



Existing Multifamily Program Process Evaluation

Final Report

Prepared for Energy Trust of Oregon

December 20, 2019

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I Executive Summary

Energy Trust of Oregon works with Lockheed Martin to implement the Existing Multifamily Program through five tracks: buy-down, common area lighting, standard, direct install, and custom. This evaluation sought to answer a series of research questions aimed at better understanding participant motivations, identifying opportunities for additional participation, and chronicling program successes and challenges. Methods included in-depth interviews with program staff, program participants, distributors, trade allies, and Allied Technical Assistance Contractors (ATACs). The research questions are listed in Appendix A, mapped to the sections of this report.

Based on participant and program staff perspectives, it is apparent that Energy Trust's Existing Multifamily Program is:

- Yielding high satisfaction among a varied group of participants.
- Leveraging past participation data to understand what program offerings may be of interest to participants and using this information to inform program direction.
- Providing the necessary information and financial incentives to encourage participants to pursue efficiency upgrades, often when replacing equipment for a non-energy related reason.
- Presenting opportunities to further participation in future upgrades.

Our research also identified that Energy Trust has opportunities to provide additional ideas for efficiency opportunities to multifamily decision-makers through both walkthrough surveys and in-person engagement when interacting during program participation. This can be achieved by increasing awareness of walkthrough surveys or technical analysis studies and continuing to bring up "additional opportunities" when feasible during direct interactions with participants.

Participants identified cost as the largest barrier to participating further in Energy Trust offerings. From the perspective of program staff, challenges include reduced cost effectiveness of measures that draw initial participants into the program; the additional work necessary to reach smaller multifamily buildings, which often results in lower savings than their larger counterparts; and the diverse set of market segments, which require various communication strategies and messaging.

Contractors (mostly participating trade allies), ATACs, and distributors were generally satisfied with the program. Below, we share findings from each group:

- **ATACs:** ATACs receive projects both from internal leads and from Energy Trust, with the majority of projects moving forward after technical assistance studies. Project failure was reportedly due to either cost effectiveness hurdles or payback

limitations. Two of the four firms we interviewed reported that work opportunities come through the Reserve Studies they do for condominium and homeowner associations (HOAs). ATACs were also happy with the turnaround time for study reviews. They expressed interest in knowing more about the study assignment process, and felt that there is low awareness among multifamily buildings about the particular service that they offer.

- **Distributors:** There are very few distributors involved with the program. The two we heard from reported that there are no large problems getting projects approved and that participation is easy, though one firm expressed frustration at having to keep track of which measures were in the multifamily buy-down track and not eligible for buy-down through other Energy Trust programs. Most distributors sell a single measure rather than a package of measures.
- **Contractors/Trade Allies:** Of the 30 contractors interviewed, nearly half specialize in HVAC, and only two were not part of any program trade ally network at Energy Trust. This group was very satisfied with most elements of the Energy Trust Existing Multifamily Program, with the exception of its marketing, though this was not a large concern. Many respondents rely on prior relationships for work, and see further potential in this market. Contractors work locally and incorporate incentives into their bids, and nearly half have taken advantage of some of Energy Trust's marketing funds, though they use the residential, not multifamily, funds. Contractors believe participation is easy for customers, and report having a clear understanding of how to navigate the client approval process, though HOAs remain challenging.

We have the following recommendations for Energy Trust of Oregon's consideration:

Leverage high satisfaction rates by participants for word-of-mouth marketing. Consider obtaining testimonials and encouraging multifamily managers to mention their program participation and Energy Trust to their peers (internally or externally).

Continue to maintain relationships with past participants so Energy Trust is top-of-mind when exploring future opportunities. To the extent feasible during interactions with participants, record future equipment upgrade needs and approximate dates so that the program can reach out at those times. Increase awareness of the Energy Portfolio Newsletter for participants, which introduces new program offers, reminds them of existing ones, and provides tips oriented around standard maintenance and replacement needs. To some extent, participants reported that follow-ups from Energy Trust already occur among larger multifamily building owners and operators, but not uniformly so, and that they are less common among smaller participants.

Differentiate marketing messages and program offers (if possible) between for-profit multifamily investors and non-profit organizations that offer housing to clients. The latter group is more open to efficiency opportunities that benefit tenants, but also may be more financially constrained, thereby needing more assistance.

Prioritize investor-owned properties over tenant-owned ones. Doing so would mitigate what appears to be lower program influence among participants in the individual unit owner group.

Expand marketing and outreach to increase awareness of the walkthrough survey technical analysis studies and its benefits. This became a clear need as conveyed through both participant and ATAC interviews. Energy Trust should continue to recognize the high value of interpersonal interactions between program representatives and multifamily decision-makers that occurs during these technical services to provide suggestions and plant seeds for efficiency improvements.

Include more information about upgrade costs and benefits in program information.

Consider more direct outreach to potential participants by telephone. Such outreach was well received by participants and spurred their participation. Targeted outreach to potential participants with high savings potential would be ideal. These calls could include a telephone screener to identify potential opportunities and then attempt to drive participants to a direct install or a walkthrough survey, if appropriate.

Provide additional information to ATACs including information about how the assignment process is conducted, and an explanation of the 10-year payback limit. Several ATACs expressed uncertainty about the process by which studies are assigned, and one did not understand why some of the potential studies they referred to the program were assigned to other firms. An annual review of the number of studies brought by ATACs and assigned by the program might encourage this kind of transparency.

Encourage ATACs and contractors to clearly communicate the amount of time needed for technical analysis studies (TASs) or site assessment as part of a custom project. Timelines and decision points should be explained to customers and agreed upon at the time a study is approved so that all parties understand the steps involved and the length of time between study initiation and approval.

Consider a multi-measure bonus when more than one buy-down-qualifying piece of equipment is installed. This may help to push customers to deepen program participation. One distributor suggested that customers would be interested in dishwashers though these are no longer cost effective.

Work to expand the number of distributors involved in the buy-down track, particularly in underserved areas.

Maintain and encourage cooperation between trade ally representatives of the Existing Multifamily, Existing Residential and Existing Buildings programs. For example, representatives from each program could send out a yearly reminder to all their trade allies and non-trade ally contractors telling them about other Energy Trust programs in which their customers might be able to participate, along with appropriate contact information.

Increase communications with inactive trade allies to encourage their participation. For example, consider a bonus incentive for the first project brought in by an Existing Multifamily trade ally after a full year of inactivity and use this to refresh interest in the program among the many inactive allies.

Consider a bonus incentive for multi-measure packages installed in a single building or individually owned unit.

Where possible, expedite the application approval and rebate payment processes.

Expand program outreach to homeowner associations (HOAs), condominium boards and property management firms for apartments to ensure they are aware of the Existing Multifamily Program. This could include targeted fact sheets explaining, for example, the benefits of replacing resistance heat with ductless heat pumps or the multiple advantages of high efficiency windows for multifamily buildings.

Tailor Existing Multifamily marketing materials to fit varied contractor business models. Most HVAC, window and insulation contractors primarily target residential customers, while lighting contractors primarily target commercial buildings.

Memo

To: Board of Directors

From: Kate Wellington, Multifamily Program Manager
Sarah Castor, Evaluation Sr. Project Manager

cc:

Date: January 30, 2020

Re: Staff Response to the Existing Multifamily Program Process Evaluation

The Existing Multifamily program process evaluation found the program is operating well and achieving high satisfaction among participants, trade allies and contractors. Effectively serving the existing multifamily market requires tailoring offerings and communications to many different customer types and decision makers, and the evaluation concluded the program is using appropriate strategies to do so. In particular, the program is using participation data and external data sources to understand where opportunities for energy efficiency exist and where the program can provide additional resources in the form of outreach, trade ally and contractor support, and changes to offerings encourage new and repeat participation.

The program will use the results of the evaluation to propose program improvement for 2020. Moving forward, the program will continue to focus on reengaging past participants to encourage additional energy saving projects while increasing outreach to previously underserved customers. In coordination with other Energy Trust programs, Existing Multifamily program staff is actively pursuing development of new measures and adjustments to key existing measure to maintain and improve cost-effectiveness. The program will coordinate with the Residential and Existing Buildings programs to effectively engage customers.

In 2020, the Existing Buildings and Existing Multifamily program management contracts are being rebid together. The evaluation summarizes key information about the program in advance of the request for proposals (RFP) for the program management contract and will be a resource for those interested in bidding.

2 Background

Energy Trust of Oregon's Existing Multifamily Program consists of five tracks; all five tracks are implemented by Lockheed Martin, which in some cases subcontracts to other organizations.

- **Buy-Down** – This track focuses on a set of measures that are likely to be purchased at the distributor level including appliances, water heaters, and HVAC. Energy Trust is considering expanding this to additional measures in the future but is cautious about what this means for other market actors that may utilize non-distributor channels.
- **Common Area Lighting** – This track is run across multiple Energy Trust programs (beyond just the Existing Multifamily Program) but is contracted to Lockheed Martin for the Existing Multifamily Program. Lockheed Martin subcontracts part of its work for this track to Evergreen Consulting Group.
- **Standard** – This track includes deemed savings measures, which are reevaluated on a regular basis to stay current with building codes and market data and to assess new technologies.
- **Direct Install** – This track is responsible for a large portion of program savings but is threatened by diminishing cost effectiveness for lighting measures that attract customers to participate. Lockheed Martin subcontracts direct install field services to CLEAResult.
- **Custom** – This track is utilized when there are complex projects that cannot go through the standard track. The program works with a set of Allied Technical Assistance Contractors (ATACs) to produce studies of potential energy savings before measures are installed. These studies include both higher-level site evaluations and more focused technical analysis studies (TASs), which comprise both large scale studies and shorter, lower-cost analyses that typically evaluate a single measure.

The program serves a total of six market segments:

- Campus Living
- Homeowner Associations
- Affordable Housing
- Individually Owned Units
- Market Rate
- Assisted Living

2.1 Program Management

The Existing Multifamily Program is implemented by Lockheed Martin staff. Lockheed Martin utilizes a number of teams to implement the five program tracks. These teams include marketing; an Energy Advisor team that works with property managers, owners, contractors, and trade allies; and an operations-based department that works with customers and midstream partners and trade allies. In addition, an engineering team focuses on measure development, and a program development team works on process improvements. One staff member is dedicated entirely to the trade ally network.

2.1.1 Communication and Coordination

Staff from Energy Trust and staff from Lockheed Martin both reported that they are pleased with the communication between the organizations. They have weekly scheduled check-in meetings in person, in addition to breakout meetings that cover topics such as marketing, operations, and measure development. Beyond communication with staff directly involved in the Existing Multifamily Program, there is also coordination within Energy Trust in cases where it makes sense for residential and commercial programs to collaborate. This often includes staff beyond program managers.

2.1.2 Recent Program Changes

The program has made changes in the past two years, partially in response to prior evaluations:

- Placing emphasis on reengagement efforts, particularly with past direct install track participants.
- Shifting marketing from sales sheets to short videos to make information “more digestible for different customer types.”
- Shifting select measures to midstream and retail delivery channels.
- Developing relationships with industry and community-based organizations to help increase awareness of program offerings and to plan revisions of collateral to be “reflective of various communities,” including translation of materials into other languages.
- Incorporating Savings Within Reach into the Existing Multifamily Program. This offering was available for single-family homeowners with incomes below the state median level, and by offering it to the multifamily sector, the program manager hopes that this will expand accessibility for low- and moderate-income multifamily homeowners.
- Expanding On-Bill Repayment offerings to be available to multifamily customers.

2.1.3 Future Program Changes

Staff reported considering the following changes to the program in the future:

- Expand buy-down and midstream offerings to include additional high potential measures. Staff are cautious about how midstream expansion impacts trade allies.
- Focus on helping existing and future customers take on program offerings that will lead to deeper savings. This includes continuing to leverage data to target customers.

2.2 Market Segments

Something that sets the multifamily sector apart from other sectors is the sheer variety of actors from market segments that are involved with decision making. Decision makers vary by market segment and can include property management groups and companies; ownership groups at, and directors of, assisted living facilities; owners of multifamily building housing units; maintenance staffs; community groups; affordable housing groups; housing authorities; campus living and university staff; fraternity and sorority housing staff; and home owner associations. Renters are served indirectly through these market segments and are beneficiaries of program participation.

In Table 1, we share the motivation and drivers shared by program staff for key market segments along with the challenges that are specific to each market segment.

Table 1: Motivations, Drivers, and Challenges by Market Segment as Reported by Program Staff

Market Segment	Motivation and Drivers	Challenges
Campus Living	Cost savings are motivating since owners often cover utility costs for tenants. High understanding of operational costs.	Making it clear which program offerings are available for residential buildings vs. general campus facilities.
Homeowner Associations	Reduction of dues, specifically from lower operating costs for central systems.	Lining up with long term planning and getting consensus from multiple stakeholders.
Affordable Housing	Focused on anything that serves affordable housing authorities' broader mission.	Constrained in terms of capital and can alternately leverage Oregon Housing and Community Services (OHCS) programming.
Individually Owned Units	Decreased maintenance and increased comfort. Some customers are drawn to energy efficiency as an indicator of personal values.	Clarifying the correct program in which to participate, given that residential program marketing often resonates with this group.
Market Rate	Customer satisfaction and tenant comfort. Focused on return on investment.	Split incentives. Current high demand for units means that they do not need to improve units to avoid vacancies.
Assisted Living	Health benefits. Staff understands operational costs and large systems.	Some management companies work across various states and have been “soured by experiences” with other energy efficiency programs.
Renters	Lower bills, comfort and health benefits.	Split incentives. Difficult to justify investing in energy efficiency when they are uncertain of how long they will remain in a space.

Beyond the market segments listed in the table above, there are additional ways to view possible program participants, including underserved markets, or small versus large multifamily properties.

2.3 Underserved Markets and/or Customers

Energy Trust has set Diversity, Equity and Inclusion (DEI) goals that apply to all Energy Trust programs; specific to the Existing Multifamily Program, these goals are to increase participation among multifamily customers who live, and to trade allies who work, in

underserved areas. At the higher level, Energy Trust has brought DEI stakeholders into a Diversity Advisory Council to better understand how to meet its goals.

Lockheed Martin has identified customer groups with lower program participation rates, including two- to nine-unit multifamily complexes, and properties outside of the Portland and Bend areas.

Lockheed Martin has assigned dedicated account management staff in targeted regions in the state. There has been an active representative in Central Oregon since 2013, who also conducts outreach to Eastern Oregon. An additional account management role was added in Southern Oregon in 2017 in response to the addition of Avista service territory. The Southern Oregon staff member has “great relationships with trade allies down there,” according to one staff member.

In addition to dedicating account managers to areas with low participation rates, Lockheed Martin has worked to recruit trade allies who can help bring HVAC skills to these regions. Lockheed Martin reported that this has already led to five additional contractors in areas with low participation rates.

2.4 Driving Deeper Savings

In addition to conducting outreach to smaller multifamily buildings, the Existing Multifamily Program is focused on reengaging with past program participants to encourage continued program participation. The program manager reported that “The program has some really robust reengagement savings that we’ve continued to build on year after year.” The current program strategy for driving deeper savings includes:

- **Reviewing common pathways.** Direct install participation is often a first step, and the next track of interest is often the standard track.
- **Personal touch.** Energy advisors check in with past contacts to build on past relationships and encourage further participation.
- **Mining permit data.** Lockheed Martin staff reported that they have mined city- and county-level permit data to understand which customers may be due for an upgrade such as a boiler. This allows for more direct marketing and pathways for reengagement.

The commercial sector lead foresees that operations and maintenance offerings could help with deeper savings in the future, though they have struggled to find savings in this sector. Staff also reported that there are challenges to implementing an operations and maintenance track.

2.5 Guiding Customer Participation

Walkthrough surveys and technical analysis studies give decision makers a sense of what they can get through the Existing Multifamily Program and can inform groups that need longer-term planning (such as Market Rate, Affordable Housing, Assisted Living, and Campus Living market segment customers) so that they have “a much better sense of what they can get....[and have a] much better plan going into the next year.” Implementation staff also reported that this in-person interaction helps establish a relationship with the decision maker at a site.

Walkthrough surveys and technical analysis studies were reported by Lockheed Martin to be very helpful for customers that do not have internal support for gathering and assessing technical information or for planning for the future.

2.6 Measure Mix and Development

Measures are examined on a regular basis to assess if energy savings are accurate and inform whether they should be modified, removed, or studied and added to the program. The 2019 Implementation Manual identified the following eligible measure categories:

- Lighting
- HVAC Equipment
- Water Heaters (excluding standard electric water heaters after June 30, 2018)
- Appliances
- Weatherization
- Food Service Equipment

One staff member focused on measure development reported that they are considering the following measures in the future:

- Line-voltage thermostats;
- Retrofit controllers for rooftop units;
- Thermostatic shower restriction valves;
- Condensing rooftop units; and
- Central heat pump water heaters.

Major challenges with new measures are a lack of data from the same or similar climate zones, and that studies can be costly and difficult to implement. Despite these challenges, they have seen some success, such as adding reflectors and specialty lighting to the direct install track, and incorporating smart thermostats and commercial tankless-on-demand water heating.



The measure development staff member reported that it could be helpful to vary baselines by property and customer types. The example they provided included assisted living customers who often prefer to have warmer spaces and have higher hours of occupancy.

