,” entonces conteste la pregunta 6.

6. ¿Cuántas unidades hay en el edificio aproximadamente?

- 2
- 3 a 4
- 5 a 9
- 10 a 19
- 20 a 49
- Más de 50
- Otra (especifique)

Para todos: por favor conteste la pregunta 7.

7. ¿Aproximadamente cuántos años hace que vive en esta dirección?

- Menos de un año
- Entre 1 a 2 años
- Entre 3 y 5 años
- Entre 6 y 10 años
- Más de 10 años

8. ¿Ud. tiene conocimiento o escuchó hablar de alguno de los siguientes productos o servicios gratuitos en Oregon que brindan ayuda para que las personas puedan disminuir el gasto en electricidad o calefacción? Seleccione todas las opciones que correspondan.

- Kits gratuitos para ahorrar energía (caja con focos/bombillas, regaderas de ducha o grifos de flujo bajo)
- Evaluación o auditoría gratuita de energía del hogar
- Reciclaje gratuito de artefactos eléctricos (p. ej., refrigeradores viejos)
- Sellado de aire o conductos, o climatización gratuitos
- Mantenimiento (tune up) gratuito de casas móviles/prefabricadas (sellado de aire y conductos)
- Ninguna de las anteriores → Por favor continúe con la pregunta 10
- No estoy seguro → Por favor continúe con la pregunta 10

Si ha  
seleccionado  
cualquiera de  
estas respuestas,  
por favor  
conteste  
también la  
pregunta 9.

Si su respuesta a la pregunta 8 fue “ninguna de las anteriores” o “no estoy seguro,” por favor continúe con la pregunta 10.

Si ha seleccionado cualquiera de las otras respuestas, por favor continúe con la pregunta 9.

9. ¿Qué organizaciones ofrecen los productos o servicios gratuitos que conoce?

- PGE / Portland General Electric
- Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
- Avista
- Northwest Natural
- Cascade Natural Gas
- Energy Trust of Oregon
- Estado de Oregon
- Programa de Asistencia de Climatización de Oregon (Weatherization Assistance Program)
- Agencia gubernamental local
- Acción sin fines de lucro local (ej. Comedores gratuitos, escuelas u otras organizaciones)
- Otra (especifique)
- No estoy seguro

10. ¿Ud. ha escuchado sobre reembolsos o descuentos (rebates) para instalar productos, equipos o artefactos eléctricos de bajo consumo?

- Reembolsos o descuentos para focos/bombillas
- Reembolsos o descuentos para sistemas de calefacción, aires acondicionados, calentadores de agua (horno, bomba de calor, etc.)
- Reembolsos o descuentos para artefactos eléctricos (como Refrigeradores, lavavajillas, lavadoras o secadoras)
- Reembolsos o descuentos para insulación, sellado de aire o conductos en ventanas
- Reembolsos o descuentos por sistemas de energía solar o renovable
- Reembolsos o descuentos en termostatos inteligentes
- Otros (especifique)
- Ninguno de estos → **Por favor continúe con la pregunta 12**
- No estoy seguro → **Por favor continúe con la pregunta 12**

**Si ha seleccionado cualquiera de estas respuestas, por favor conteste la pregunta 11.**

**Si ha seleccionado “ninguna de las anteriores” o “no estoy seguro,” por favor continúe con la pregunta 12.**

**Si ha seleccionado cualquiera de las otras respuestas, por favor conteste también la pregunta 11.**

11. ¿Qué organizaciones ofrecen los reembolsos (rebates) o descuentos de los que escuchó hablar? Seleccione todas las opciones que correspondan.

- PGE / Portland General Electric
- Pacific Power / Pacific Power & Light (PP&L) / PacifiCorp
- Avista
- Northwest Natural
- Cascade Natural Gas
- Energy Trust of Oregon
- Estado de Oregon
- Programa de Asistencia de Climatización de Oregon
- Agencia gubernamental local
- Organización sin fines de lucro (ej., comedores gratuitos, escuelas y otras organizaciones)
- Tienda (Walmart, Lowes, Home Depot, Sears)
- Fabricante
- Otra (especifique)
- No estoy seguro



12. Actualmente, existen muchos recursos y mucha información para mantener o mejorar su hogar. ¿Qué recursos utiliza para su hogar, si es que usa alguno? Seleccione todas las opciones que correspondan.