3 Methodology

3.1 Documentation Review

Evergreen Economics reviewed the following documentation provided by Energy Trust:

- 2019 Program Implementation Manual
- Program monthly, quarterly, and annual reports produced by Lockheed Martin
- Energy Trust Trade Ally Survey Final Report
- Diversity, Equity and Inclusion Operations Plan
- Program staff contact information
- ATAC contact information
- Trade ally and contractor contact information
- Program participation data from 2017 through mid-2019

3.2 Staff Interviews

Evergreen set out to complete a total of six to eight interviews with staff involved in program implementation at Lockheed Martin and Energy Trust of Oregon. At the kickoff meeting conducted on May 28, 2019, the study team developed a contact list for interviewees, which included six staff members from Lockheed Martin and three staff members from Energy Trust.

Evergreen conducted two in-depth interviews with Energy Trust staff members (the program manager and the commercial sector lead), and also conducted an interview with a group of five staff members at Lockheed Martin who are involved with program implementation.

3.3 Participant Interviews

Evergreen Economics conducted telephone interviews with 43 customers who participated in the program in 2018 and early 2019 (Table 2).

Table 2: Participant Interview Disposition

	Direct Install	Lighting	Standard	Buy-Down	Custom
Available to Contact ¹	635	211	2,104	21	4
Contacted	128	111	524	8	3
Invalid contact info	4	16	19	2	1
Declined	0	3	12	3	0
No response	114	87	465	3	2
Interview completed	10	5	28	0	0

We were unable to complete any interviews with participants in the custom and buy-down tracks, as these participants either declined to provide feedback or no longer worked with the building that received the rebate.

Interviews are distributed across the various program tracks as well as across customer and property types, as shown in Table 3 and

¹ Excludes duplicate track participation, lack of contact information, and duplicate participation across multiple buildings.

Table 4.²

Table 3: Completed Interviews by Property Type

	Number of Interviews
Affordable Multifamily Property	6
Assisted Living	1
Individual Unit Owners	10
Campus Living	2
Homeowner Association	5
Market Rate Multifamily Property	19
Interviews completed	43

² We were not able to interview any recent participants in the custom track due to their low numbers or the appliance buy-down track because contact information was generally not available.

Table 4: Completed Interviews by Location

	Number of Interviews
Portland/Willamette Area	27
Rest of Area Served by Energy Trust ³	16
Interviews completed	43

The interviews were intended to:

- Provide feedback on the program experience;
- Provide insights on ways to engage past and future participants more deeply; and
- Inform Energy Trust decisions about program design.

To recruit participants for this phone interview, Evergreen Economics reached out to sampled participants via e-mail (when e-mail addresses were available) and requested a brief interview by telephone to provide feedback on their participation in the Energy Trust of Oregon Existing Multifamily Program. The initial recruiting e-mail requested 15 minutes of the participant’s time and included an Energy Trust of Oregon contact for validation of the legitimacy of the study. Evergreen followed up on e-mail outreach with telephone calls for the custom and buy-down program tracks to request an immediate or scheduled interview.

E-mails and telephone outreach specified the location of the project and the primary measure completed (e.g., HVAC replacement) to help the recipient put the request in context. The interviews, however, covered all measures that had been incentivized at that location (whether sampled for the interview or not) as well as the broader context in which the project was completed to understand non-incentivized work being done at the same time.

3.4 ATAC Interviews

Our team conducted interviews with four Allied Technical Assistance Contractors (ATACs) actively involved in providing energy studies to participants of the Existing Multifamily Program. In total, we contacted six ATACs for interviews: four of these

³ Five participants were located in Central Oregon, with three of the five coming from Bend.

ATACs completed an interview and two did not respond to our request for an interview. None declined to be interviewed.

3.5 Distributor Interviews

The Evergreen Economics team interviewed representatives from two companies participating in the Existing Multifamily Program buy-down offering. According to the program data for 2017-2019, there were 343 “Appliance Buydown” entries among the more than 17,000 records in the program data, and only two of the three companies listed in the “Installer” field for those entries had more than one transaction through the buy-down track. Both of those were selected for interviews.

3.6 Contractor Interviews

The Evergreen team completed 30 interviews with contractors, comprising trade allies in the Existing Multifamily Program network, trade allies in other program networks, and non-trade allies. Most interviews lasted from 25 to 35 minutes.

Multifamily trade allies had been classified as active or inactive based on whether they had completed projects in the 2018 program data provided by Energy Trust. The number and type of contractors who completed interviews is summarized in Table 5, using the program data to categorize respondents.

Table 5: Interviews by Project Count and Status from Contractor File

Number of projects	Multifamily Trade Allies	Other Program Trade Allies	Non-Trade Allies
10+	8	2	5
1-9	4	3	3
0	5		
Total	17	5	8

During the interviews with contractors, we asked them to self-report into the same categories, and the numbers shifted slightly (Table 6). Three of the non-trade allies reported that they were trade allies for other Energy Trust programs, two reported they were established Existing Multifamily trade allies, and one reported they had recently signed up for the Existing Multifamily trade ally network. In addition, one contractor identified as an “other program trade ally” in the data said they were also an Existing Multifamily trade ally. Misalignment of perceptions regarding trade ally status compared to that shown in the Energy Trust data did not show a pattern or trend, but included

commercial contractors who work with the Existing Buildings program, residential contractors who work primarily with the Existing Single-Family program, and a specialized supplier who works exclusively with multifamily properties.

Table 6: Interviews by Project Count and Status from Interviews

Number of projects	Multifamily Trade Allies	Other Program Trade Allies	Non-Trade Allies
10+	6	2	1
1-9	10	5	1
0	5		
Total	21	7	2

Sample Issues

We based our initial allocation of interviews between trade allies and non-trade ally contractors on the perception that the latter group contributed substantially to the number of projects completed through the Existing Multifamily Program. In addition, as noted above, when we received Energy Trust data on contractors and their associated projects, we initially found a substantial number of installers who were designated as non-trade allies and who had completed multiple projects through the Existing Multifamily Program.

We originally received a list of 516 names of market-based installers for Existing Multifamily projects in 2018, including 166 that were identified as being enrolled in the Existing Multifamily trade ally network (10 in the Existing Multifamily network only and 156 in the Existing Multifamily as well as in other networks), 123 enrolled as trade allies in other programs but not Existing Multifamily, and 227 identified as not being enrolled in any network.

Of the 227 non-trade allies, 14 were identified in the file as having done four or more projects in 2018. Of those 14:

- Seven were affiliated with or had been acquired by companies identified as either Existing Multifamily or other program trade allies, according to Lockheed Martin program staff.
- Of the remaining seven, one described itself as an Energy Trust trade ally on their website, leaving only six non-trade ally contractors with four or more projects each (a total of 30 projects). One of those turned out to be an assisted living facilities

supply house in the Midwest, and another was a Seattle-based LED lighting contractor, neither of which responded to our requests for interviews. We did complete interviews with two of the other four, but only two of the interviews that we had originally expected to be non-trade allies turned out to be true non-trade allies.

This led us to the conclusion that there may be fewer non-trade ally contractors than Energy Trust data currently indicates.

Another hurdle we encountered is that some of the “inactive” trade allies had no recollection of having signed up to be an Existing Multifamily trade ally or had done so only when they enrolled in another trade ally network. Several declined our request for an interview on the basis that they had no real knowledge of the program.

A significant percentage of the trade allies in other program networks were residential contractors who participated in the Existing Multifamily Program when they made a sale to the individual owner of a condo, duplex, or row house. In many of those cases, there was close and very effective cooperation between the Existing Residential and Existing Multifamily programs, despite those being implemented by different program management contractors (PMCs).

Because there were only two non-trade allies in our respondent sample, we did not break out the analysis for those two respondents separately.

4 Staff Interview Findings

In this section, we summarize the content of our interviews with staff involved in implementation of the Existing Multifamily Program as they relate to successes and challenges. Other staff findings are included in remaining sections to give context to findings from participant and contractor interviews.

4.1 Successes

Staff from both Energy Trust and Lockheed Martin reported a number of successes over the past two program implementation years. This includes a broad shift towards leveraging data to increase program participation and reaching out to market actors outside of metropolitan areas.

Lockheed Martin and Energy Trust have worked together to **merge multiple sets of data** (including participation data across program years and data on the broader building stock in the region), which they have then leveraged to guide the future direction of the program, including:

- **Identifying the direct install track as the main entry point to customers**, due to the no-cost nature of the offer. As one Energy Trust staff member reported, “Many folks, after direct install, go on to do other measures.” Lockheed Martin has analyzed various tracks to understand in which track customers are most likely to participate.
- **Analyzing regions where there is a lack of trade allies with certain skills, mapped against multifamily buildings that have not participated in the program.** Lockheed Martin uses these data to recruit specific contractors (such as HVAC contractors in Southern Oregon); this has led to program contractor enrollments.

In addition to making use of data, staff reported the following program successes:

- **Lockheed Martin has developed a separate marketing effort for homeowners**, for which it has adapted its slogan “It’s just smart business” into “It’s just smart living.”
- **There are high saturation rates** among larger customers and within the Assisted Living market segment. The Assisted Living market segment has the highest participation rate of all market segments, in part because participants in this segment are less likely to have an issue with the split incentive since the Assisted Living managers, rather than tenants, often pay individual unit energy bills, and they also value the health benefits that come with energy efficiency upgrades.

- According to Lockheed Martin staff, there is a **“high uptick in [participation from] priority communities”** (based on ethnicity or income levels) after a few years of focus on Diversity, Equity and Inclusion goals.
- **There is improved coordination with Oregon Housing and Community Services (OHCS)**, which also has offerings for the multifamily market. OHCS offerings are popular among Affordable Housing market segment customers, who must decide between OHCS offerings and Energy Trust’s offerings. OHCS offerings typically have higher incentives, but require different processes compared to Energy Trust. One Energy Trust staff member reported that Affordable Housing customers are well versed in navigating between these two program offerings.

4.2 Challenges

There is a long-documented history of challenges to program implementation in the multifamily sector in general. For this section, we focus on challenges beyond those that are well documented (such as split incentives) and examine current challenges to the Energy Trust Existing Multifamily Program.

The program is faced with declining cost effectiveness of key measures. As it currently stands, each measure must pass a cost effectiveness test on its own. Both Energy Trust staff members expressed concern that the declining cost effectiveness of LEDs specifically creates a challenge, as they are key in motivating customers to participate in the direct install track. Energy Trust has been granted an exception for direct install LEDs from the Oregon Public Utility Commission (OPUC) through March 2021.⁴ If the program cannot offer direct install LEDs after 2021, one staff member predicted that there may be a 60 to 80 percent decline in savings and participation with the remaining cost-effective instant savings measures (water devices and advanced power strips). The main concern is that not including direct install lighting will hinder the program’s ability to afford to do in-person direct install, and the staff member we spoke with was not confident that property managers would install remaining cost-effective measures, if left on site. Direct install is often the first point of contact a customer has, and its absence would make future engagement more challenging.

Ductless heat pumps have also declined in cost effectiveness and are a significant part of kWh savings for the program, in part due to the prevalence of electric resistance baseboards in the territory served by Energy Trust. Similar to LEDs, Energy Trust has been

⁴ On September 30, 2019, the OPUC granted a minor exception for Existing Multifamily direct install lamps. The exception was granted on the basis that inclusion of the measure helps to increase participation in a cost-effective program (Criteria D). The exception is valid through March 31, 2021, or until the measure represents at least 5 percent of the program’s savings.

granted an extension for ductless heat pumps.⁵ Without ductless heat pumps, one Energy Trust staff member noted that they may not have a heating option for a large group of customers.

Lockheed Martin staff also highlighted that declining cost effectiveness of measures can make contractors less willing to invest the time to learn about or push program offerings, given that there is less opportunity to use the program as a sales tool.

One possible solution mentioned by both Energy Trust staff was to find ways to encourage customers to install multiple measures in a project.

The program serves a diverse group of customers. One Energy Trust staff member indicated that it can be challenging to ensure that customers and contractors are aware of the appropriate program to leverage, while still using messaging that resonates with a varied customer group. "Multifamily" covers a wide range of customers, some of which may respond to marketing for the residential program, especially when they are homeowners for multifamily units that are smaller (a current focus of the program). Lockheed Martin staff also identified this as a large challenge, and noted that there is often contractor (custom and standard tracks) and customer confusion, in part due to different incentives across Energy Trust programs.

This need for streamlined program sorting is also presenting a challenge within the distributor buy-down track, where one Energy Trust staff member noted that as they consider moving measures to a midstream model, they need to consider how to avoid double counting where there are customers or contractors who may purchase measures directly from a retailer. Also within the distributor buy-down track, the multifamily program team must coordinate with the residential program team to work with the same set of distributors. This can sometimes cause confusion among distributors regarding program differences.

Yet another challenge in program sorting exists within the Campus Living market segment. These customers often have to participate in both the Existing Buildings Program (for non-housing campus buildings) and the Existing Multifamily Program.

⁵ On September 10, 2019, the OPUC granted an exception to allow Energy Trust to continue to offer ductless heat pumps to multifamily customers through March 31, 2022. The exception was "based on the potential DEI impacts and the opportunities for demand response (Criteria G), improved cost-effectiveness, as well as an anticipated reduction in cost (Criteria B), and consistency with other programs in the region (Criteria C)."

Even within a specific market segment, there can be varied pathways and needs. This is particularly true for the Market Rate segment, which can include large and small multifamily owners, varied property sizes, and multiple points of contact.

Energy Trust staff offered the following solutions to the challenge of cross-program confusion:

- Encourage deeper relationships with building managers to help them navigate the offerings.
- Include reference to multiple programs on residential program marketing materials.
- Encourage trade allies to learn about program differences. This can be challenging due to trade allies having minimal time to learn about multiple programs.
- Match the style of collateral for the Existing Multifamily program tracks so they look cohesive with other Energy Trust programs, while still creating distinct messaging on collateral and application forms regarding the various program options.
- Attend trade ally events across sectors and regions for the purpose of increasing awareness of program differences and opportunities.

Reaching owners of smaller multifamily properties such as plexes, smaller condo complexes, and townhomes is a challenge. These smaller multifamily properties have a variety of contact types including management or maintenance firms and property managers which may require slightly different approaches. With nearly two thirds of larger properties (50 or more units) served at some level, there is a need to identify and motivate owners of smaller multifamily properties to participate in the Existing Multifamily Program in some way as the program progresses. These smaller multifamily properties also offer lower savings per project compared to the larger buildings that the program has had success with in the past. They also are “more expensive to reach... [and common in] more remote locations.”

It can be difficult to find the correct point of contact at certain properties. The program implementer, Lockheed Martin, stressed that it is challenging to find the correct point of contact, specifically where there are “absentee landlords,” short-term rentals, and no property management group. In response to this, the implementer has shifted its focus to using data (such as permit records) to identify the correct contact, though once they reach the appropriate person, they are faced with the additional challenge of competing with other priorities with shorter returns on investment, including improvements to curb appeal and more immediately visually appealing upgrades.

It takes relationship building and repeated contact to encourage larger properties to pursue deeper energy savings. As mentioned above, a significant number of larger

multifamily properties have been served by some track of the Existing Multifamily Program. This is in part because there has been significant opportunity for savings with common area lighting, the availability of budget to spend on improvements, and the ability for decision makers to understand the link between investment in energy efficiency and the ability to increase rental rates. Currently, the program is focused on the opportunity to revisit properties that have participated in the program in the past to encourage further energy savings.

Many of the challenges listed above are interconnected. To appeal to smaller multifamily customers, the program would need to use marketing that is similar to the residential program messaging, and thus may accidentally lead customers to think that that is the appropriate pathway for participation. This increases the need for cross program coordination. The declining cost effectiveness of measures makes it harder to encourage program participation, while an increased focus on smaller projects leads to lower per-project savings overall.

5 Participant Interview Findings

Evergreen Economics conducted 43 telephone interviews with participants in the Energy Trust Existing Multifamily Program; these interviews yielded insights about decision-making, participant experience and satisfaction, and the extent to which they could be prompted to participate further. These interviews represent the breadth of multifamily participants, drawing primarily on participants in the standard, lighting, and direct install tracks, which encompass the vast majority of program participants.⁶

Results presented in this section are based primarily on qualitative research and based on patterns we observed among interviewee comments. Where we report quantitative results, we ask the reader to bear in mind that some participant types were overrepresented in our interview samples (as noted in the methodology section).

Efficiency upgrades obtained by interviewees included:

- Free installation of LED lights, low-flow showerheads, power strips, and similar low-cost items by the direct install track;
- Rebated lighting upgrades within the lighting track;
- Rebated shell measures, HVAC equipment, water heaters, standard in-unit appliances, and thermostats within the standard track;
- Rebated water heaters, clothes washers, and refrigerators within the buy-down track; and
- Financial incentives under the custom track for upgrades not covered by pre-defined program offers.

Overall, we found that Energy Trust's Existing Multifamily Program:

- Provides financial nudges and needed information for participants to pursue efficiency upgrades, often when replacing equipment for other reasons;
- Yields high satisfaction across all interviewed tracks and participant types;
- Has opportunities to encourage further participation in future upgrades of appliances and building equipment, but would need to stay engaged with participants so the program is top-of-mind when upgrades occur. This is most

⁶ Evergreen completed 43 interviews in total: 28 standard interviews, 10 direct install interviews, and 5 lighting interviews. We were unable to complete any interviews with participants in the custom and buy-down tracks, as these participants either declined to provide feedback or no longer worked with the building that received the rebate. Furthermore, there were only five custom track participants (one of which was listed as still active) and seven buy-down track participants with any customer contact information available among the projects completed in 2018, creating a limited sample for these interviews.

practical in tracks and situations in which Energy Trust program staff interact directly with participants and possibly less so when participation runs through trade partners only;

- Has opportunities to provide additional ideas for efficiency opportunities to multifamily decision-makers through both walkthrough surveys and in-person engagement, continuing to bring up “additional opportunities” when feasible during direct interactions with participants; and
- Would need to overcome potential participants’ cost barriers more than any other barriers to achieving additional efficiency in multifamily buildings.