- Lo hago yo mismo
- Contratista o constructor
- Videos de YouTube
- Sitios web, blogs u otros recursos en línea
- Energy Trust of Oregon
- Agencia gubernamental
- Amigos o familiares
- El propietario de la vivienda que alquilo
- Mi empresa de servicio público de electricidad
- Mi empresa de servicio público de gas
- Mi ciudad o barrio
- Estado de Oregón
- Mi iglesia, sinagoga, mezquita o templo
- Una organización comunitaria o barrial
- Personal de las tiendas de mejora para el hogar (como Home Depot o Lowes)
- Ninguna de las anteriores
- Otra (especifique)
- No story seguro

13. ¿Qué facturas de servicios públicos paga en esta casa/propiedad? Seleccione todas las opciones que correspondan.

- Electricidad
- Gas natural
- Combustible de calefacción o gas propano
- Ninguna de las anteriores
- Otra (especifique)

14. ¿Cómo calefacciona esta casa/propiedad? Seleccione todas las opciones que correspondan.

- Gas natural
- Electricidad
- Combustible de calefacción
- Gas propano/envasado
- Leña
- Otra (especifique)
- No estoy seguro

15. Indique si está de acuerdo o en desacuerdo con las siguientes afirmaciones

	Completamente en desacuerdo	Parcialmente en desacuerdo	Ni de acuerdo ni en desacuerdo	Parcialmente de acuerdo	Completamente de acuerdo	No lo sé
Me preocupa no contar con suficiente dinero para pagar mis facturas de electricidad o servicios públicos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Si mi factura de electricidad o servicios públicos aumenta, siento que debo hacer algo para reducirla.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es importante que mi hogar tenga una temperatura agradable, aunque la factura de electricidad sea más alta.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Me preocupa que la electricidad/energía se corte durante tormentas o emergencias.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A menudo pago más por productos ecológicos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Siempre estoy buscando formas de reducir el costo de mis facturas de electricidad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Estoy dispuesto a pagar más por energía que provenga de fuentes renovables.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. ¿Qué aspecto considera que es el más importante en cuanto el uso de energía eléctrica en Oregon? Seleccione las dos opciones más importantes.

- Energía renovable:** cambiar a energía proveniente del sol, viento, agua o de desechos
- Confiabilidad:** mantener un flujo constante de energía en todo momento (minimizar los cortes)
- Asistencia:** ayudar a las personas que lo necesitan a reducir el costo de la energía eléctrica
- Eficiencia energética:** hacer que nuestros hogares sean más eficientes (que consuman menos energía)
- Capacidad de adaptación/recuperación:** preparar los hogares, negocios y el sistema de energía para imprevistos (tormentas o desastres naturales)
- Accesibilidad:** hacer que la energía sea accesible para todos
- Salud y comodidad:** Mantener la calidad del aire del interior y temperaturas agradables

17. Cuando escucha “Energy Trust of Oregon,” ¿en qué piensa?

18. Queremos saber cuánto sabe de Energy Trust of Oregon. ¿Usted diría que...?

- Nunca había escuchado sobre Energy Trust of Oregon con anterioridad
- Había escuchado el nombre “Energy Trust of Oregon”, pero solo eso
- Conozco **un poco** sobre los descuentos, reembolsos y servicios que ofrece Energy Trust
- Conozco **mucho** sobre los descuentos, reembolsos y servicios que ofrece Energy Trust
- Otra (especifique)

→ **Por favor continúe con la pregunta 25 en la página 9.**

→ **Si ha seleccionado cualquiera de estas respuestas, por favor conteste la pregunta 19 a 24.**

Si nunca había escuchado sobre Energy Trust of Oregon antes del día de hoy, por favor continúe con la pregunta 25 en la página 9.

Si usted respondió que sí había escuchado, por favor conteste las preguntas del 19 al 24, dentro de la caja gris, antes de continuar con la pregunta 25.

19. ¿Había escuchado o conoce a Energy Trust por medio de alguna de las siguientes personas u organizaciones? Seleccione todas las opciones que correspondan.