5.1 Differences Among Building Types and Geography

We tried, with some success, to vary the participant interviews across building types and geographic regions (Table 3,

Table 4). Differences among these participants include:

- **Motivation:** Managers of non-profit organizations that provide affordable housing see their tenants as part of their mission and are more inclined to value reducing tenant energy costs when they are able to do so, compared to market rate building operators and for-profit owners of all rented housing where tenants incur the benefits of most efficiency upgrades. For market-rate and for-profit owners, there are few market-induced needs to provide value that accrues to the tenants unless it also includes savings for the building as a business.
- **Walkthrough survey interest:** Managers of affordable housing (particularly those from non-profit organizations or housing agencies) showed greater interest in walkthrough surveys than those who manage market rate properties, but acknowledged potentially more financial constraints in being able to follow through on recommendations.
- **Program influence:** Sixty percent of individual unit owners (six out of 10), in comparison to 16 percent of operators of apartment buildings (three of 19), reported that the Energy Trust incentive just reduced their costs for something they would have done anyway rather than influencing them to do something more energy efficient.
- **Financial constraints:** Participants outside the Portland metropolitan area and outside the Willamette Valley appeared less interested in energy efficiency overall, were more inclined to claim a rebate for changes they were making anyway, and faced more financial constraints to considering additional efficiency upgrades.

5.2 Drivers and Decision-Making

Through interviews with participants, Evergreen Economics sought to understand how sampled projects through Energy Trust came to be, what prompted them, and what motivators were at play.

Drivers and Motivators

Generally, program participants replaced aging or failing equipment, and the Existing Multifamily Program nudged them to select measures with higher efficiency levels and/or reduced their costs of doing so. Thirty-five participants (81 percent of all participant interviewees) mentioned upgrading aging equipment through Energy Trust (i.e., replacing old electric baseboards with a ductless heat pump), while eight participants (19 percent of

all participant interviewees) stated that they used the Energy Trust rebates to replace broken equipment.⁷

In addition, some participants mentioned that the rebate they received from Energy Trust allowed them to purchase appliances at a higher efficiency level than they would have chosen without the rebate. For example:

- One individual unit owner mentioned that they were able to purchase a more expensive, higher-grade washer solely because the rebate made the cost of the washer equal to lower-cost, less efficient washers; they were not focused on any efficiency gain from the rebated washer.
- One individual unit owner mentioned that the rebate allowed them to purchase a Nest thermostat instead of a regulator thermostat.
- One property manager at a market rate multifamily property mentioned that the program made LED bulbs financially accessible to their building, as the previous bulbs that they were using would burn out very quickly. This interviewee mentioned that they enjoyed the savings that they received, not only on the bulbs themselves, but also in terms of the money they could save the management company on maintenance.

Program's Role in Efficiency Upgrades

We asked participants both about the main driver behind the upgrades they had already completed with Energy Trust (to understand how the program influences decisions to upgrade) and the role that energy efficiency considerations play when they consider equipment replacements (to better understand future potential).

It appears that there is widespread interest in energy efficiency and appreciation of its importance among participants, but it is a moderate and secondary driver at best for most multifamily decision-makers. For-profit property managers in particular noted that their tenants accrue the bulk of any operational savings.

Property managers for non-profit organizations who see themselves as serving their lower-income tenants viewed the benefits of energy efficiency differently. They perceived efficiency upgrades as aligning with their missions and benefitting their clients. For

⁷ Percentages in this section of the report are shown for the reader's convenience, but should be interpreted with caution. The sample used for participant interviews and the qualitative nature of the interviews reduce the predictive or interpretive value of percentages. Readers should note that some geographies and participant types were intentionally oversampled, and some results are based on volunteered (unaided) comments, so the absence of a remark does not necessarily mean the reported condition did not exist.

example, one property manager specifically mentioned that they valued energy efficiency because of the fact that the building could lower electricity bills for the tenants living there.

Incentives

The incentives offered by Energy Trust were attractive to the participants for the measures they decided to implement. Generally speaking, participants commented that the incentives helped them push for more energy-efficient technologies. For property managers looking to upgrade to LED lighting in particular, the incentivized bulbs allowed them to make these transitions without having to financially justify their decisions to their management companies.

However, some participants, particularly individual unit owners, mentioned that they did not see the financial incentive as a significant factor in their decision-making process. For example, some participants (n=12, or 28 percent of the participant interviews) who replaced appliances commented that they would have proceeded with replacements of similar models anyway, and the rebates simply reduced their out-of-pocket costs.

Furthermore, for specific technologies that required a contractor to install the equipment (i.e., ductless heat pumps), a few participants expressed dissatisfaction with the available incentives. One participant specifically mentioned that the rates that Energy Trust trade allies charged were very expensive, and several others also commented that using Energy Trust trade allies was more expensive than other contractors or installers.⁸ As a result, the marginal costs of higher efficiency options canceled out any rebates they received.

Overall, the incentives offered by Energy Trust were generally appreciated by participants, particularly for property managers who were concerned about the costs of upgrading their technology. However, we cannot infer from their comments whether the incentive levels are set appropriately, and note that we did not speak with people who chose not to participate.

Information and Walkthrough Surveys

In addition to incentives, Energy Trust provides information and recommendations to its participants about energy efficiency opportunities. We sought to understand the degree to which participants recalled receiving such information – whether formally through walkthrough surveys or informally from the program representatives⁹ and trade allies with whom they interacted.

⁸ Energy Trust does not require the use of an Energy Trust trade ally to receive an incentive.

⁹ Interviewees did not distinguish between Energy Trust program staff and subcontractors working for the program. References to program representatives could mean either.

Some participants did volunteer that their program contact offered information on energy efficiency opportunities, and these suggestions seemed well received. Generally, these interactions occurred among direct install participants, where participants work with program implementation contractors rather than trade partners. Participants who mentioned direct interaction with Energy Trust program representatives (whether program staff or other program representatives, such as contractors) reported these conversations as informative and positive.

Beyond informal suggestions, Energy Trust offers a free walkthrough survey process. When asked, eight of the 43 participants we interviewed said they had received such a walkthrough survey either as part of their participation or previously, while several others were not sure whether the tips they had gotten from their program contact were part of a walkthrough survey or just informal program interaction. Those who received a walkthrough survey thought that the surveys were very informative. One property manager who participated in the standard track commended the detailed report that they received from Energy Trust, while another property manager who upgraded lighting through the lighting track mentioned that they were able to use the report to quantify their options when deciding which energy-efficient technologies to purchase.

We asked participants what they thought of walkthrough surveys, whether they had received one or not. While we did not formally assess awareness, it seemed that many participants who reported that they did not receive one were not aware of the walkthrough survey as a structured offering. When we described it, just under two-thirds of participants thought a walkthrough survey would be useful and provide value to their properties. Managers of affordable properties seemed to be particularly interested in walkthrough surveys, as five of the six interviewees from that building type who offered an opinion expressed interest.

Those who were more skeptical about the value of a walkthrough survey indicated that they already knew what needed attention or were satisfied with their efficiency levels. That is not to say that there are not efficiency opportunities appropriate for decision-makers with modest levels of interest in energy efficiency. The challenge for Energy Trust is in being able to match effort and outreach to customer interest and opportunities, which requires information beforehand about both the customer (from customer research or past interactions that are tracked in a customer relation management system) and the degree of opportunities (from customer consumption data and possibly benchmarking).

Learning About Energy Trust

We obtained sporadic information about how participants in the direct install and standard tracks first learned about Energy Trust and the program offer in which they participated. Those who volunteered this information tended to have learned about the program offer on Energy Trust's website or received a direct contact via telephone.

Lighting track participants are more likely to learn about the program after reaching out to lighting distributors, retailers, or contractors.¹⁰

Three participants did reveal confusion about various parts of the program while describing how their efficiency upgrade unfolded and their interaction with Energy Trust. All of these sources of confusion related to the Energy Trust offering or process. One participant did not understand what was offered, one misunderstood the process and scheduled an unnecessary visit from a representative, and one struggled to figure out how to submit the required materials for the rebate.

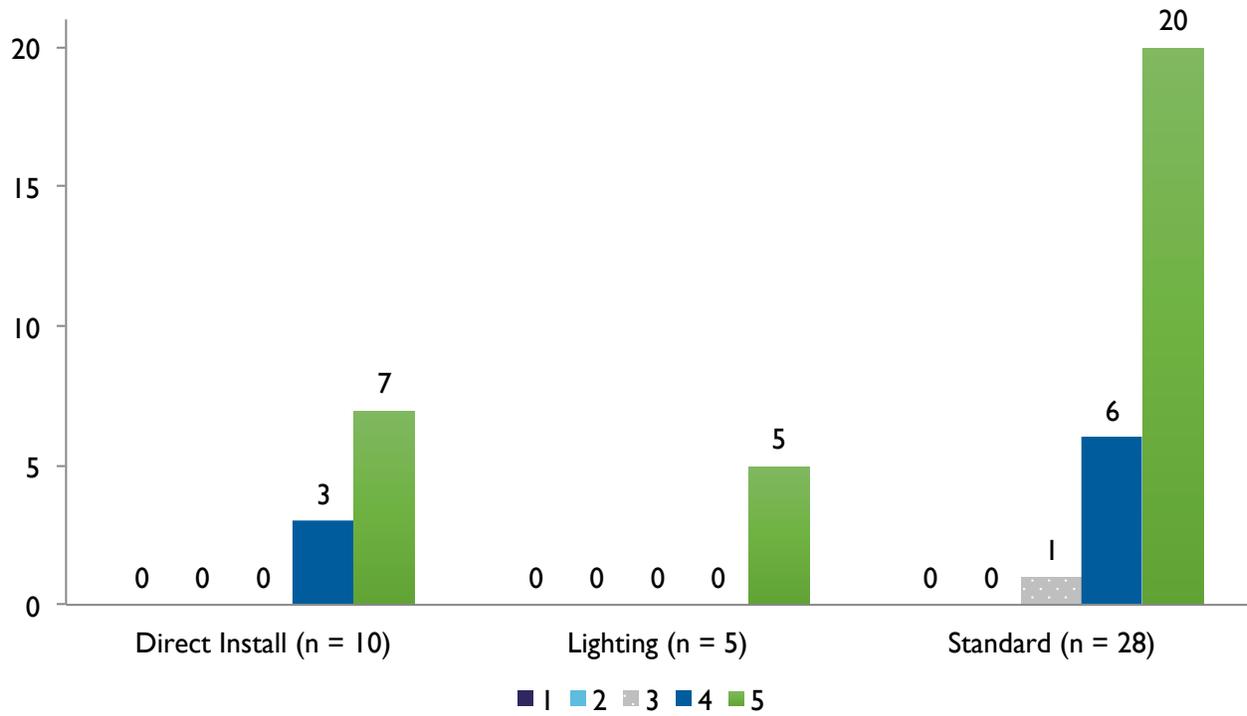
5.3 Participant Experience, Satisfaction, and Benefits

Participant satisfaction with Energy Trust, their experience with the Existing Multifamily Program, and the benefits they received were high. When asked to rate their experience with the program on a 5-point scale with 1 being very dissatisfied and 5 being very satisfied, 81 percent of interviewees rated the program higher than a 4. Most interviewees rated the program a 5, but a few offered a score of 4.5.¹¹ Figure 1 presents these results graphically by program track. All three program tracks included in the interviews (direct install, lighting, and standard) performed well; we do not consider differences shown here to be meaningful.

¹⁰ We did not specifically ask lighting track participants about their awareness of the Energy Trust program website.

¹¹ In Figure 1, Figure 2, and Figure 3, we classified non-whole number responses, such as 4.5, evenly between the next higher and next lower satisfaction scores.

Figure 1: Overall Participant Satisfaction by Program Track (n=43)



Similarly, there were no meaningful differences by either building type or geographic area. Figure 2 shows satisfaction by building type, and Figure 3 shows satisfaction by geographic area.

Figure 2: Overall Participant Satisfaction by Building Type (n=43)

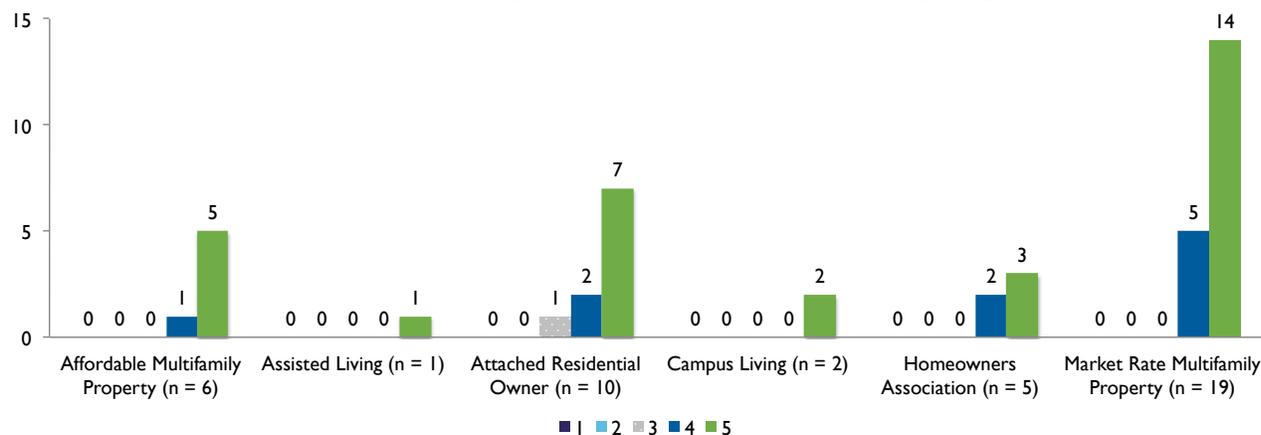
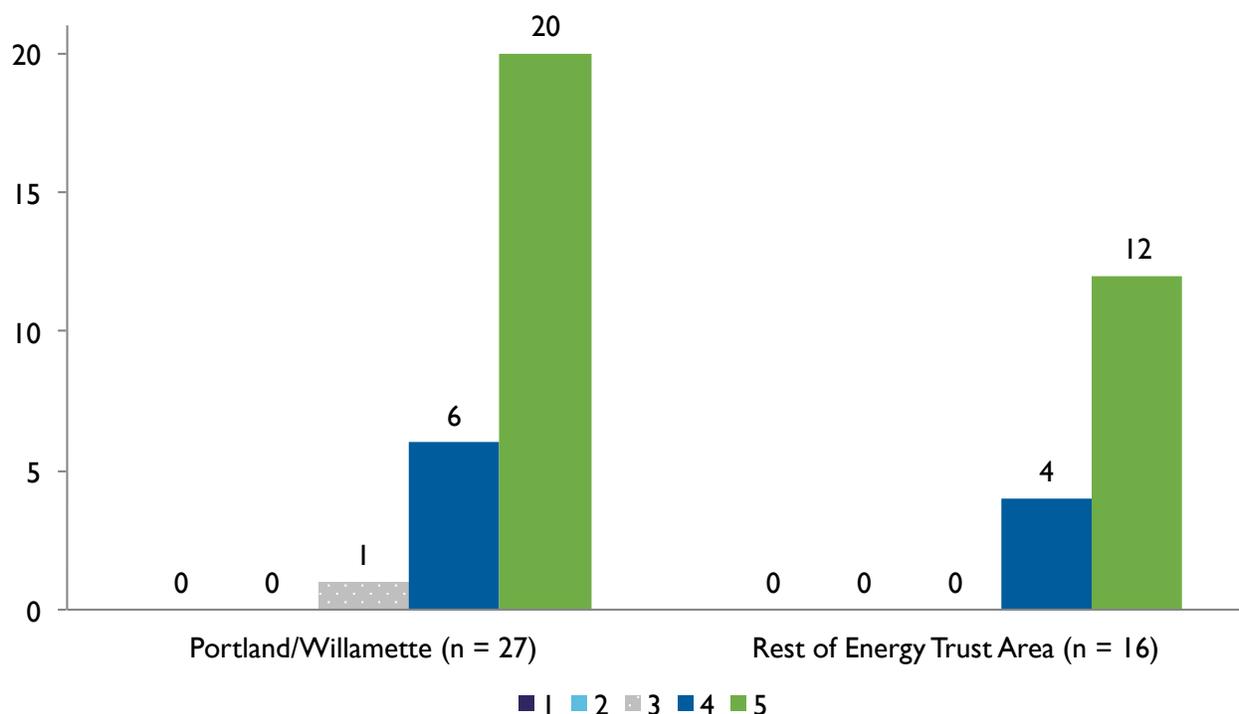


Figure 3: Overall Participant Satisfaction by Geographic Area (n=43)



As might be expected, benefits seen from participating centered around energy and monetary savings. The participants who mentioned financial savings noted that this was

not just the reduced operating costs that result from lower energy use, but also the lower cost of the initial efficiency upgrade or equipment replacement due to the rebate (or free products for direct installations) and, occasionally, lower maintenance costs. Maintenance costs tended to come up most frequently in connection with lighting upgrades to LEDs, where participants have experienced (or expect to experience) less frequent replacements due to the new bulbs' longer expected lifespans.