- Mi empresa de servicios públicos
- Un contratista
- Un asistente de ventas (tienda o negocio)
- Una organización local o comunitaria
- El gobierno local, de mi barrio o ciudad
- Amigos o familiares (boca a boca)
- Otro (especifique)
- No lo recuerdo

20. ¿Dónde ha visto o escuchado información sobre Energy Trust of Oregon? Seleccione todas las opciones que correspondan

- TV/televisión
- Radio o radio por Internet
- Publicación o periódico impresos
- Publicidad en línea
- Sitio web
- Video en línea o por Internet
- Cartel publicitario
- Mi factura de servicios públicos
- Correo directo (carta o tarjeta postal)
- Redes sociales (Facebook o Twitter)
- Tienda o negocio
- En otro lugar (especifique)
- No lo recuerdo

21. ¿Participó alguna vez en algún programa de Energy Trust of Oregon?

Esto podría ser recibir un kit para ahorrar energía, bombillas/focos gratis o un descuento o reembolso (rebate) de Energy Trust (por la compra de focos/bombillas de bajo consumo, termostatos inteligentes, artefactos eléctricos del hogar, etc.), recibir una evaluación o auditoría de su hogar o utilizar un contratista de Energy Trust para la instalación de un sistema de calefacción o refrigeración, calentador de agua, insulación para ventanas, etc.

- Sí, participé en mi casa **actual**
- Sí, participé en una casa **anterior** de la que era propietario o alquilaba
- No estoy seguro
- No, pero busqué información sobre los programas o servicios de Energy Trust of Oregon
- No, nunca participé ni busqué participar
- Otra (especifique)

Por favor continúe con la pregunta 24

Por favor continúe con la pregunta 22

↓  
Por favor continúe con la pregunta 22

**Si ha seleccionado “Sí” o “No estoy seguro,” por favor continúe con la pregunta 24.  
Si ha seleccionado “No” u “Otra,” entonces pase a las preguntas 22, 23 y 24.**

22. ¿Cuáles son los motivos principales por los que no ha utilizado uno de los programas, servicios o descuentos de Energy Trust of Oregon? Seleccione todas las opciones que correspondan.

- No conocía este tipo de programas
- Mis facturas no son tan altas como para preocuparme
- No puedo afrontar el costo del proyecto o la compra
- No vale la pena el tiempo o esfuerzo
- El descuento o reembolso no es suficiente
- No califico/no reúno los requisitos
- El propietario de la casa que alquilo se ocupa de eso
- No quiero pedírselo al propietario de la casa que alquilo
- Hay otros problemas en mi casa que deben solucionarse antes
- Necesito más información
- Otra (especifique)

23. ¿Qué haría más fácil que participe en un programa de Energy Trust en el futuro?

**Si usted alquila/renta su hogar, por favor continúe con la pregunta 25.**

24. ¿Le interesaría cualquiera de estas opciones de financiación para ayudar a reducir el costo de sus facturas de servicios públicos?

- Préstamo con tasa de interés baja (sin cargos) por hacer mejoras en la eficiencia energética
- Financiación contrafactura por realizar mejoras de eficiencia energética (devuelva el préstamo con las facturas de servicios públicos)
- Ninguna de las anteriores
- Otra (especifique)

25. ¿Ha adquirido o instalado nuevos focos/bombillas en el último año para su hogar?




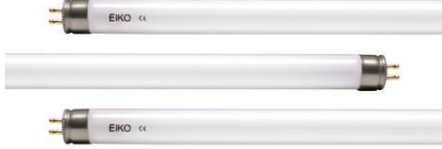

- Sí → **por favor conteste de la pregunta 26 hasta la 28 antes de continuar con la pregunta 29.**
- No
- No estoy seguro
- Otro (especifique)

**Si ha seleccionado cualquiera de estas respuestas, por favor continúe**

**Si ha seleccionado “sí,” por favor conteste de la pregunta 26 hasta la 28 antes de continuar con la pregunta 29.**

**Si ha seleccionado “no,” “no estoy seguro,” u “otro,” por favor continúe con la pregunta 29.**

26. ¿Qué tipo de focos/bombillas compró? A continuación, haga clic en la imagen que más se acerque a lo que compró.

<p><b>Luces LED: a rosca</b></p>  <p>Los focos LED (diodo emisor de luz) vienen en distintas formas. Muchos focos LED se parecen a los focos estándar incandescentes y se colocan en los portalámparas comunes. Emiten menos calor y duran más que los focos incandescentes. Muchos cuentan con la certificación ENERGY STAR®.</p>	<p><b>Luces LED: lineales</b></p>  <p>Estas luces lineales son similares a los tubos fluorescentes, pero tienen una mayor eficiencia energética. Pueden tener dos puntas en el extremo para poder colocarlas en portalámparas existentes o modernos.</p>
<p><b>Incandescentes o halógenos</b></p>  <p>Focos con forma estándar y un filamento de alambre, que se colocan en los portalámparas a rosca. Los focos halógenos son similares, pero más eficientes que los focos incandescentes estándar. A menudo, se usan otras formas y otros tamaños en los focos y reflectores.</p>	<p><b>Fluorescente lineal</b></p>  <p>Son los focos alargados con forma de tubo que pueden medir entre 4 y 12 pies. Se colocan en compartimentos para luces que, a menudo, pueden cubrirse con un film plástico. Sus extremos tienen dos puntas que se enchufan en los portalámparas.</p>
<p><b>Focos LFC</b></p>  <p>El tipo más común de lámpara fluorescente compacta (LFC) es el que tiene forma de espiral, que se fabrica con un tubo de vidrio doblado de manera “serpenteante”. A veces, la parte serpenteante está cubierta, como en la foto de la derecha.</p>	<p><b>Otra opción</b> (describala):</p>

27. ¿En dónde compró nuevos focos/bombillas? (Si los compró en línea en alguna de las siguientes tiendas, selecciónela).

- |   |  |
|---|--|
| <input type="checkbox"/> Dollar Tree    | <input type="checkbox"/> Walgreens                   |
| <input type="checkbox"/> Ace Hardware   | <input type="checkbox"/> Habitat ReStore             |
| <input type="checkbox"/> Fred Meyer     | <input type="checkbox"/> Costco                      |
| <input type="checkbox"/> Goodwill       | <input type="checkbox"/> Batteries Plus              |
| <input type="checkbox"/> Bi-Mart        | <input type="checkbox"/> Lowes                       |
| <input type="checkbox"/> Dollar General | <input type="checkbox"/> Do-it-Best                  |
| <input type="checkbox"/> Walmart        | <input type="checkbox"/> Amazon.com                  |
| <input type="checkbox"/> The Home Depot | <input type="checkbox"/> En otro lugar (especifique) |
| <input type="checkbox"/> Target         | <input type="checkbox"/> No lo recuerdo              |
| <input type="checkbox"/> True Value     |  |

28. ¿Los focos/bombillas que compró estaban marcados, se publicitaban como productos con descuento, en oferta o como “descuentos instantáneos en LED ENERGY STAR®” de Energy Trust? Seleccione todas las opciones que correspondan.

- Marcadas o publicitadas como productos “con descuento” o “en oferta”
- Marcadas o publicitadas como “descuentos instantáneos en LED ENERGY STAR®” de Energy Trust of Oregon
- Ninguna de estas opciones
- No lo recuerdo

29. ¿La propiedad donde vive tiene paneles solares? (¿Sistema fotovoltaico solar?)

- Sí
- No
- No estoy seguro

**Si usted alquila/renta su hogar, por favor continúe con la pregunta 32.**

30. Cuando debe reparar o reemplazar algo en esta casa o propiedad, ¿qué hace habitualmente? ¿Contrata a un profesional o lo hace Ud. mismo (o con ayuda de amigos o familiares)?

	Contrato a un profesional	Lo hago yo mismo o con ayuda de amigos o familiares	No estoy seguro
Problemas de plomería (como un desagüe o una tubería tapados o con pérdidas)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instalar un nuevo aparato eléctrico	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cambiar el filtro de aire del horno o aire acondicionado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reparar una puerta o ventana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instalar insulación	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

31. ¿Sabía con anterioridad que Energy Trust of Oregon ofrece alguno de los siguientes servicios? Seleccione todas las opciones que correspondan.

- Evaluación gratuita del potencial solar de su hogar
- Un presupuesto personalizado del costo (y los beneficios) de la instalación de paneles solares
- Descuentos por la instalación de paneles solares (incentivos adicionales además del crédito impositivo federal)
- Ayuda para encontrar un contratista que instale paneles solares
- No, no conocía ninguno de estos servicios hasta hoy

**Energy Trust of Oregon quiere prestar servicios a toda la comunidad en general, sin distinción alguna de raza, género, etnia, niveles de ingresos, etc. Las próximas preguntas se usarán para garantizar que Energy Trust esté prestando los mismos servicios a todos. Todos los datos que comparta serán estrictamente confidenciales.**

32. ¿Qué categorías describen su raza, etnia u origen? Seleccione todas las opciones que correspondan.