Comments about benefits resulting from participation in the Existing Multifamily Program included the following:

- “Since all of the bulbs at the property burn out pretty quickly, it was nice to get savings for both the bulbs themselves and to save money for my company by going through (Energy Trust).”
- “(Energy Trust) helped our building save a lot of energy, and I didn’t even know I could get money for switching out light bulbs before this.”

Interactions with program staff and representatives were uniformly positive. Even the one person for whom the upgrade ended up not meeting the needs of their building¹² praised program staff. One participant noted getting “to know the people at (Energy Trust) really well after doing so many rebates with them. They would even call me up if they noticed I made a mistake on my paperwork.” This kind of relationship-building can be beneficial in promoting opportunities for deeper energy savings, which we discuss further in the next section.

5.4 Opportunities to Promote Deeper Energy Savings

To provide insights on Energy Trust’s desire to engage multifamily program participants for deeper energy savings, we explored potential future plans for energy efficiency improvements specifically or building or appliance upgrades more generally. Participants could be divided into two groups: those without any plans for future upgrades (33 percent of the 43 interviewees) and those with self-identified opportunities (67 percent). We also offer some observations about geographic differences in interest.

Twenty-five percent of respondents who had received a walkthrough survey were in the “no future plans” group, compared to 75 percent who were in the “envisioning future upgrades” group. In contrast, 59 percent of respondents who had not received a walkthrough survey had no future plans for upgrades, while 41 percent were in the “envisioning future upgrades” group.

¹² This participant received showerheads that were incompatible with the building’s own green initiative and needed to be replaced after installation.

Past Participants with No Future Plans

Fourteen participants (33 percent of the interviewees) indicated that they had no future plans for upgrades and did not think they had additional viable energy efficiency opportunities. Interest in a walkthrough survey among these participants was low; only three of these participants showed interest in a walkthrough survey (although a few reported having had such a survey in the past).

While it is possible that some of these participants truly do not have any more realistic energy efficiency opportunities, we interpreted their lack of interest as stemming mostly from a combination of:

- Lack of awareness of what opportunities they have;
- A modest interest in pursuing whatever opportunities there are; and
- Financial constraints that would limit their pursuit of upgrades.

Past Participants Envisioning Future Upgrades

Twenty-nine participants (67 percent of the interviewees) did envision implementing some future upgrades. Because we explored the issue of future opportunities broadly, they included not just dedicated energy efficiency improvements, but also general building renovations or appliance replacements where efficiency upgrades could be incorporated.

The most common future plans among past participants were:

- In-unit appliance replacements (8 mentions);
- Water heater replacements (6 mentions);
- Installation of on-site solar generation (6 mentions, mostly as long-term plans);
- Window replacements or upgrades (5 mentions); and
- Air conditioning additions or upgrades (5 mentions).

Table 7 summarizes the nature of the comments we heard about each of these types of upgrades and replacements.

Table 7: Summary of Future Upgrade Plans by Type

Type of Improvement	Summary of Comments
Appliance replacements	<ul style="list-style-type: none"> • Most commonly mentioned appliances: washer/dryer, refrigerator • Multiple mentions of interest in increased efficiency and interest in using Energy Trust rebates • Could use reminders from Energy Trust when the time comes to replace (interviewees suggested such on-going engagement mechanisms as newsletters) • Mostly replacements, but sometimes new installations (for in-unit washers/dryers) • Some recognition that cost is a barrier to efficiency
Water heater replacements	<ul style="list-style-type: none"> • Wide range of circumstances from simply needing to replace aging and failing systems to installing heat pump or hybrid systems • Mostly still vague plans; range of commitment to upgrading to higher efficiency and repeat Energy Trust program engagement • Expressed need for more information about upgrade costs and energy savings associated with upgrades, options
On-site solar	<ul style="list-style-type: none"> • Mostly exploring as a long-term desire • Unsure whether Energy Trust provides support for solar installations
Window replacements	<ul style="list-style-type: none"> • Mostly low priority and long-term plans
Air conditioning additions or replacements	<ul style="list-style-type: none"> • Mostly upgrades of existing air conditioning

Geographic Observations

We noticed differences in interest and future plans between the two geographic areas we tracked. Participants in the Portland metropolitan area and the Willamette Valley (n=27) were more likely than their counterparts in the rest of the state (n=16) to be interested in future energy efficiency improvements (70 percent and 38 percent of the interviewees, respectively). Those in the rest of the state were more likely to either be uninterested in energy efficiency or face financial barriers that limit their ability to upgrade beyond standard efficiency, including the ability to afford the more efficient equipment and the higher costs for obtaining and installing it. Those who were uninterested indicated that their past participation in the program was likely a one-time occurrence based on a particularly convenient opportunity.

5.5 Participant Suggestions

While satisfaction with their experience with the Energy Trust Existing Multifamily Program was high, three-quarters of interviewees (33) had ideas for the program's consideration when we solicited such suggestions. Comments covered incentive amounts, operations and program implementation, and the portfolio of measures offered.

Incentive Amounts

Fourteen participants (33 percent of the interviewees) stated that larger financial incentives from Energy Trust would encourage them to use the program again in the future. In particular, four out of six affordable housing property customers interviewed mentioned that, while the smaller Energy Trust rebates are nice, larger financial incentives would be necessary to fund future energy-efficient upgrades, due to tight maintenance budgets.

Operations and Program Implementation

Eleven participants (26 percent of the interviewees) suggested more outreach and marketing from Energy Trust through emails, telephone calls, and newsletters. Many of these individuals stated that they would be willing to use Energy Trust's program more often if they knew what technologies were eligible for rebates, but this requires both reminders of program offerings to stay top-of-mind and updates on any changes. Numerous participants suggested a newsletter geared to past participants as a way of staying present and on their mind, recognizing that they would otherwise move on to other concerns and not think actively about Energy Trust opportunities they would otherwise be inclined to use. Energy Trust already sends a newsletter to past program participants, though many participants did not seem aware of it. Individual unit owners in particular expressed this regarding the newsletter and outreach and marketing overall, as many of these individuals had not been familiar with Energy Trust before participating in the program. The seven participants who were contacted directly by Energy Trust stated that they appreciated the telephone call and that Energy Trust should continue to reach out to people this way.

A small number of participants thought the program could be better organized or streamlined. Participants generally did give Energy Trust good reviews on its processes, and those who had a frame for comparison to other, similar energy efficiency programs thought Energy Trust's program was the most organized they had worked with. Nevertheless, some thought there was room for improvement. For example, one participant in the direct install track who had also considered improvements through the lighting track mentioned that they would have appreciated a more streamlined process and easier up-front vetting of opportunities; this interviewee suggested that Energy Trust consider a telephone-based screening process to precede or replace some of the on-site work to identify potential opportunities for participants. This interviewee also suggested that Energy Trust offer to complete all of the required paperwork at the participant's

office. One other direct install participant observed that the single installer needed to make several trips to get additional supplies and thought the task might have been too large for a single person, although this participant was fully satisfied with the process and outcome.

Technologies and Measures Offered

A few individuals wished that other technologies were covered under the Existing Multifamily Program. The most common technology that participants mentioned was rooftop solar. Energy Trust does have a rooftop solar program, but participants did not seem aware of the offering. One other participant mentioned that they wished that Energy Trust had rebates for a wider variety of less expensive appliances. This interviewee mentioned that the options for lower-cost appliances felt limited, and they wished that they had more options that better matched their price range. Generally, though, participants do not appear to follow efficiency options as closely as Energy Trust does and are not in a position to offer concrete, practical suggestions for technology or measures that should be included in the program.

6 ATAC, Distributor, and Contractor Interview Findings

6.1 ATAC Interview Findings

Our team conducted interviews with four Allied Technical Assistance Contractors (ATACs) actively involved in providing energy studies to participants of the Existing Multifamily Program. Three of the four interviewees conducted between four and 10 studies between 2017 and the time of the evaluation. The distribution of completes by ATAC activity level is shown in Table 8.

Table 8: ATAC Interview Allocation

Activity Level	Number of ATACs	Number of Interviews
> 10 studies (2017-June 2019)	0	0
4 to 10 studies (2017-June 2019)	4	3
0 to 3 studies (2017-June 2019)	8	1
Total	12	4

Note that the number of interviews means results are qualitative; while they can provide insight into program processes and market conditions, no quantitative conclusions can be drawn from them.

All four ATACs interviewed describe their companies as engineering firms and work out of offices in the Portland metro area. The number of employees company-wide ranged from one to 250, with the largest firm having offices not only in Oregon and Washington, but on the East Coast and in Canada as well.

As suggested by their locations, all the ATACs we spoke with serve the Portland metro area, and all said they serve the entire state of Oregon and nearby areas of Washington. Two said they are also licensed to do work in Alaska and California, and one has an office in Victoria, BC.

Summary of Program Involvement

As shown in Table 8, three of the four ATACs we spoke with performed 4 to 10 studies for the Existing Multifamily Program from 2017 to when Energy Trust provided data, which was in June 2019. One ATAC had conducted three studies.

All four ATACs have been involved with the Existing Multifamily Program for at least six years, including several who said they had worked with the program since its inception. Similarly, all said they also work with other Energy Trust programs, primarily Existing Buildings. One respondent said that they formerly worked on studies for the Production Efficiency Program.

All ATACs stated that the nature of custom projects for multifamily buildings means that they typically work with HVAC systems, including exhaust fans. Similarly, all four ATACs said they most often work with larger buildings, since those have more opportunities for custom savings. One respondent specified that the buildings they work on are typically at least four stories (but three stories for assisted living facilities).

- One engineer noted that opportunities for studies in multifamily buildings are generally limited, because savings can most often be achieved using prescriptive measures.
- Another respondent stated that “we do work with smaller buildings, but their systems tend to be simpler so the opportunities for adjustments to mechanical systems and how they work are not as great.”

The multifamily market accounted for anywhere from 5 percent to 60-70 percent of the four ATACs’ business, with multifamily program studies representing a small fraction of that. The respondent with the largest share of multifamily business said their firm specializes in doing legally mandated Reserve Studies, which are analyses of the condition of a multifamily property’s building and equipment to help a condominium board or homeowner association anticipate and prepare for major repair and replacement projects. These types of studies may identify opportunities for energy efficiency upgrades and often trigger a technical analysis study (TAS) through the Existing Multifamily Program.

When asked if there had been changes in the Existing Multifamily Program in the past few years that had affected their ability to participate, all the ATACs said there had been no major changes, although one noted that “the program has improved in terms of incentive amounts, and there have been some small improvements in the process that have made it nicer and more attractive.”

Energy Study and Customer Trends

We asked ATACs several questions about the types of energy studies they most frequently conduct. All ATACs had done at least some of the less detailed site evaluations, with two noting that it was difficult to determine the exact number, since site evaluations often led to full TASs. Two of the four respondents said they had done some shorter “focused” or “targeted” TASs, and the one with the most studies said about half their TASs were the focused studies. One respondent commented that “I really appreciate the targeted study; it

has streamlined my workflow because they [the customers] know what they are interested in.”

Energy studies can be initiated by the ATAC and/or customer, or they can be assigned to an ATAC by the program management contractor (PMC). Respondents described the breakdown of their studies as follows:

- ATAC who had done 10 studies: Eight assigned by the program and two originated internally
- ATAC who had done 5 studies: One assigned by the program and four originated internally
- ATAC who had done 5 studies: All studies were assigned by the program
- ATAC who had done 3 studies: Most studies originated internally

We were also interested in how and why some studies fail to lead to projects, so we asked ATACs how many of the studies they had done in the last two years did not lead to an incentive from the program. Three respondents said that they thought “most” or “60-75 percent” of projects had ended up moving forward, and one said the ATAC often does not know if the project goes ahead. Program data for 2017-June 2019 show a total of 36 studies, including six site evaluations. Six of the 30 TASs show a project status of “Abandoned,” indicating that about 20 percent of studies fail to result in projects – a percentage consistent with the numbers cited by respondents.

For ATACs who were aware of studies that did not result in projects, most cited cost issues, both from the perspective of the building owner and from the cost-effectiveness criteria imposed by Energy Trust.

- “For most of them we know they will pan out before we do a study,” one respondent explained, “but sometimes when the study comes back and we say, ‘you can get an incentive,’ they still say no.”
- One respondent cited variable refrigeration flow (VRF) systems as typical of custom measures that can face cost-effectiveness hurdles, noting that “cost-effectiveness is hard to meet because those systems are expensive.” The respondent explained that “we have a cost-effectiveness calculator where we can't see detail, but we can see preliminary numbers and I can see if I should put an incentive in for the measure or not, so that's how I know whether it will pass cost-effectiveness. The more you do it, you know that VRF is always on the fence, but it varies depending on what's going on in the building.”
- Another ATAC was particularly concerned that measures with a payback of more than 10 years were ineligible for incentives. “If the goal is to save money, then to say no just because it does not pay back in 10 years is outrageous.” Moreover, the

ATAC has been frustrated by Energy Trust’s response to their questions regarding this issue. “I feel like we are not getting through to the right people. Everyone I talk to says it’s reasonable, everyone says it makes sense, and I have not had anyone give me a good explanation, so I feel like there is some kind of bureaucratic problem.”

When asked how they segment the market to find opportunities for studies, two respondents said they had no need to solicit business because they were so busy, while the other two said they typically identify opportunities for studies in the course of other work with multifamily clients, including Reserve Studies for condominium and homeowner associations, and forensic or remediation work when buildings have problems such as occupant discomfort or excessive energy bills.

In addition to larger multifamily buildings generally, market segments considered to have good potential include “condos with more centralized HVAC and college housing with electric strip heat,” as well as assisted living facilities and “low income properties where a government agency is footing the bill and there would be interest in going more energy efficient.” Additional opportunities mentioned by ATACs included retro-commissioning for larger, more complex multifamily buildings and exhaust fans that currently run 24/7.

In addition to the previously mentioned challenge of identifying custom savings opportunities for smaller multifamily buildings, one respondent mentioned a trend to work on the design-build for mechanical aspects of remodeling projects, where consulting engineers like the ATAC firms only provide a performance specification that is subject to lowest-first-cost criteria, meaning they have less opportunity to push for a more efficient option.

Customer Perspectives

The customer participation process and barriers to participation were also discussed with the ATACs to supplement what we heard first hand from customers. When asked about ease of participation, on a scale of 1 to 5 with 5 indicating very easy, all four ATACs gave ratings of 4 or 5, with one saying the only reason they did not give a rating of 5 was that customers have trouble understanding why it takes the amount of time it does for ATACs to install metering equipment and pull resulting data into a report.

Customer Challenges

Even though respondents thought participation was relatively easy, we did ask them about challenges customers face. Some of the responses focused on the economics of the proposed project while others centered on customers’ lack of understanding of complex suggestions or how cost effectiveness is calculated. For example,

- Participating customers are sometimes unable to understand the suggestions made by ATACs, and are then unable to proceed with making a decision.
- Cost-effectiveness screening was reported to be a major hurdle, because as code gets more stringent and efficient, more projects do not meet cost-effectiveness criteria.
- Some building owners are skeptical about the free study and incentive offers and do not move forward.
- Even when customers are interested in adopting higher efficiency measures, they face the barrier of not having enough money to dedicate to increased efficiency.

Level of Detail

A concern expressed by one ATAC representative was that the study results may not provide enough detail to support the customer's ability to make a decision. The representative explained that "What we provide is governed by the Energy Trust template; there are energy efficiency measures in the report, and there are options that we explore on the client's behalf that lay out potential project costs and may identify an incentive and the savings payback that can be used by the client and that clients sometimes take to a vendor to get pricing. The problem is that the report is not detailed enough to be used as a detailed implementation specification, so the client can get different offerings that may not result in an apples-to-apples comparison. So in some cases, we have had to go back with no fee and help the customer review what they received from bidders and verify that it actually meets their criteria. To me, that is a weak link; we are not engaged by Energy Trust to do a detailed spec, so the client may end up with a less than fully defined specification to make a decision."

When asked how much more it would cost to come up with such a detailed specification, the respondent said that "it depends on the measure; some would be pretty easily defined, like rooftop VFDs [variable frequency drives] for dryer exhaust fans, but others, like a DDC [direct digital control] system for a whole building HVAC, could be a pretty large undertaking."

Another ATAC thought that the studies typically do provide sufficient information: "It's a pretty thorough look at what can be done and how much it will cost and pay back. I think the studies do give owners the information they need."

Capital Planning Discussions

Several ATACs said that they do not always have an opportunity to discuss capital planning with building owners. "It's hard for me to get into discussions with customers about that. I won't release any numbers to the customer until I get a stamp of approval from the program, so I don't promise anything. If I bring a project to the program, I will

usually present the study to the customer, but that has not been the case in a couple of years. It's more common that we (the program managers and I) go back and forth and when they approve, the program rep presents the study independently."

Another respondent, however, said that "at the end, we usually present with the Multifamily program person and all those things (related to capital planning) get discussed. That's always helpful."

ATAC Experience with the Program

We asked ATACs specifically about various aspects of their participation in the custom track of the Existing Multifamily Program.

All four ATACs said they were very satisfied with the process of completing a study through the program. Three of the four respondents had done studies through other Energy Trust programs, and said that the process was generally similar, with the exception of report templates.