- |  |   |
|--|---|
| <input type="checkbox"/> Blanco o caucásico                      | <input type="checkbox"/> Filipino   |
| <input type="checkbox"/> Hispano, latino o español               | <input type="checkbox"/> Coreano  |
| <input type="checkbox"/> Negro o afroamericano                   | <input type="checkbox"/> Japonés  |
| <input type="checkbox"/> Nativo de América del Norte o de Alaska | <input type="checkbox"/> Otro origen asiático                                     |
| <input type="checkbox"/> De Medio Oriente o África del Norte     | <input type="checkbox"/> Nativo de Hawái o de otra de las Islas del Pacífico      |
| <input type="checkbox"/> Asiático Indio                          | <input type="checkbox"/> Otra raza, etnia u origen                                |
| <input type="checkbox"/> Chino                                   | <input type="checkbox"/> <input style="width: 300px; height: 20px;" type="text"/> |
| <input type="checkbox"/> Vietnamita                              | <input type="checkbox"/> Prefiero no responder                                    |

33. ¿Cuál es el idioma principal que se habla en su casa?

- |  |   |
|--|---|
| <input type="checkbox"/> Inglés                        | <input type="checkbox"/> Árabe  |
| <input type="checkbox"/> Español                       | <input type="checkbox"/> Hindi  |
| <input type="checkbox"/> Chino (mandarín)              | <input type="checkbox"/> Persa (incluido el farsi)                                |
| <input type="checkbox"/> Chino (cantonés)              | <input type="checkbox"/> Francés  |
| <input type="checkbox"/> Japonés                       | <input type="checkbox"/> Alemán   |
| <input type="checkbox"/> Coreano                       | <input type="checkbox"/> Otra (especifique)                                       |
| <input type="checkbox"/> Tagalo (incluido el filipino) | <input type="checkbox"/> <input style="width: 300px; height: 20px;" type="text"/> |
| <input type="checkbox"/> Vietnamita                    | <input type="checkbox"/> Prefiero no responder                                    |
| <input type="checkbox"/> Ruso                          |   |

34. ¿Cuántas personas de cada rango de edades viven en su casa en todo momento? No olvide incluirse a usted.

- |                               |  |
|-------------------------------|--|
| Niños menores de 5 años       | <input style="width: 100px; height: 20px;" type="text"/> |
| Niños de entre 5 y 17 años    | <input style="width: 100px; height: 20px;" type="text"/> |
| Adultos de entre 18 y 24 años | <input style="width: 100px; height: 20px;" type="text"/> |
| Adultos de entre 25 y 44 años | <input style="width: 100px; height: 20px;" type="text"/> |
| Adultos de entre 45 y 64 años | <input style="width: 100px; height: 20px;" type="text"/> |
| Adultos mayores de 65 años    | <input style="width: 100px; height: 20px;" type="text"/> |



35. ¿Cuál de los siguientes rangos describe los ingresos totales de su hogar en 2019 antes de impuestos?

- Menos de \$30,000 por año
- Entre \$30,000 y \$49,999
- Entre \$50,000 y \$69,999
- Entre \$70,000 y \$99,999
- Entre \$100,000 y \$199,999
- \$200,000 o más
- No lo sé

36. Nos interesa la situación laboral de los adultos de su hogar. ¿Entra en estas categorías alguno de los adultos de su hogar? Seleccione todas las opciones que correspondan.

- Empleado con un sueldo o salario
- Trabajador independiente
- Jubilado
- Padre, madre o cuidador que se queda en el hogar
- Desempleado por motivos médicos o de discapacidad
- Desempleado por otros motivos
- Otra (especifique)

37. ¿Cuál es su nivel más alto de educación?