- One ATAC said there were fewer different engineers reviewing Existing Multifamily projects than Existing Buildings projects, which the ATAC felt led to quicker turnaround times for Existing Multifamily studies.
- Another said that the Existing Multifamily Program engineers are "not as nit-picky about issues like what parts of the project cost are ineligible and have to be removed. With Multifamily, I have a better understanding of what projects are going to be acceptable."

Communications with the PMC and Energy Trust were consistently described as excellent or outstanding, with no complaints or suggestions for improvement. Turnaround time for study reviews also drew favorable comments, with one respondent citing a recent example where the reviewer "got me a report back in one day." Similarly, no ATACs had any issues with the reimbursement process, with one adding that the program "is good at getting me compensated" if the study scope expands unexpectedly.

As noted previously, all four ATACs had at least some experience with the customer assignment process, and all were asked to rate their satisfaction with that process on a 1 to 5 scale, where 1 is not at all satisfied and 5 is very satisfied.

- Two provided ratings of 3; one simply because "we would love to get more studies," and the other because "I don't know if they have more preferred vendors or if we are getting a reasonable share or not."
- The other two respondents provided ratings of 4 and 5, with one explaining that "knowing how many ATACs are in the pool and how many studies there are, it seems reasonable."

Suggestions for Improvement

When asked about additional program assistance they would like or recommendations to improve the Existing Multifamily Program, most ATACs we spoke with said they were satisfied with the support they receive, and that Energy Trust and the PMC were very responsive. The few recommendations offered included the following:

- A desire to receive more information on the study assignment process;
- Interest in allowing measures that have a payback period of higher than 10 years;
- Interest in expanding the focus from energy to the broader theme of reducing carbon footprints; and
- A desire to see presentations to homeowner associations and management companies that are not exposed to the custom track of the Existing Multifamily Program through the Reserve Study process.

6.2 Distributor Interview Findings

There are two main distributors for this program. Both companies sell equipment to owners of multifamily properties and to property management companies and saw this as a likely path for the future. These properties include both larger and smaller buildings. On occasion, they also sell to contractors, and one mentioned that they sell to contractors working specifically on new construction projects, although those do not qualify for the buy-down.

Equipment sold through the buy-down track represents a relatively small share of revenue for both firms, although neither provided a detailed percentage.

Both respondents similarly said that their sales were a roughly equal mix of individual and multi-unit sales. Asked if there was any way the program could encourage more comprehensive installations, one respondent proposed a bonus incentive for projects that included different measures at a single site: “Maybe look at a package where if property managers buy several items instead of one thing, they would get a little more incentive than you would get for each one separately.”

Both respondents said they use the availability of Energy Trust incentives in their sales process; neither said any additional support is needed. Both said the nature of the buy-down track makes Existing Multifamily program participation easy (4 or 5 on a 1-to-5 scale where 1 is very difficult and 5 is very easy) and that participants in the buy-down track describe the process as simple.

Neither company had experienced significant problems getting buy-down projects approved by homeowner associations or building owners. Both said they have standing agreements with property management companies to replace failed equipment, which

typically include buy-down-qualifying models. Customers of both firms are said to be aware of Energy Trust and its role in the market.

Both managers we spoke with reported that the employees who complete the actual applications for submittal to Energy Trust said that the program paperwork is very straightforward. Neither respondent had any suggestions for improving the process, with both rating it a 5 on a 1-to-5 scale, where 1 is very difficult and 5 is very easy.

Regarding satisfaction with the turnaround time for rebate processing, one distributor gave a rating of 4 on a 1-to-5 scale, where 1 is not at all satisfied and 5 is very satisfied, commenting that “instant would be nice, but I have not heard any complaints.” The other provided a rating of 5, saying they were “totally satisfied.”

Both participants also gave 4 or 5 ratings on their satisfaction with Energy Trust’s communications regarding the program and their interaction with Existing Multifamily program staff.

Finally, respondents offered 4 and 5 ratings for their overall satisfaction with their involvement in the Existing Multifamily program. Additional findings have been moved to a separate memo in order to respect the confidentiality of the respondents.

6.3 Contractor/Trade Ally Findings

The Evergreen team conducted interviews with 30 trade allies identified as contractors in the Energy Trust data, 28 of whom were either multifamily or other program allies. Respondents reflect a range of specialties, but half described themselves as HVAC contractors, as shown in Table 9 below. Most of these HVAC contractors primarily serve single-family residential customers and become involved with the Existing Multifamily Program when they have a customer who lives in an attached home. Both the other program trade ally and inactive multifamily trade ally groups included a high proportion of these residential contractors.

Table 9: Interviews by Contractor Type

Contractor Specialty	Number of Respondents
HVAC	15
Windows	5
Insulation	4
Lighting	3
Water heating	2

Contractor Specialty	Number of Respondents
Appliances	1
Total	30

Most interviewed trade allies said they had been registered as trade allies for at least several years, with some saying they had been active in the Existing Multifamily Program since its inception and had become trade allies as soon as doing so became an option. At the other extreme, one respondent said that their company signed up as an Existing Multifamily Program trade ally just months ago (they had been a Residential Program trade ally for years). Other characteristics of responding contractors include the following:

- **Most employees are Oregon based.** On average, companies had 27.5 employees in Oregon. Only two respondents reported significant numbers of employees outside the state, and both of those represented local sites of corporations with more than a thousand employees nationally, specializing in residential windows and insulation.
- **Multifamily is not the primary contributor to their businesses.** The Existing Multifamily Program is usually not an important contributor to sales for most of the interviewed trade allies because their primary focus is either residential or commercial markets. According to the program data provided by Energy Trust, just three of our interview respondents generated incentives exceeding \$50,000 over the 2017-2018 period, and most had incentives totaling less than \$5,000 over that timeframe.
- **Companies have varied customer bases depending on what they install.** All three lighting contractor trade allies work primarily with commercial customers, owners of multifamily units, and property management companies. Most of the HVAC, window, and insulation contractors, on the other hand, focus primarily on the single-family residential market, with occasional multi-unit installations for duplexes, fourplexes, or apartment properties.
- **Most HVAC companies are strictly residential, though three of the 15 respondents were a mix of both residential and commercial.** A single large HVAC contractor said most of their business is commercial and multifamily buildings, while two mid-sized HVAC contractors described their business as evenly split between residential and commercial.
- **A small portion of companies are owned by women.** Four of the 30 trade allies we spoke with represented companies that were either fully or partially woman-owned. None said they were minority-owned.

- **Interviewees generally served the greater Portland area**, with some also serving Central and Southern Oregon. All three of the lighting contractors said they have customers all over the areas served by Energy Trust.

Satisfaction was high across the board, with the exception of the effectiveness of Energy Trust marketing and turnaround time for invoice processing. In Table 10, we summarize contractor satisfaction ratings, which were on a scale of 1 to 5, where 5 was the highest level of satisfaction. In the third column of the table, we map the satisfaction finding to the subsection where there are additional data regarding why contractors gave various satisfaction ratings.

Table 10: Contractor Satisfaction with Various Program Elements

	Average Rating on 1-to-5 Scale	Subsection with Additional Information
Support received from the Existing Multifamily Program	4.5	6.3.1: Summary of Program Involvement
Effectiveness of Energy Trust marketing	3.7	6.3.3: Marketing and Market Trends
Support received from the program	4.5	
Difficulty for customers to participate (5 is very easy)	4.6	6.3.4: Customer Perspectives
Communication regarding program updates	4.5	6.3.5: Program Communication and Training
Interactions with program staff	4.9	
Ease of using program application	4.6	6.3.6: Feedback on Program Processes
Turnaround time for invoice processing	4.1	
Overall satisfaction with program involvement	4.4	6.3.7: Suggestions for Improvement and Overall Satisfaction

6.3.1 Summary of Program Involvement

As noted previously, we divided our sample into varying levels of program engagement based on the number of projects identified by Energy Trust. However, the average number of projects completed was greater for our respondents than for the contractor population.

- For all contractors and trade allies included in the Energy Trust data, excluding Lockheed Martin and CLEAResult, the average number of projects per contractor for 2018 was less than three.

- Among our respondents, the average number of 2018 Existing Multifamily Program projects was 9.4, including the nine trade allies with no projects or one project in 2018.

For lighting, windows, and insulation, almost all projects were planned replacements.

For HVAC, the percentage of emergency replacements varied from virtually none to up to 50 percent. One respondent explained that most of their installations through the program were ductless heat pumps (DHPs) that are replacing electric resistance heating, which are rarely if ever emergency replacements.

Respondents enrolled in the Existing Multifamily Program trade ally network said that the primary benefit of being a trade ally was the ability to use program incentives to sell projects. Recognizing that trade ally status is not required to offer incentives, respondents also noted that trainings help them stay active, there is a wealth of information that customers can receive, and that Energy Trust is a trusted organization that helps their customers to feel they can move forward with projects.

Only three respondents said they could see any downside to being a trade ally, and most of their concerns were relatively minor and focused on using the Energy Trust offerings. They included the initial work needed to figure out the paperwork, difficulty finding information on the website, and customer difficulty understanding qualification criteria.

Non-trade allies feel they have sufficient access to information. We asked contractors who were *not* Existing Multifamily trade allies if they saw any disadvantages to not being enrolled as Existing Multifamily Program trade allies. Most contractors who were *not* involved in the Existing Multifamily Program trade ally network said they felt that there was no disadvantage to not being in the network. This was because their contacts at the Existing Buildings or Existing Residential programs made the process of participation in the Existing Multifamily Program relatively smooth, or because they received sufficient support from the Existing Multifamily Program without having trade ally status.

When asked if they had considered becoming Existing Multifamily Program trade allies, most said they had not had time or had not felt the need to do so. One lighting contractor explained their decision not to enroll in the Existing Multifamily network by stating that “right now I would lean toward staying in the Existing Buildings world and might not be prepared to go into putting the effort into chasing all the bids that being a Multifamily trade ally would entail; it requires a full time person to respond to that.”

Overall, respondents were very satisfied with the support they receive from the Existing Multifamily Program, either as trade allies or non-trade ally contractors, with a mean rating of 4.5 on a 1-to-5 scale, where 1 is not at all satisfied and 5 is very satisfied. The

average ratings were not statistically significantly different for Existing Multifamily trade allies (4.5), allies in other program networks (4.4), or non-trade allies (4.5).

6.3.2 Single vs. Multi-measure Projects

Many of our questions to contractors regarding projects and marketing were related to understanding opportunities to achieve deeper savings. Because of their own specialization and the preponderance of sales to owners of single-family attached dwellings, most trade ally contractors said that the majority of their projects are single measures (i.e., windows or HVAC only) rather than multiple measures (e.g., windows plus HVAC) or whole building retrofits.

A few respondents said they might point out other opportunities for energy savings, particularly related ones, such as an insulation contractor suggesting better windows, but most focused on their specialty only. One contractor commented that “I can’t say there have been many instances (where we note other opportunities), but that’s probably a failure on our part in training our employees on how to look for other incentive opportunities. So maybe we could use some training and education for our employees to help identify those.”

When asked how Energy Trust could encourage more multi-measure projects, two contractors suggested a bonus incentive for projects that include more than one rebated equipment type. The one mechanical contractor who has worked with custom measures indicated that “the [ATAC] studies usually get them to look at multiple measures.”

6.3.3 Marketing and Market Trends

For the majority of trade allies we spoke with who deal primarily with owners of attached homes and condos, multifamily marketing efforts are simply part of their overall market outreach, which relies heavily on referrals and repeat business and less on advertising. In some cases, respondents said, they “don’t even realize they will be selling a multifamily project until they arrive at the customer’s home and see that it has a shared wall with another dwelling”. For many of these trade allies, the typical size of a multifamily project is a single unit. One contractor explained that “they find us through advertising from one of my print or internet ad outlets or through referrals. If they’re in a condo or attached single family, we just go through the multifamily rather than the residential program.”

In addition to single units, some HVAC and window contractors also do whole-building changeouts, often for duplexes, fourplexes, and smaller apartment buildings with 6 to 12 units. The respondents who reported going beyond duplexes cited a typical size of 10 to 20 units for such jobs.

Both HVAC and lighting contractors rely heavily on prior relationships to lead to new work. Referrals, add-on work, and repeat business also account for most of the projects

won by the larger HVAC contractors, some of whom say they enjoy long-standing relationships with property management firms for multiple condo and apartment properties. The two largest HVAC contractors whose non-multifamily work is primarily commercial say their multifamily jobs average “from 75 to 200” and “100-135” units.

Lighting contractors also say they rely on word of mouth to win projects that go through the Existing Multifamily Program, which include apartment and condo buildings ranging in size “from 12 units to 3 towers with 20 floors.”

HVAC, window, and insulation contractors see additional potential for program involvement:

- An installer of high efficiency windows said that “it may be apartments, because most of the condos have been done.”
- Two HVAC contractors mentioned low-income US Department of Housing and Urban Development (HUD) housing, whether duplexes or small apartments.
- Several suppliers of ductless heat pumps mentioned the remaining stock of condominiums and apartments with electric cadet or strip heating, with one saying, “Oregon needs to outlaw baseboard heat and make DHPs mandatory; say a 60 unit property would be a good fit for the program if converted to DHPs or heat pumps.”

Lighting contractors also saw additional potential for the program:

- “Condos and condo associations because their boards are pretty involved in their community, and Portland people are very progressive. Anything they can do to promote themselves as clean and green is attractive to them.”
- “Almost all [multifamily sectors] have lots of remaining potential; they have long hours on the lighting, especially in the common areas, and probably half of those lights are on 24/7. There are also some good opportunities for controls with nighttime dimming and color tuning in assisted living, making it different at day and night to match circadian rhythms. You can see the difference in people's lives.”

One lighting contractor complained about the Existing Multifamily Program’s direct install track cutting into their LED business, saying that “when they give away LEDs, it undermines us. I have lost a lot [of in-unit LED sales] because of the Energy Trust outreach to multifamily owners.”

Contractors serve their local areas, so to see an increase in activity in underserved areas, Energy Trust will need to work with contractors in underserved regions. When asked if they had achieved any success in reaching out to smaller multifamily properties and properties in less urban areas, most of the small HVAC, window, and insulation contractors emphasized their sales to single-unit owners and small multifamily properties.

Since many of these contractors are small local firms, their outreach to less urban areas depended on their proximity to those areas, with one respondent saying, “we are smaller and less urban; that’s what we do!” Another said that “I would hope that we would be helping more of the affordable market, but we have not had much success there.”

Program incentives are incorporated into bids. Almost all trade allies said they incorporate the program incentives into their bids and marketing pitches to customers, with one lighting contractor saying, “we won’t pursue it if there is no rebate.”

Trade allies were only moderately satisfied with marketing done by Energy Trust and offered suggestions for improvement. Overall, trade allies rated the effectiveness of marketing done by Energy Trust an average of 3.7 on a 1-to-5 scale, where 1 is not at all effective and 5 is very effective. Some respondents commented that many of their customers are completely unaware of the Existing Multifamily Program, even though they think the quality of Energy Trust marketing materials is high. Several offered suggestions for additional marketing support they could use:

- "If I had a one-page piece from Energy Trust with [information on energy efficiency measures such as] power strips etc., I could do more with that to make customers aware of other options, so a customer-facing fact sheet would be helpful."
- "I would like to see the multifamily program present at a single-family trade ally round table."
- "Energy Trust should reach out to landlords and developers and educate them."
- "As I move into apartments because condos are drying up, I would like to have materials from Energy Trust explaining the program."
- "Energy Trust literature helps them [building owners] make the decision; it gives it credibility and assures them that it’s not just us trying to hurry them into making the decision."
- "It would be great if there was more information online related to heat pumps and that they are good for this climate; maybe a digital brochure that I could send on the program and equipment."

Nearly half of respondents (13 of 30) reported taking advantage of marketing funds, although several were not clear whether they had used Residential or Existing Multifamily program marketing funds. (Program staff noted that very few trade allies have used Multifamily marketing funds, so most respondents appear to be referring to marketing funds from the Residential Program.) Those who said they had used them mentioned print ads, online ads, and social media advertising, and even Yellow Pages ads. Several respondents noted that the availability of marketing funds had been limited in recent years. Comments on the marketing funds included the following:

- "We tried to use those, but Energy Trust has cut their advertising budget and eliminated all the yellow page advertising, but we still have a clientele that uses the phone book from time to time. Also, the funds are first come, first served, so they can run out of funds, but we could really use that extra money."
- "We have done flyers and marketing, [have] our website and have had shirts and postcards printed. But I'm not sure if that is specifically for multifamily funds; I think it's all just one source."

One respondent was not happy about what they perceived as problems using the Existing Multifamily Program marketing funds. "It's difficult to access the multifamily marketing funds; the Existing Multifamily Program really only cares about the commercial [sector]. It's hard for companies like us to get those funds; they would rather chase commercial multifamily properties. We have gotten them in the past, but we are no longer applying for them."

6.3.4 Customer Perspectives

Trade allies think it is pretty easy for customers to participate in the program. Trade allies were asked to rate how difficult it is for customers to participate in the Existing Multifamily Program, using a 1-to-5 scale where 1 is very difficult and 5 is very easy. Results for the 29 who offered a response averaged 4.6, with 83 percent providing ratings of 4 or 5, and most explaining that it was easy for customers because they (the contractor) completed the paperwork. A lighting contractor and two insulation contractors who provided lower ratings offered the following reasons:

- "The program requires a certain level of technical expertise and the forms are a little intimidating, that's where steering the property owner to the list of approved contractors can be beneficial."
- "The issue is knowing where the dividing line is between single-family and multifamily, and multifamily and commercial."
- "We do all the paperwork, but for somebody who did it on their own, it could be a challenge."