- Escuela primaria
- Escuela secundaria (incompleta)
- Graduado de escuela secundaria
- Universidad (incompleta)
- Graduado de la universidad
- Título de posgrado
- No lo sé

**¡Gracias por su tiempo! A modo de agradecimiento por responder a la encuesta, le enviaremos una tarjeta de regalo Visa® con \$15 que puede usar como una tarjeta de débito.**

**Usted tiene la opción de recibir la tarjeta de regalo por correo electrónico o postal. Por favor ingrese su nombre y su dirección electrónica o postal. No hay necesidad de darnos ambos.**

<b>Nombre:</b>
<b>Dirección de correo electrónico (Si prefiere recibir la tarjeta de regalo por CORREO ELECTRÓNICO):</b>
<b>Correo Postal (Si prefiere recibir la tarjeta de regalo por CORREO):</b>
<b>Calle:</b> _____
<b>Número de unidad o departamento:</b> _____
<b>Ciudad:</b> _____
<b>Código postal:</b> _____

Gracias. Si proporcionó un correo electrónico para recibir la tarjeta de regalo, busque una respuesta de ADM Associates (@admenergy.com) en las próximas **4 a 6 semanas**. Si proporcionó una dirección postal, busque un sobre de ADM Associates en las próximas **4 a 6 semanas**.

**¡Gracias!**

**Por favor use el sobre prepagado con nuestra dirección que hemos incluido para**

## E. Appendix E: Recruitment Materials

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### Initial Recruitment Letter – English Version

[DATE]

[CUSTOMERNAME]

[ADDRESS\_STREET]

[ADDRESS\_CITY], [ADDRESS\_CITY] [ADDRESS\_ZIP]

Dear [SALUTATION],

You have been selected among a small group of Oregonians to take a short survey about power and heat in your home, and your utility bills. Your input is very important: It will help Energy Trust of Oregon, an independent non-profit, improve programs and services so that more people can save energy and lower their utility bills.

As a thank you for your time, we'll send you a **\$15 gift card** after you complete the survey. Can you help us by taking this **confidential** 10-minute survey?

You can use any device with internet (phone, computer or tablet) to take the survey.

Type this link in your browser: [www.energytrust.org/survey](http://www.energytrust.org/survey)

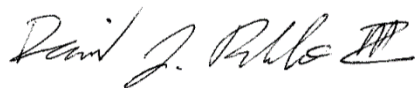
Use this access number to get started: [ACCESS\_NUMBER]

If you don't have internet access or would like to take the survey by phone, please call 1-855-907-1775 between 6:00 a.m. and 5:00 p.m. If you have any trouble taking the survey, please contact Noah Saeteurn at ADM Associates at [surveyinfo@ADMenergy.com](mailto:surveyinfo@ADMenergy.com).

Please complete the survey by February 15, 2020 to receive the \$15 gift card!

We value your time and privacy. Your contact information, and anything you share in the survey, will be kept confidential. Learn more about the survey at [www.energytrust.org/customerinsights](http://www.energytrust.org/customerinsights).

Thank you!



Dan Rubado, Evaluation Project Manager  
Energy Trust of Oregon

**Initial Recruitment Letter – Spanish Version**

[DATE]

[CUSTOMERNAME]

[ADDRESS\_STREET]

[ADDRESS\_CITY], Oregón [ADDRESS\_ZIP]

Hola [SALUTATION]:

Ud. se encuentra entre un pequeño grupo de personas residentes de Oregon elegidas para completar una encuesta breve sobre la electricidad y calefacción de su hogar, y sobre sus facturas de servicios públicos. Su aporte es muy importante: ayudará a Energy Trust of Oregon, una organización sin fines de lucro local, a mejorar sus programas y servicios para que más personas puedan ahorrar energía y disminuir el costo de sus facturas de servicios públicos.

A modo de agradecimiento por su tiempo, le enviaremos una **tarjeta de regalo con \$15** al finalizar la encuesta. ¿Puede ayudarnos completando esta encuesta **confidencial** de 10 minutos?

Puede utilizar cualquier aparato con Internet (teléfono, computadora o tableta) para realizar la encuesta.

Ingrese este enlace en su navegador: [www.energytrust.org/survey](http://www.energytrust.org/survey)

Utilice este número de acceso para comenzar: [ACCESS\_NUMBER]

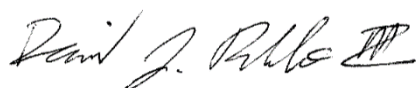
Si no tiene acceso a Internet o desea tomar la encuesta por teléfono, llame al 1-855-907-1775 de 6:00 a.m. a 5:00 p.m. Por cualquier inconveniente que surja mientras realiza la encuesta, puede contactarse con Noah Saeteurn

de ADM Associates al correo [surveyinfo@ADMenergy.com](mailto:surveyinfo@ADMenergy.com)

¡Complete la encuesta antes del 15 de febrero de 2020 para recibir la tarjeta de regalo con \$15!

Valoramos su tiempo y respetamos su privacidad. Su información de contacto y cualquier dato que comparta en la encuesta será confidencial. Si desea saber más sobre la encuesta, puede ingresar a [www.energytrust.org/customerinsights](http://www.energytrust.org/customerinsights).

¡Gracias!



Dan Rubado, Gerente de Proyectos de Evaluación  
Energy Trust of Oregon

## Follow-up Post Card – English and Spanish

Dear [SALUTATION],

We recently mailed you an invitation for a survey about power and heat in your home. Your input will help more people save energy and lower their utility bills through Energy Trust of Oregon's services.

*We only need 50 more responses from your area! Can you help us reach our goal?*

As a thank you, we'll send you a **\$15 gift card**.

Type this link in your browser:  
[www.energytrust.org/survey](http://www.energytrust.org/survey)  
Use your access number:  
**[ACCESS\_NUMBER]**

Please complete the survey by February 28, 2020. Your information will be kept confidential. If you would like to take the survey by phone, please call 1-855-907-1775 between 6:00 a.m. and 5:00 p.m.

Thank you,  
Dan Rubado  
Energy Trust of Oregon

Hola [SALUTATION],

Recientemente le enviamos una invitación a participar de una encuesta sobre la electricidad y calefacción de su hogar. Su participación ayudará a más personas a ahorrar energía y reducir el gasto en sus facturas a través de los servicios que ofrece Energy Trust of Oregon.

*Necesitamos sólo 50 personas más en su área. ¿Podría ayudarnos a alcanzar esta meta?*

A modo de agradecimiento, le enviaremos **una tarjeta de regalo con \$15**.

Ingrese este enlace en su navegador:  
[www.energytrust.org/survey](http://www.energytrust.org/survey)  
Utilice este número de acceso:  
**[ACCESS\_NUMBER]**

Favor de completar la encuesta antes del 28 de Febrero de 2020. La información que nos brinde será mantenida en confidencialidad. Si desea realizar la encuesta por teléfono, llame al 1-855-907-1775 de 6:00 a 17:00hs.

¡Gracias!  
Dan Rubado  
Energy Trust of Oregon



Energy Trust of Oregon is dedicated to helping 1.6 million utility customers in Oregon and Southwest Washington save energy and generate renewable power. We serve customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas, and Avista.

## Initial Email Recruitment – English Version

(To see this email in Spanish, click here)

Dear [contact("first name")],

You have been selected among a small group of Oregonians to take a short survey about power and heat in your home, and your utility bills. Your input is very important: It will help Energy Trust of Oregon, an independent non-profit, improve programs and services so that more people can save energy and lower their utility bills.

As a thank you for your time, we'll send you a **\$15 gift card** after you complete the survey. Can you help us by taking this **confidential** 10-minute survey?

[Click Here to Start the Survey](#)

**Use this access number to get started:** [invite("custom 1")]

You can use any device with internet (phone, computer or tablet) to take the survey. If you can't click the link above, please copy and paste this link into your browser:

**<https://www.energytrust.org/survey>** and enter your access number: [invite("custom 1")]

If you don't have internet access or would like to take the survey by phone, please call 1-855-907-1775 between 6:00 a.m. and 5:00 p.m (PST) and give them the access number [invite("custom 1")].

Please complete the survey by March 14, 2020 to receive the \$15 gift card!

Thank you! We value your time and privacy. Your contact information, and anything you share in the survey, will be kept confidential. Learn more about the survey at [www.energytrust.org/customerinsights](http://www.energytrust.org/customerinsights). If you have any trouble taking the survey, please contact Noah Saeteurn at ADM Associates at [surveyinfo@ADMenergy.com](mailto:surveyinfo@ADMenergy.com).