A small number of contractors offered a few varied challenges for customers. When asked about challenges customers face when deciding to pursue a project through the program, most respondents said the primary ones were securing funding, selecting qualifying equipment, and verifying that customers are eligible for the rebate. A few contractors identified specific issues they have encountered.

- "For custom projects, I think a lot of times it comes down to timelines; energy studies take a while to do and review, so there may not be the time available to go down that route. Prescriptive is much more straightforward."

- "For multifamily units that are owner occupied, there are no major barriers, but for rental units, the owners only want the cheapest equipment and that is never what qualifies. If they had a tool to create a sense of value for making that upgrade, that might get them [owners] interested."
- "Qualifying equipment is often too expensive, even with the incentives."
- "In the beginning, the paperwork and being exposed to [window] u-values and such can be confusing to customers; we take care of that, but when the customer chooses to do it, we may need to show them where to look online."

Customers are motivated by a desire to be more comfortable and save energy. According to the interviewed trade allies and contractors, motivations are less about specific payback criteria and more about comfort and a desire to save energy.

- "It's usually comfort, but when it comes to DHPs, we talk about cost of running the system, because they are very expensive upfront compared to other things, but they cost almost nothing to run compared to what they are used to from resistance systems."
- "Most people look to upgrade and see that they can save on energy and money in the long run, plus the rebates help."
- "Typically, it's the lower operating cost and energy savings, plus the benefit of adding air conditioning with DHPs."
- "For windows, I would say energy efficiency is a hot button in getting customers on board."

Contractors seemed to understand how to navigate the client approval processes, though homeowner associations (HOAs) prove challenging. We asked contractors how often property managers or unit owners have difficulty getting projects approved by the appropriate decision makers, such as the building owner or HOA, and responses again varied according to the size and type of project. Lighting contractors said they generally either work with property management firms that can make a purchase decision, or they find they have to deal with an association board.

- "We usually bulldog our way to get to the right person, like having to get to the board and get us in front of the board meeting. If we leave it to the property manager to present our proposal to the board, the close rate goes down by 30 percent."
- "The only problem with multifamily is that they normally have committees, like boards or a condo association, where they grind you like you are a used car salesman, making it more effort for less profit. They'll say, I saw an LED at Home Depot for \$5 so why is this more expensive?"

For contractors selling to individual owners in multifamily properties, HOAs can be a challenge for certain HVAC measures and sometimes for windows:

- "It can be a problem with DHPs because you are talking about a technology that requires stuff visible outside the building and penetration of walls and roofs, and HOAs have guidelines based on systems available in 1970 when those were written. I have to go to HOA meetings to get around those old guidelines. I get it done, but it is a wildly unpleasant experience."
- "I had a customer who had HOA issues that took almost a year; she was the first condo owner to do a DHP."
- "It's an issue every single time. Getting around it is done on a case-by-case basis. It's typically easier after the first one, or after that we decline the work. They're concerned about visuals, noise, building enclosure consultant approval, insurance. It's an uphill battle when people are the first or close to the first presenting a heat pump project to the board. It just takes time and effort."
- "We had one recently where the customer wanted Quiet Line windows that were thicker and wanted to make sure the install was done specifically how the HOA wanted, which was a little different than what we would normally recommend."
- "Sometimes the homeowners do not know how to walk through that process, but most HOAs are pretty good."

Very few respondents had suggestions on how to address this issue; a few said that Energy Trust should offer materials or case studies specifically targeted to HOAs.

- "If Energy Trust makes something available about electric baseboard conversions for multifamily that could be used with condo associations or HOAs, that would be great."
- "Energy Trust should educate more than just contractors; they should reach out to building owners, property managers, and HOAs."

In addition, one respondent pointed out that program staff already present information to HOAs or condominium boards:

- "[My program rep] sometimes goes out and clears it with the HOA or condo association so we don't have to."

6.3.5 Program Communication and Training

There is high participation in Energy Trust training sessions among respondents.

Seventeen of the 30 contractors interviewed said they or someone else from their firms has participated in an Existing Multifamily training session at least once, and all of those said the training had sufficiently prepared them to work with the program. However, those

who had not attended training also said that available Energy Trust and program materials had adequately prepared them to handle program requirements, processes, and paperwork.

Only seven of the contractors interviewed, including the two confirmed as non-trade allies, said they were *not* aware of receiving the *Insider* newsletter distributed by Energy Trust. Most respondents who get *Insider* say they skim its contents to look for updates and material relevant to their business. For example:

- "I don't read it every time but often, I really like it."
- "I read it and look at certain articles if they interest me, but I wish it was not how they released new program info. I would prefer a dedicated secondary email; within the newsletter it can be a little buried."
- "It's always nice to see what's going on and what's coming up."

Satisfaction with communication regarding updates and with staff interactions in general was high among respondents. Trade ally and contractor satisfaction with communications regarding program updates averaged 4.5 on a 1-to-5 scale, where 1 is not at all satisfied and 5 is very satisfied, with 90 percent of respondents offering a rating of 4 or 5. Similarly, respondents were highly satisfied with their interactions with Existing Multifamily program staff, providing an average rating of 4.9 with 100 percent offering a rating of 4 or 5.

When asked if there was additional program support they needed, most respondents said there was not. One trade ally said they would like site visits and an assigned representative from the program, and another asked for more television marketing of HVAC programs. Several trade allies said that they often get information about the Residential program from the Multifamily representative or about the Multifamily program from the Existing Buildings representative, which contributed to the high satisfaction with program staff.

6.3.6 Feedback on Program Processes

Respondents generally felt that the application process was easy, though they gave suggestions for moving the process online and improving the lighting workbook. On average, the ease of using the program application as part of the overall participation process was rated 4.6 on 1-to-5 scale, where 1 is very difficult and 5 is very easy, with 93 percent of respondents offering a rating of 4 or 5. Several of those who offered lower ratings generally explained that they would prefer an online application like the one they use for the Residential program.

- "It's not as easy as they are trying for, but not terrible. I need to do a hard copy print-out, so I would probably say 2 or 3 because there is no online option; I have to

create [a] PDF, upload to the website, digitally sign and send it over. In some cases, the signature can be the hardest; getting the signature and getting it sent over is just more steps."

- "Multifamily would be much simpler if we could do it online like the single family. Have it both online and simplified so they have to sign only one form; currently with multifamily, you have to do two forms every time."

Several lighting contractors offered comments on the lighting workbook, shown along with their rating (in parentheses).

- "The calculators have glitches in them, but Energy Trust's calculator is one of the easiest. I talk to them occasionally about the technical issues like a recessed can in an outside location where there is no drop-down menu for it, but it just needs little technical assistance. Bloody complex, but Energy Trust is pretty good about addressing those." (4)
- "We study the Lighting Calculator and probably know it better than most program folks." (5)

Trade allies also rated their satisfaction with the turnaround time for incentive processing, which averaged 4.1 on a 1-to-5 scale for 25 respondents who answered this question, where 1 is not at all satisfied and 5 is very satisfied. Some of those with lower ratings offered the following comments (ratings shown in parentheses).

- "To compete, we are forced to take the rebate money and reduce the cost to the buyer. For our bigger competitors, it's nothing to them, but to us, it's a lot. From the time we buy and install – including pre and post inspections, waiting for the forms and then getting that signed off – the average pay time is 103 days, so it favors the larger companies. We have to pay net 30. Pay time can be too long." (2)
- "It's always been long but there are times when it goes longer than average." (2)

6.3.7 Suggestions for Improvement and Overall Satisfaction

Overall satisfaction with the contractors' program involvement averaged 4.4 on a 1-to-5 scale, where 1 is not at all satisfied and 5 is very satisfied. Eighty-one percent of respondents (21 of 27) gave a 4 or 5 rating.

Reasons offered by respondents who offered lower satisfaction ratings are shown below, and their satisfaction rating is shown in parentheses:

- One respondent attributed their lower rating not to any flaws of the program, but to their own failure to take full advantage of the opportunities offered by the program. (3)

- A trade ally that is an operator of turnkey laundry operations for apartment buildings felt that the program had let multifamily residents down because incentives are only available for front loading washers, which the respondent said are poorly suited to multifamily use and lead to numerous operational problems when installed. (2)
- One HVAC Existing Residential trade ally who has done projects through the Multifamily program said, "I receive no support or information." (3)

At the end of our interviews, we asked the trade allies about their general satisfaction with the program and if they had any general recommendations for improvement. Most respondents said they had no suggestions. The few proposed areas for improvement were:

- "It would be great [to see] some additional programs for packages that would let us work with HOAs. Provide more education outside of just contractor level; they could be talking to the wider community of owners and property managers and doing outreach to them."
- "Knowing who to contact for all the incentives would be helpful."
- "Streamline the paperwork."
- "Just expedite the check process."
- "It's a great program but the admin process is cumbersome and should be streamlined."
- "Quicker payment, and faster review for applications that require less work (for Evergreen [Consulting Group]) to process."
- "Get the coop funds back to their previous level. I am not sure if they are from the same pot, but for the most part they are a single amount for us."

7 Conclusions and Recommendations

We summarize findings below by research question. Recommendations are bolded.

1 What changes have been made to the existing program and what additional changes are planned?

Energy Trust of Oregon's Existing Multifamily Program places an emphasis on reengagement, particularly focused on direct install participants. This strategy has become more prominent in recent years. The program has shifted to providing short videos in addition to printed materials, has moved some measures to midstream delivery, and has developed relationships with industry and community-based organization to increase program awareness. Savings Within Reach was also recently incorporated into the Existing Multifamily Program.

In the future, the program plans to further expand midstream offerings, and plans to help existing and future customers take on deeper savings in part by leveraging data to target customers.

2 What successes and challenges has the program experienced? How did/do staff plan to address them?

Program staff reported many recent successes including high participation rates in the population of larger multifamily buildings, an increase in participation from priority communities, improved coordination with Oregon Housing and Community Services, and customized marketing for homeowners. Additionally, they have leveraged data to identify direct install customers as the main point of entry and to understand in which regions there may be a greater need for trade allies, where there is also low program participation.

The largest challenge to the program is declining cost-effectiveness of measures, specifically lighting, which is a big draw into further participation opportunities. The program also targets a diverse group of customers, meaning that it can be challenging to ensure that customers and contractors are aware of the appropriate program and program track to leverage, while still using messaging that resonates with a varied customer group.

Staff plan to address these challenges by using data to target certain regions and customer types with future program offerings. They also collaborate closely with staff working on single-family residential programs to ensure that confused customers are directed to the right program. They work to match the style and type

of information included in other program tracks so that their marketing looks cohesive.

3 How effective is communication and coordination between Energy Trust and Lockheed Martin? How could it be improved?

We found both Energy Trust and Lockheed Martin to be satisfied with the amount of communication and coordination between the two groups.

4 How can the program reduce confusion between programs for customers and contractors?

To reduce program confusion, in addition to actions already taken by program staff (aligning style and type of information provided, working closely with other program staff, encouraging trade allies to learn about program differences), the program can **consider more direct outreach to potential participants by telephone**. Such outreach was well received by participants and spurred their participation. Targeted outreach to potential participants with high savings potential would be ideal. These calls could include a telephone screener to identify potential opportunities and then attempt to drive participants to a direct install or walkthrough survey, if appropriate.

For ATACs, provide information regarding the need for a cap on payback periods, as well as information about the process by which projects are assigned to each ATAC.

5 What are opportunities to further increase participation in each of the program tracks?

Related to furthering program participation, we have five recommendations:

- **Look for additional distributors beyond the Portland area to expand the buy-down track to other regions of the state.**
- **Differentiate marketing messages and program offers (if possible) between for-profit multifamily investors and non-profit organizations that offer housing to clients.** The latter group is more open to efficiency opportunities that benefit tenants, but also may be more financially constrained, thereby needing more assistance.
- **Expand program outreach to homeowner associations (HOAs), condominium boards, and property management firms for apartments to ensure they are aware of the Existing Multifamily Program.** Energy Trust currently has a dedicated Energy Advisor for the condo/HOA segment and

uses management firms as a main outreach channel. Additionally, beyond this existing work, Energy Trust could create targeted fact sheets explaining, for example, the benefits of replacing resistance heat with ductless heat pumps (DHPs) or the multiple advantages of high efficiency windows for multifamily buildings.

- **Tailor Existing Multifamily marketing materials to fit varied contractor business models.** Most HVAC, window, and insulation contractors primarily target residential customers, while lighting contractors primarily target commercial buildings.
- **Include more information about upgrade costs and benefits in program information.**

6

How can the program drive deeper energy savings and encourage higher participant investment in efficient equipment and large projects?

In order to drive deeper participation, we recommend Energy Trust continue to focus on **establishing and maintaining relationships with past participants so Energy Trust is top-of-mind when exploring future opportunities.** This would include recording future equipment upgrade needs and approximate dates so that the program can reach out at those times. **We also recommend that Energy Trust increase awareness of the newsletter for participants that introduces new program offers, reminds them of existing ones, and provides tips oriented around standard maintenance and replacement needs.**

Additionally, Energy Trust could leverage high satisfaction rates by participants for word-of-mouth marketing. This would include obtaining testimonials and requesting that managers mention their participation to their peers.

Consider adding a bonus incentive for customers who purchase more than a single measure for the buy-down track and for single buildings or individually owned units. This may help to encourage further participation.

7

How satisfied are customers with their interaction with the program? How do they feel about their investment decisions? How could the program create more meaningful interactions with customers to drive deeper participation?

When asked to rate their experience with the program on a 5-point scale, where 1 is very dissatisfied and 5 is very satisfied, all but one respondent gave a rating of 4 or higher. With regards to interaction with the program, respondents reported that interactions with staff and representatives were uniformly positive.

ATACs reported that they think it may be helpful for their customers if there were a mechanism for ATACs to discuss measure assessment with them, specifically surrounding the cap on the payback period. They also think it may be helpful to have clear communication about the time needed to complete a study between initiation and approval.

As might be expected, benefits seen from participating centered around energy and monetary savings and increased comfort. The participants who mentioned financial savings noted that this was not just the operational savings that result from lower energy use, but also the lower cost of the initial efficiency upgrade or equipment replacement due to the rebate (or free products for direct installations) and, occasionally, lower maintenance costs.

8

What energy saving measures or services is the program developing? Does the program have the right mix of measures to achieve its goals?

The program is currently considering adding the following measures: line-voltage thermostats, retrofit controllers for rooftop units, thermostatic shower restriction valves, condensing rooftop units, and central heat pump water heaters. One distributor suggested that Energy Trust also consider dishwashers, though these are no longer cost effective.

The largest challenge to the current measure mix is the declining cost-effectiveness of lighting measures for the direct install offerings. The loss of direct install lighting measures would impact the ability to encourage other measures, as lighting is often the measure that draws participants to the program. One major appeal of lighting to building managers is the avoided maintenance due to longer bulb life. This may be a good trait to emphasize when promoting other measures.

Though we asked participants about their preferences related to additional measures, participants do not appear to follow efficiency options as closely as Energy Trust does, and we believe they were not in a position to offer concrete, practical suggestions for technology or measures that should be included in the program.

9

Has the program undertaken efforts to reach underserved markets or customers, such as small multifamily properties and properties in less urban areas? What types of efforts have they undertaken, and have they been successful? Do any decision-making differences warrant varied approaches?

The program has taken a data-driven approach to identifying and serving underserved markets. Lockheed Martin identified locations with lower

participation in two- to nine-unit complexes and in properties outside of Portland and Bend and has dedicated account managers located in Southern Oregon and Central Oregon to improve relationships with trade allies and customers. Lockheed Martin reported that recruiting trade allies with HVAC skills in a region where this was lacking has already led to five additional contractors becoming trade allies.

Based on contractor and distributor interviews, there seems to be room to expand information about the program to additional contractors and distributors outside of the Portland and Bend areas, as most of these contractors and distributors work only near where they are located, and most are located in Portland and Bend.

10

How do walkthrough surveys, studies, and other technical information influence customer decision-making efforts and participation? What services are most useful to the customer to inform their capital planning efforts, and how does this differ by customer or decision type?

Participants we spoke with were generally motivated by a need to replace aging or failing equipment, and the program helped to push them to higher efficiency and/or reduced their cost in doing so.

Motivations differed between property managers for non-profit organizations who are focused on serving their low-income tenants and market rate property managers. The property managers of non-profit organizations were less motivated by energy efficiency as its own benefit, and were more interested in the value it could provide to tenants in lowering their bills. Some participants, particularly individual unit owners, mentioned that they did not see the financial incentive as a significant factor in their decision-making process.

A small fraction of participants we spoke with remember getting a walkthrough survey, while others were unsure if the tips they received were part of something less formal. Those who received the walkthrough surveys found them to be very informative. When we described it, just under two-thirds of participants thought a walkthrough survey would be useful and provide value to their properties. Managers of affordable properties seemed to be particularly interested in walkthrough surveys, as five of the six interviewees from that building type who offered an opinion expressed interest.

There were some participants who were more skeptical about the value of walkthrough surveys, as they thought they already knew what needed attention or were satisfied with their efficiency levels. The challenge for Energy Trust is in being able to match effort and outreach to customer interest and opportunities, which requires information beforehand about both the customer (from customer research

or past interactions that are tracked in a customer relation management system) and the degree of opportunities (from customer consumption data and possibly benchmarking).

ATACs reported that there was low awareness of site evaluations and technical analysis studies and noted that they work on a combination of projects from Energy Trust and ones identified on their own. One ATAC reported that many of their projects come through Reserve Studies for condominium and homeowner associations in addition to forensic or remediation work when buildings have problems such as occupant discomfort or excessive energy bills.

We recommended that Energy Trust expand marketing and outreach to increase awareness of the availability and benefits of technical services including walkthrough surveys and technical analysis studies. ATACs identified that owners, property managers, and condo associations could benefit from greater awareness of the no-cost studies of promising measures including variable frequency drives (VFDs) and exhaust fans. At the same time, Energy Trust should continue to recognize the high value of interpersonal interactions between program representatives and multifamily decision makers to provide suggestions and plant seeds for efficiency improvements.



What are opportunities for Energy Trust to enhance its relationships with trade allies and equipment vendors/distributors to increase energy savings?

In general, trade allies and distributors were very satisfied with the Existing Multifamily Program, though a few suggestions were offered. We have the following recommendations for enhancing relationships with trade allies and vendors/distributors:

- **For distributors, align incentives across programs where possible, and be sensitive to how sales data requests are received.** One respondent called this an “overreach,” referring to the Existing Multifamily Program.
- **Maintain and encourage the cooperation between trade ally representatives of the Existing Multifamily, Existing Residential, and Existing Buildings programs.** For example, representatives from each program could send out a yearly reminder to all their trade allies and non-trade ally contractors telling them about other Energy Trust programs in which their customers might be able to participate, along with appropriate contact information.
- **Increase communications with inactive trade allies to encourage their participation.** For example, consider a bonus incentive for the first project



brought in by an Existing Multifamily trade ally after a full year of inactivity and use this to refresh interest in the program among the many inactive allies.

- **Where possible, expedite the application approval and rebate payment processes.**

8 Appendix A: Research Questions

Table 11: Research Questions Mapped to Report Section

Research Question	Section(s) That Address Question
What changes have been made to the existing program and what additional changes are planned?	2 Background
What successes and challenges has the program experienced? How did/do staff plan to address them?	2 Background
How effective is communication and coordination between Energy Trust and Lockheed Martin? How could it be improved?	2 Background
How can the program reduce confusion between programs for customers and contractors?	5 6 Interview Findings
What are opportunities to further increase participation in each of the program tracks?	5 6 Interview Findings
How can the program drive deeper energy savings and encourage higher participant investment in efficient equipment and large projects?	2 Background, 5 6 Interview Findings
How satisfied are customers with their interaction with the program? How do they feel about their investment decisions? How could the program create more meaningful interactions with customers to drive deeper participation?	5 Participant Interview Findings
What energy saving measures or services is the program developing? Does the program have the right mix of measures to achieve its goals?	2 Background, 5 6 Interview Findings
Has the program undertaken efforts to reach underserved markets or customers, such as small multifamily properties and properties in less urban areas? What types of efforts have they undertaken, and have they been successful? Do any decision-making differences warrant varied approaches?	2 Background, 5 6 Interview Findings
How do walkthrough surveys, studies, and other technical information influence customer decision-making efforts and participation? What services are most useful to the customer to inform their capital planning efforts, and how does this differ by customer or decision type?	5 6 Participant Interviews
What are opportunities for Energy Trust to enhance its relationships with trade allies and equipment vendors/distributors to increase energy savings?	6 Distributor Interviews

9 Appendix B: Staff Interview Guide

The interview guide includes five sections that cover different aspects of program implementation. The first is a background section – meant to understand what experience the interviewee has with the various market actors and tracks. The sections that follow cover customer participation, contractors/trade allies, and communication.

Background

1. First, please tell me a bit about your overall role at [Energy Trust of Oregon/Lockheed Martin].
2. How about your role specifically related to Energy Trust of Oregon’s existing multifamily program?
3. Which multifamily tracks do you work with?
4. Can you tell me a bit about how you are involved with [each track mentioned]?
5. How about market segments? Which do you work with the most?
6. What major challenges has the program experienced over the past few years [ask for each track mentioned]? [Probe on ways they have tried to overcome challenges in the past](2)
7. Are there any program successes you would like to share? [ask for each track mentioned]? (2)
8. Have there been any major changes in the program over the past few years? Are there any changes set for the near future? [probe on each track mentioned] (1)

Customer Participation

9. What do you see as the largest drivers for [market actors mentioned above] to take advantage of the multifamily offerings? (10)
10. Which eligible customers are less driven to participate in the multifamily program? Why do you think that is?
11. What are the most valuable program offerings – that were most likely to help drive program participation? [probe on walkthrough surveys, studies, technical information, assistance with capital planning] (10)

12. In terms of capital planning which program offerings have you found to be most useful for customers? Does this differ between [market actor types mentioned above]? (10)
13. Do you have any thoughts on how to encourage deeper savings? [probe on each track mentioned above and across different market segments] (5, 6)
14. Do you think customers are confused by the various program options? If yes, how do you usually handle that? Do you think there are ways that could be made clearer? (4)
15. Have you worked (or attempted to work) specifically with [mentioned market actors] that are part of small multifamily properties in less urban areas? (9)
 - a. If yes, have you had success serving this group? Please describe? (9)
 - b. Are there any challenges specific to serving small multifamily properties in less urban areas? If so, what are they? How do they differ from the broader market? [probe on decision making processes or needs] (9)
16. Now thinking across all market segments, are there any planned program changes that you think may help drive deeper participation? (7,8)
17. Do you think the current set of measures offered to multifamily customers is the right set to maximize participation? (8)
 - a. [If not:] What do you think needs to change in terms of measures offered?
 - b. [If yes:] Which specific measures seem to drive participation?
18. [Measure development staff only:] What measures are you currently working on for the multifamily market? (8)

Contractors/Trade Allies

19. Can you tell me a bit about how you work with contractors/trade allies, or what you know about their involvement in the multifamily program? (11)
20. Do you think contractors are confused by the various program options? If yes, how do you usually handle that? Do you think there are ways to make that easier? (4, 11)
21. Do you have any ideas regarding how contractors/trade allies could help Energy Trust achieve additional energy savings? [probe on additional needs] (11)

22. What about vendors and distributors? Do you think there is more they could do to help achieve additional energy savings in the multifamily sector? [probe on additional needs] (11)
23. Have you worked (or attempted to work) specifically with contractors/trade allies in underserved markets (as described in the Diversity Equity and Inclusions document)? (9)
 - a. [If no:] Do you have any plans to do so in the future? What challenges do you see to working with contractors/trade allies in underserved markets?
 - b. [If yes:] Can you tell me a bit about your experiences working with this group [probe on challenges, successes, goals]?

Communication

24. Tell me a little bit about how work with [Energy Trust/Lockheed Martin]? [Probe on communication frequency and mode, data sharing, program updates] (3)
25. Do you think you communicate well with [Energy Trust/Lockheed Martin]? If not, how could that be improved? (3)
26. Do you think you coordinate well with [Energy Trust/Lockheed Martin]? If not, how could that be improved? (3)

Wrap Up

27. Earlier you mentioned the following successes for the program in the past few years [list successes] Given our conversation, are there any more that you would like to add to that list? (2)
28. Earlier you mentioned the following challenges for the program in the past few years [list challenges]. Given our conversation, are there any more that you would like add to that list? (2)
29. Do you think any of those challenges will already be addressed by planned changes to the program? (1)
30. Is there anything we have not covered that you think I should have asked?

10 Appendix C: Participant Interview Guide

Interview Guide

Energy Trust of Oregon Multifamily Process Evaluation

Participant Interviews Version: July 12, 2019 v2

Overview: Evergreen Economics will be conducting telephone interviews of existing multifamily program participants from 2018 and early 2019 as part of the Existing Multifamily Process Evaluation. We had 43 interviews planned but are finalizing a sampling plan that may include more completions. Interviews will be distributed across the various multiple program tracks, and customer and property types.

The interviews are intended to:

- provide feedback on the program experience;
- provide insights on ways to engage past and future participants more deeply; and
- inform Energy Trust decisions about program structure.

Recruitment: Evergreen Economics will reach out to sampled participants via e-mail (when e-mail addresses are available) to request a brief interview by telephone to provide feedback on their participation in the Energy Trust of Oregon Multifamily Energy Efficiency Program. The initial recruiting e-mail will request 15 minutes of the participant's time and include an Energy Trust of Oregon contact for validation of the legitimacy of the study.

Evergreen staff will follow up on e-mail outreach (when applicable) with telephone calls to request an immediate or scheduled interview. E-mails and telephone outreach will specify the location of the project and the primary measure completed (e.g., HVAC replacement) to help the recipient put the request in context. The interviews will cover all the measures at that location, however.

Introductory Remarks:

- Thank interviewee
- Introduce self, Evergreen Economics (role)
- Purpose of study and interview, how interview input will be used
- Number of interviews being conducted
- Confidentiality

- Clarify that the interview is specifically about the Energy Trust of Oregon-incented efficiency upgrades at [address] in 2018 or early 2019 that included [main measure] and possibly other measures.
 - Any questions for me?
-

Interview Questions

Project Initiation and Interviewee Role [5 mins]

Q1. Please tell me a bit about the project at [address] that you received an Energy Trust incentive for.

Listen and probe for:

- What was done?
- Q1a. What prompted the project?
 - *[Listen for what motivated the project. Did it originate with outreach or a suggestion from Energy Trust in some way (and from whom?) or from elsewhere, such as a technical failure, an internally identified need, or a suggestion from a contractor or someone else not affiliated with the Energy Trust program.]*
- Q1b. How and when did the Energy Trust program enter the picture?
 - *[Listen and probe for how they became aware of the Energy Trust program opportunity and, if volunteered, how that affected the scope of the project.]*
- Q1c. [For all segments EXCEPT Attached Residential Owner] Was the project primarily about maintenance or replacement of failing equipment, a functionality upgrade, an energy efficiency upgrade, or something else?
- Q1d. [For all segments EXCEPT Attached Residential Owner] What was your role?

Q2. [For all segments EXCEPT Attached Residential Owner] What decision-making processes, if any, did you go through before the project could proceed?

Probe or clarify the question as needed:

- Did you need approval from others?
- Did you need to meet any particular payback criteria?

Q2a. [For Attached Residential Owners ONLY] Did you need to get approval for the project from a Homeowners Association?

If yes, probe on what that process was like – easy/difficult, amount of time it took, what did the HOA want to know in order to approve

Q3. [For all segments EXCEPT Attached Residential Owners] What role does energy

efficiency usually play when you make equipment changes or upgrades? Where does it fit in the hierarchy of considerations you would think about?

For all, probe:

- What information sources or whom do you rely on for information about what your energy-saving options are?
- If needed:
 - How often, if ever, do you make equipment, appliance, or lighting changes purely to improve energy efficiency or reduce energy cost? [Note: We are interested in the sampled property and any others they own or manage.]

Q3a. [For Attached Residential Owners ONLY] What role does reducing your energy use or utility bills play when you make improvements to your home? How does it compare with other considerations you think about?

For all, probe:

- What information sources or whom do you rely on for information about what your energy-saving options are?
- If needed:
 - How often, if ever, do you make equipment, appliance, or lighting changes purely to save energy or reduce energy cost?

Participant Experience, Satisfaction, and Suggestions [3-4 mins]

Q4. Next, I'd like to hear how your experience with the Energy Trust multifamily program went. In what way did you interact with the program or its representatives?

Q5. Programs like Energy Trust offer information, energy-saving suggestions, technical support, and financial incentives. What did you get from Energy Trust's program in this case?

Q6. On a scale from 1 to 5, where 1 is poor and 5 is excellent, how would you rate your experience with Energy Trust for the project at [address]?

Probe:

- Was there anything particularly positive or negative?

Q6a. Do you have any suggestions for improvements?

Q7. What benefits have you experienced as a result of the project?

Probe for improved comfort, energy savings, tenant satisfaction (for rentals, not for unit owners), increased property value, less maintenance needs, etc.

Q8. [For all segments EXCEPT Attached Residential Owners] Energy Trust would like to

help multifamily properties do even more extensive energy efficiency upgrades than they currently do. Do you have any suggestions for what they would need to do to encourage your peers in the industry pursue more and larger energy efficiency upgrades?

Q8a. [For Attached Residential Owners only] Energy Trust would like to help homeowners do more to save energy. Do you have any suggestions for what they could do to encourage people like you to make changes that save energy at home?

Q9. If you were looking at Energy Trust's website for information, how likely would you be to follow a link that offers energy efficiency tips and incentives for each of the following types of structures....? [Do not offer a scale unless they ask for one (high / medium / low). Listen for differences in the responses and note which one(s) rise to the top.]

- a) Multifamily buildings
- b) Homes and residences
- c) Existing buildings

Remaining Opportunities and Barriers [5 mins]

Q10. [For all segments EXCEPT Attached Residential Owners] Please think for a moment about all the multifamily properties you own or manage. What do you think will be the next major equipment project or property improvement at any of them?

Probe:

- Is that something for which you think there is a more and less energy efficient option?
- Realistically, which do you think you will go with [more/less efficient]?
- Why?
- What would it take for you to choose the more efficient option?

Q10a. [For Attached Residential Owners ONLY] What do you think will be the next major improvement you make to your home?

Probe:

- Is that something for which you think there is a more and less energy efficient option?
- Realistically, which do you think you will go with [more/less efficient]?
- Why?
- What would it take for you to choose the more efficient option?

Q11. [If the project in Q10/Q10a was not one related to energy efficiency] What do you think is your next best energy efficiency opportunity?

Probe, as needed:

- What leads you to conclude that this is your next best energy efficiency opportunity? [Record response, but listen for reference to Energy Trust walk-through surveys.]
- What, if anything, stands in your way of making that change?

Q12. [For all segments EXCEPT Attached Residential Owners] Have you ever gotten a free “Walkthrough Survey” from Energy Trust to identify your energy-saving opportunities?

[Note: If interviewee had mentioned Energy Trust walkthrough surveys previously, lead into this question as: “I’d like to ask you about the walkthrough survey you mentioned earlier.” Then ask the follow-up probe below.]

If yes, probe:

- Was it helpful?
- Did you do a survey at just one of your properties, some of them, or all of them?
- What did Energy Trust recommend?
- What share of the recommendations have you implemented?
- Why have you not followed through on some of the recommendations?

If no, probe, as needed:

- Walkthrough Surveys are free on-site energy audits where an Energy Advisor will help identify and prioritize energy efficiency opportunities at your property.
- Have you ever heard of these walkthrough surveys?
- Do you think a walkthrough survey would be useful for you? Why or why not?

Q13. Those are all the questions I have. Do you have any other comments or thoughts you’d like to share?

Thank you.

II Appendix D: ATAC Interview Guide

The interview guide includes six sections that cover different aspects of program involvement. The first is a background section – meant to identify what experience the interviewee has with the various market actors. The sections that follow cover program involvement, markets, customer perspectives, ATAC experience, and final thoughts.

Background

1. First, how would you describe your company's business? (i.e., what kind of work do you do; design, installation, engineering?)
2. And what is your position with the company?
3. About how many employees does your company have in Oregon? And how many – if any -- outside the state?
4. What geographical areas does your company serve?
5. About what percent of your business comes from the multifamily sector?
6. Are there certain measures or end uses that you most often work on?
7. Is this company woman owned? Minority owned?

Program Involvement

Now I'd like to talk specifically about your work with the Existing Multifamily program.

8. How long you have been active in the Existing Multifamily program?
9. Our records show that your firm did X studies for the Existing Multifamily program from 2017 to the present. Does that sound right? (If no, please provide your best estimate of the correct number)
 - a) How many of those studies were site evaluations rather than Technical Analysis Studies (or TASs)?
 - b) And were any of them the "short" Technical Analysis Studies (or TASs)?
 - c) And about how many of those studies were assigned to you by the Existing Multifamily program rather than being initiated by you and the customer?
10. To the best of your knowledge, how many of the studies that you did in 2017 and 2018 did NOT lead to projects that received an incentive from the Existing

Multifamily program? (probe if project shows “study” and status as “abandon” in project data)

11. IF ANY DID NOT: Do you know why? Was the project not completed or did it not qualify for incentives? [Probe for cost-effectiveness issues?]
12. What changes to the Existing Multifamily program in the last two years, if any, have affected your ability to participate in the program?

Markets

I'd like to talk a little bit about how you view the overall market for your business and specifically how you identify opportunities for Existing Multifamily studies.

13. How does your company segment the multifamily market in trying to find opportunities for studies? (size, business or building type, end use, past or current relationships)
14. Which segments do you see as having the most potential for Existing Multifamily program projects and why?
15. Are there any other trends you are seeing in energy efficiency potential in different Multifamily market segments?
16. How are those trends most likely to affect your ability to encourage customers to complete custom projects through the Existing Multifamily program? How can the program better take advantage of those trends?
17. Are there certain types of multifamily customers that you think are not well served by the current program design? Why is that and how could the program be changed to better serve those customers?

Customers' Experience with the Program

Now I have some questions about your and your customers' experience with the Existing Multifamily program.

18. Overall, how does the availability of the Custom track help Multifamily customers identify and pursue energy efficiency opportunities? Do the studies you provide give customers the information they need to make their investment decision? [Probe on walkthrough surveys, studies and other utilized technical information]
19. Do you often discuss capital planning with your customers? With which customers? Is it more helpful for some than others?