Dan Rubado, Evaluation Project Manager  
Energy Trust of Oregon  
421 SW Oak St, Suite 300  
Portland, OR 97204

1.866.368.7878  
[energytrust.org](http://energytrust.org)

## Initial Email Recruitment – Spanish Version

(Para ver este email en Español, haga click aquí)

Hola [contact("first name")],

Ud. se encuentra entre un pequeño grupo de personas residentes de Oregon elegidas para completar una encuesta breve sobre la electricidad y calefacción de su hogar, y sobre sus facturas de servicios públicos. Su aporte es muy importante: ayudará a Energy Trust of Oregon, una organización sin fines de lucro local, a mejorar sus programas y servicios para que más personas puedan ahorrar energía y disminuir el costo de sus facturas de servicios públicos.

A modo de agradecimiento por su tiempo, le enviaremos una tarjeta de regalo con \$15 al finalizar la encuesta. ¿Puede ayudarnos completando esta encuesta confidencial de 10 minutos?

[Haga click aquí para comenzar la encuesta](#)

Utilice este número de acceso para comenzar: [invite("custom 1")]

Puede utilizar cualquier aparato con Internet (teléfono, computadora o tableta) para realizar la encuesta.

Si no puede acceder a través del enlace anterior, copie y pegue este enlace en su navegador.

**<https://www.energytrust.org/survey>** e ingrese su número de acceso: [invite("custom 1")]

Si no tiene acceso a Internet o desea tomar la encuesta por teléfono, puede llamar al

1-855-907-1775 de 6:00 a.m. a 5:00 p.m (PST) y brindar su número de acceso [invite("custom 1")].

¡Por favor complete la encuesta antes del 14 de marzo de 2020 para recibir su tarjeta de regalo de \$15!

¡Gracias! Valoramos su tiempo y respetamos su privacidad. Su información de contacto y cualquier dato que comparta en la encuesta será confidencial. Si desea saber más sobre la encuesta, puede ingresar a [www.energytrust.org/customerinsights](http://www.energytrust.org/customerinsights). Por cualquier inconveniente con la encuesta, contacte a Noah Saeteurn de ADM Associates a través del correo electrónico [surveyinfo@ADMenergy.com](mailto:surveyinfo@ADMenergy.com).

Dan Rubado, Gerente de Proyectos de Evaluación  
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## Reminder Email Recruitment – English Version

(To see this email in Spanish, click here)

Hello [contact("first name")],

We recently invited you to take a short survey about power and heat in your home, and your utility bills. We have not yet met our goal number of responses to our survey.

*Can you be one of the 100 people who gets us to that goal?* Your input will help Energy Trust of Oregon, an independent non-profit, improve programs and services so that more people can save energy and lower their utility bills. As a thank you for your time, we'll send you a **\$15 gift card** after the survey.

[Click Here to Start the Survey](#)

Use this access number to get started: [invite("custom 1")]

If you can't click the link above, please copy and paste this link into your browser:

<https://www.energytrust.org/survey> and enter your access number: [invite("custom 1")]

You can use any device with internet (phone, computer or tablet) to take the survey.

If you would like to take the survey by phone, please call 1-855-907-1775 between 6:00 a.m. and 5:00 p.m. (PST) and give them the access number [invite("custom 1")].

Please complete the survey by March 14, 2020 to receive the \$15 gift card!

If you already completed the survey – Thank you!

Thank you! We value your time and privacy. Your contact information, and anything

you share in the survey, will be kept confidential. Learn more about the survey at [www.energytrust.org/customerinsights](http://www.energytrust.org/customerinsights). If you have any trouble taking the survey, please contact Noah Saeteurn at ADM Associates at [surveyinfo@ADMenergy.com](mailto:surveyinfo@ADMenergy.com).

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## Reminder Email Recruitment – Spanish Version

(To see this email in Spanish, click here)

Hello [contact("first name")],

We recently invited you to take a short survey about power and heat in your home, and your utility bills. We have not yet met our goal number of responses to our survey.

*Can you be one of the 100 people who gets us to that goal?* Your input will help Energy Trust of Oregon, an independent non-profit, improve programs and services so that more people can save energy and lower their utility bills. As a thank you for your time, we'll send you a **\$15 gift card** after the survey.

[Click Here to Start the Survey](#)

Use this access number to get started: [invite("custom 1")]

If you can't click the link above, please copy and paste this link into your browser:

<https://www.energytrust.org/survey> and enter your access number: [invite("custom 1")]

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