20. (SKIP IF ALL STUDIES ARE ASSIGNED BY PROGRAM) In cases where the Study has not been assigned to you by the Multifamily program, how are studies typically initiated (e.g., an existing customer asks for a study, you approach an existing customer with an idea for a project or study, you approach a new customer, etc.)
21. Overall, how easy do you think it is for customers to participate in the Custom track of the Existing Multifamily program, where 1 is not at all easy and 5 is very easy?
22. What are some of the most common challenges customers face when deciding to pursue a study for a Custom project through this program? (If appropriate) Are those different for gas and electric customers, for different measures or end uses, or for different sectors?
23. Is there other support the Existing Multifamily program could provide to help your customers realize their energy savings potential? Specifically, how could the program encourage deeper or more comprehensive retrofits?
24. Are there other energy saving measures or services the program should be developing?

ATAC Experience with the Program

Next, let's talk about the process of doing a study through the Multifamily program.

25. Overall, how satisfied are you with the process of completing a technical study through the Existing Multifamily program? Would you say not at all, somewhat, or very satisfied. Why do you say that?
26. IF ALSO DO STUDIES FOR OTHER PROGRAMS: Are there significant differences between the process of completing studies for the Multifamily program and the process of completing studies for other programs? If so, please explain.
27. How are your communications with program staff at Lockheed Martin or Energy Trust going? Would you say excellent, good, fair or poor? Why do you say that?
28. Are you getting the support you need from Lockheed Martin to complete energy studies for the program? (Probe on whether questions they may have are answered/resolved in a timely manner, if they receive program updates in a timely manner, if they have easy access to all the forms and documents they need, etc.)
29. On a scale of 1 to 5 where 1 is not at all satisfied and 5 is very satisfied, how satisfied have you been with the customer assignment process for matching you with customers who need energy studies? (Probe on whether they have been getting too many/too few assignments, etc.) Why do you say that?

30. Any suggestions to improve the customer assignment process?
31. Any issues with the turnaround time for Lockheed Martin's review of energy study results? If so, what are those?
32. Similarly, have you had any issues with the reimbursement process for studies? What do you think could improve the reimbursement process?
33. Is there additional program assistance you would like to have from Lockheed Martin or Energy Trust? (Probe for additional/modified marketing support.)

Final Thoughts and Wrap-up

34. Do you have any recommendations for improving Existing Multifamily program processes?
35. Are there any other topics or issues we did not cover that you would like to talk about?

Those are all my questions. Thanks for your time and good information.

12 Appendix E: Distributor Interview Guide

The interview guide includes the following sections that cover different aspects of involvement:

- Background
- Program Involvement
- Program Processes
- Program Trainings and Communication
- Recommendations for Improvement
- Wrap Up

Background

1. First, how would you describe your company's business? (i.e., what kind of work do you do or products do you sell?)
2. And what is your position with the company?
3. About how many employees does your company have in Oregon? And how many - if any -- outside the state?
4. What geographical areas does your company serve?
5. What types of customers (i.e., sectors or types of businesses) do you mostly work with?
6. Is this company woman owned? Minority owned?

Program Involvement

Now I'd like to talk specifically about your involvement with the Energy Trust of Oregon Existing Multifamily program.

7. Please tell me about the nature of your involvement with the Existing Multifamily program. How long have you been selling equipment through the program? And when did you first become involved with the buy-down aspect of the program?
8. Our records show that your firm sold equipment for X projects through the Appliance Buydown track of the Existing Multifamily program in 2018? Does that sound about right? (If no, please provide your best estimate of the correct numbers)
9. Do you sell equipment through buydown programs for any other Energy Trust programs? Which ones and what types of equipment?

10. Do you also sell other types of equipment to contractors or building owners that is eligible for an Energy Trust rebate but is not covered by the Buydown Track? What types of equipment?
11. About what percentage of your sales go through the Existing Multifamily program? Through all Energy Trust programs?
12. How often do your sales for a project involve a single efficiency measure (such as one clothes washer or efficient hot water heater) rather than multiple units of those measures?
13. Do you have any suggestions for how the Multifamily program could encourage more customers to install multiple measures or pursue more comprehensive retrofits?

Markets

I'd like to talk a little bit about how you sell equipment through the Existing Multifamily program.

14. Do you sell mostly to contractors or directly to building owners or building management companies? About what percentage of your sales that go through the appliance buy-down go to each type of buyer?
15. Which of these groups do you see as having the most potential for sales through the Existing Multifamily Appliance Buydown track? Why is that?
16. Have you had any success in selling to small multifamily properties and properties in less urban areas, either directly or through contractors? How could the Existing Multifamily program increase sales to those customers?

Experience with the Program

Now I have some questions about your experience with the program. Let's start with marketing.

17. Do you use the availability of Energy Trust incentives in your marketing or sales process? How do you talk to customers about the program?
18. What additional materials or support would you find useful in your marketing or sales process?
19. How easy do you think it is for contractors or building owners to participate in the Existing Multifamily program using the Appliance Buydown Track, where 1 is very difficult and 5 is very easy? Why do you say that?

20. How often do property managers have difficulty getting projects that involve Appliance Buydown equipment approved by the appropriate decision makers, such as the building owner or HOA? Rarely or never, sometimes, often?
21. How do you think contractors and building owners perceive Energy Trust and its role in the market? And how do they perceive the Existing Multifamily program, specifically?
22. Based on your experience, are there other measures that owners and contractors would like to see included in the buydown track of the program? What do you see as the advantages and disadvantages of that?

Program Processes

Now I would like to ask you about your experience with program processes for the Multifamily Appliance Buydown.

23. First, could you walk me through the process by which you sell qualifying equipment through the Multifamily Program? I'd like to know how the project originates, who reaches out to you, and what steps you and the contractor or building owner go through to complete the sale.
24. Are there specific aspects of the participation process that are challenging or time consuming? How could those be improved?
25. How easy have you found the paperwork for the Appliance Buydown track of the program, using a 1 to 5 scale where 1 is very difficult and 5 is very easy? Why do you say that?
26. How satisfied have you been with the turnaround time for incentive processing, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied?

Program Communication

27. How satisfied have you been with Energy Trust and Lockheed Martin's communication with you regarding the program, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied? Why do you say that?
28. And how satisfied have you been with your interactions with Existing Multifamily program staff, again using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied? If 3 or less, why have you been dissatisfied?
29. Is there additional program assistance you'd like to have from Energy Trust?

Recommendations for Improvement

30. Other than the ones we have already discussed, do you have any other recommendations for improving program processes?
31. Do you see any opportunities for new efficiency measures or technologies that should be added to the program that are currently not offered?

Final Thoughts and Wrap-up

32. Overall, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied, how satisfied are you with your involvement in the Existing Multifamily program? Why do you say that?
33. Any other topics or issues we did not cover that you would like to talk about?

Those are all my questions. Thanks for your time and good information.

13 Appendix F: Contractor Interview Guide

The interview guide includes the following sections that cover different aspects of involvement:

- Background
- Program Involvement
- Job Specific Questions (depending on role)
- Program Processes (depending on most utilized track)
- Program Trainings and Communication
- Recommendations for Improvement
- Wrap Up

While there are quite a few questions, many are asked only of specific contractor types.

Background

1. First, how would you describe your company's business?(i.e., what kind of work do you do? Sales, installation, repair, design?)
2. And what is your position with the company?
3. About how many employees does your company have in Oregon? And how many - if any -- outside the state?
4. What geographical areas does your company serve?
5. Which kinds of customers do you primarily work with? (Probe, which kinds of multifamily customers? What other types of customers besides multifamily?)
6. Is this business woman owned? Minority owned?

Program Involvement

Now I'd like to talk specifically about your involvement with the Energy Trust of Oregon Existing Multifamily program.

7. How long have you been working with the Existing Multifamily program?
8. Our records show that your firm did X projects through the Existing Multifamily program in 2018? Does that sound about right? (If no, please provide your best estimate of the correct numbers)

9. Have you completed projects through any other Energy Trust programs besides the Existing Multifamily program? (Probe if needed: Existing Buildings, New Buildings, Production Efficiency [industrial], residential programs, etc.)
10. What types of efficiency measures or equipment do you most frequently install for participants of the Existing Multifamily program? (Probe: HVAC, insulation, weatherization, lighting, hot water, other?)
11. About what percentage of your sales are for emergency replacements rather than planned upgrades?
12. How often does a project involve a single efficiency measure (such as one packaged HVAC unit or efficient hot water heater) versus multiple measures or even a whole building retrofit? Are these often planned upgrades?
 - a) Never just a single measure
 - b) Sometimes just a single measure
 - c) Often or usually just a single measure
13. Do you have any suggestions for how the Multifamily program could encourage more customers to install multiple measures or pursue more comprehensive retrofits?

Job Specific Questions

Trade Allies

14. Our records also show that you are enrolled in the Energy Trust Existing Multifamily Trade Ally network? Is this correct? IF NO: SKIP TO NON-TRADE ALLY SECTION
15. IF APPROPRIATE: Our records also show that you are also enrolled in the Trade Ally network for other Energy Trust programs, notably PROGRAM1, PROGRAM2. Is that correct as well?
16. IF TRADE ALLY FOR MULTIPLE PROGRAMS What has your experience been like as a trade ally in multiple program networks? Has anything been confusing or difficult? Please explain.
17. About how long have you been an Existing Multifamily Trade Ally?

18. What do you see as the benefits of being part of the Multifamily Trade Ally network? Which of those benefits is most important to you, and why?
19. Do you see any drawbacks to being part of the Trade Ally network?
20. Overall, how satisfied are you with the support you receive as an Existing Multifamily program Trade Ally, using a 1 to 5 scale, where 1 is not at all satisfied and 5 is very satisfied?
 - a) If 3 or less, why do you say that?

Other Program Trade Allies

21. Our records show that you have done projects through the Existing Multifamily program, but you are NOT a registered Trade Ally with the MF program. Is this correct?

IF NO, SKIP TO TRADE ALLY SECTION
22. Our records also show that you ARE enrolled in the Trade Ally network for other Energy Trust programs, notably PROGRAM1, PROGRAM2. Is that correct as well?
23. Have you considered becoming a Trade Ally for the Existing Multifamily program?
 - a) IF NOT: Why not? SKIP TO DISADVANTAGES (Q31)
24. IF YES: Were you able to find the information you needed to help you decide whether to become part of the Existing Multifamily Trade Ally network?
25. If not, what information were you looking for?
26. And what made you decide not to enroll in the Multifamily Trade Ally network?
27. What disadvantages, if any, do you see in not being registered as a Trade Ally for the Existing Multifamily network?
28. Overall, how satisfied are you with the support you have received as a contractor when you have worked with the Existing Multifamily program, using a 1 to 5 scale, where 1 is not at all satisfied and 5 is very satisfied?
 - a) If 3 or less, why do you say that?

Non- Trade Allies

29. Our records show that you have done projects through the Existing Multifamily program, but you are NOT a registered Energy Trust Trade Ally with any program. Is this correct?

IF NO, SKIP TO TRADE ALLY SECTION

30. Our records also show that you are not enrolled in the Trade Ally network for any other Energy Trust programs either. Is that correct as well? IF NO:

a. Which program Trade Ally networks are you enrolled in? (RECORD ALL AND SKIP TO OTHER PROGRAM TA SECTION)

31. Have you considered becoming a Trade Ally for the Existing Multifamily program? For any other Energy Trust programs?

32. IF NOT: Why not? SKIP TO DISADVANTAGES

33. Were you able to find the information you needed to help you decide whether to become part of the Existing Multifamily Trade Ally network?

34. If not, what information were you looking for?

35. And what made you decide not to enroll in the Multifamily Trade Ally network?

36. What disadvantages, if any, do you see in not being registered as a Trade Ally for the Existing Multifamily network? To put it another way, what advantages can you see from being a Multifamily Trade Ally?

37. Overall, how satisfied are you with the support you have received as a contractor when you have worked with the Existing Multifamily program, using a 1 to 5 scale, where 1 is not at all satisfied and 5 is very satisfied?

a) If 3 or less, why do you say that?

Markets (Asked of all interviewees)

I'd like to talk a little bit about how you view the overall market for your business and how you identify opportunities for Multifamily energy efficiency projects, especially those that would qualify for the Existing Multifamily program.

38. How does your company identify new customers? Do you look at specific segments of the multifamily market in trying to find work, generally? (Probe for size, type

[campus, assisted living, condos] ownership structure, location, end use or equipment type, past or current relationships).

39. On average, what is the size of your multifamily projects, either in number of units or square feet?
40. Which of the customer groups you currently work with do you see as having the most potential for Existing Multifamily program projects for your company? Why is that?

Customers' Experience with the Program (Asked of all interviewees)

Now I have some questions about your and your customers' experience with the program. Let's start with marketing.

41. Do you use the availability of Energy Trust incentives in your marketing or sales process? How do you talk to customers about the program?
42. Do you use any Energy Trust materials in your marketing? Which ones?
43. What additional materials or support would you find useful in your marketing or sales process?
44. (If contractor is a Trade Ally): Do you make use of the marketing funds that Energy Trust makes available to Trade Allies? IF NEEDED: These funds are sometimes called co-op marketing funds or business development funds)
 - a) If yes, how do you use them?
 - b) If no: why not?
45. (All) How easy do you think it is for customers to participate in the Existing Multifamily program, where 1 is very difficult and 5 is very easy?
46. What are some of the most common challenges customers face when deciding to pursue a project through this program? (If appropriate) Are there challenges associated with knowing which program applies to a specific project or which program team you should work with?
47. And how effectively does the program help customers overcome those challenges?
48. What typically leads customers to make the decision to invest in energy efficiency? [Probe by customer type, and on the impact of incentives, studies, and technical information where relevant]

49. How often do property managers or unit owners have difficulty getting projects approved by the appropriate decision makers, such as the building owner or HOA? Rarely or never, sometimes, often?
- a) For which customer or project types is this a key barrier, and why?
 - b) Are there key investment criteria that projects must meet to go forward?
 - c) How do you think the program could assist in the project approval process?
50. How do you think your customers perceive Energy Trust and its role in the market? And how do they perceive the Existing Multifamily program, specifically?
51. What could the program do to encourage Multifamily customers to do more energy efficiency upgrades?

Program Processes

52. Now I would like to ask you about your experience with program processes. Since 2017, have you completed any projects through the Existing Multifamily Program that were in the Custom Track of the program (if needed, custom incentives are based on calculated energy savings rather than a fixed amount per unit of equipment.) If yes, how many custom projects did you complete?
53. If no custom projects: were most of your Existing Multifamily projects through the Standard track or through the lighting track?
54. How do you typically find and win projects that go through the program? (For Custom only, probe: Were any of the Custom Projects that you completed for the Existing Multifamily program NOT initially scoped by an Allied Technical Assistance Contractor, or ATAC?)
55. (CUSTOM ONLY) For custom projects that are initially scoped by an ATAC, how does the “handoff” to your company typically occur?
56. (CUSTOM ONLY) Do you find the energy studies to be valuable? Do they identify energy efficiency opportunities that wouldn’t otherwise be identified or that customers wouldn’t otherwise pursue?
57. (ALL TRACKS) How easy have you and your customers found it to use the incentive application process, on a scale from 1 to 5, where 1 is very difficult and 5 is very easy?
- a) If 3 or less, what aspect of the process is difficult?

- b) How could the process be improved or made easier?
58. Do you have any other suggestions for improving program processes or requirements?
59. How satisfied have you and your customers been with the turnaround time for incentive processing, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied? Why do you say that?
60. Have there been projects where you were able to identify additional measures that the property owner might be able to pursue through the Multifamily program? Can you give me an example?
61. Do you think customers generally feel like they made a wise investment? Why do you say that?
62. Are there other measures that you think should be covered by the Existing Multifamily Program?
63. Do you see any other significant new opportunities for energy efficiency in Multifamily buildings over the next few years? (Probe for outlook for LEDs, smart fixtures, controls)

Program Trainings and Communication (All)

Now I would like to talk about program communications.

64. About how often do you communicate with Existing Multifamily program staff? Who do you communicate with? And how often do you communicate with staff from other Energy Trust programs?
65. How do you typically learn about program updates?
66. Have you participated in a training session for the Existing Multifamily program?
- a) If yes: When was the most recent training session you attended?
- b) Did the training and other resources adequately prepare you to handle program requirements, processes and paperwork for Existing Multifamily projects? Why do you say that?
67. Do you receive the Insider Newsletter distributed by Energy Trust to Trade Allies?
- a) If yes: Do you read these newsletters and do they provide value to your firm?

68. How do you typically learn about program updates? How satisfied have you been with those updates, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied? Why do you say that?

69. And how satisfied have you been with your interactions with Existing Multifamily program staff, again using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied?

a) If 3 or less: why do you say that?

70. Is there additional program assistance you'd like to have from Energy Trust?

Recommendations for Improvement (All)

71. Other than the ones we have already discussed, do you have any other recommendations for improving program processes?

Final Thoughts and Wrap-up (All)

72. Overall, using a 1 to 5 scale where 1 is not at all satisfied and 5 is very satisfied, how satisfied are you with your involvement in the Existing Multifamily program?

a) If 3 or less: why do you say that?

73. Any other topics or issues we did not cover that you would like to talk about?

Those are all my questions. Thanks for your time and good information.