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Final Report

**Process Evaluation –
Energy Trust of Oregon
Existing Multifamily Program**

Funded By:



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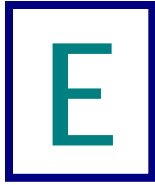
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EXECUTIVE SUMMARY

This report presents the results of a process evaluation of Energy Trust of Oregon's Multifamily Program. The Multifamily program consists of two pathways to participation for multifamily property owners: instant savings measures (ISMs; inexpensive efficiency products installed at no charge), and cash incentives for efficiency improvements (incented measures and projects). Historically, program savings came primarily from ISMs. To produce larger savings for the program, staff are working on increasing the amount of savings that come from the larger and more comprehensive cash incentive projects.

Under Lockheed Martin's administration, Fluid Market Strategies (FMS) implements the ISM portion of the program. The ISM program portion, also known as the direct-install program, provides multifamily properties with free installation of compact fluorescent light (CFL) bulbs, faucet aerators, and high-performance showerheads in tenant-occupied areas. The installation of ISM measures and an accompanying walk-through audit provides Energy Trust representatives an opportunity to identify possible opportunities for deeper energy savings later.

This process evaluation relied on a review of program documents and a variety of secondary sources, in-depth interviews with key Energy Trust and implementer staff, interviews with 11 trade allies familiar with multifamily projects, and surveys of 42 program participants and 24 Oregon-based multifamily property owners and managers that have not participated in Energy Trust projects.

Interviews with program staff suggest strong coordination and communication exists between the implementer, Lockheed Martin, and Energy Trust. The greatest challenge faced by program staff appears to be increasing program savings from incented projects. The program met annual savings goals in 2011 and it appears it will meet or exceed goals in 2012. However, the program has not been able to achieve the initially desired share of savings from incented measure¹. Our research suggests several possible barriers to achieving the desired savings from incented measures.

Low program awareness. The program does not market broadly to multifamily properties, and this showed in our nonparticipant survey, which targeted multifamily property owners or their representatives – the population that the program targets. Nearly half of these nonparticipants were unfamiliar with Energy Trust and the Multifamily program, suggesting that lack of awareness itself remains a barrier. This is somewhat lower than awareness of Energy Trust among nonparticipants in the general commercial sector.² Although the respondents with the

¹ The program wants more non-ISM measures installed in order to deliver deeper energy savings in the multifamily market.

² *Process Evaluation – 2012 Existing Buildings Program (Draft Version)*. Prepared by Research Into Action Inc. for Energy Trust of Oregon, November 16, 2012.



largest portfolios showed higher awareness, the limited overall awareness may be a barrier to program expansion.

Lack of clear linkage between ISM and incented measures. Although ISMs provide cost-effective savings, it is unclear whether using ISMs as a foot in the door leads later to deeper energy saving projects. Most participants in the database had either ISMs or incented measures, but not both. Participant surveys and program data show that incented projects tend to occur in smaller properties and in places where a senior decision-maker (an owner, portfolio manager, or similar) was more involved in the project, while ISMs were installed in larger properties. The program focuses its initial outreach on portfolio managers, who direct program representatives to site-specific property managers to coordinate installation of ISM measures and do the accompanying walk-through. However, property managers do not have the decision-making authority to do larger incented projects and it is not clear how much effort they make to push to address savings opportunities identified during walk-throughs. The program may benefit by working to create greater linkage between site-level and portfolio-level activities.

Difficulty accessing tenant areas. About one-third of the interviewed trade allies serving multifamily properties said that gaining access to tenant-occupied areas was a challenge, creating an obstacle to carrying out energy-saving projects. The program could overcome this barrier by putting greater focus on marketing measures that do not require accessing tenant areas, such as insulation; working with target properties to schedule projects at units with tenant turnovers; and providing owners and managers with information to pass on to tenants, explaining the value of upgrades in terms of greater comfort and lower utility bills.

Difficulty penetrating underserved areas of the multifamily market. Reaching low-income properties has been a program focus for the last year and results from our work suggest the program has been successful at reaching low-income properties. Two-fifths of the respondents said their properties target low-income renters, which compares favorably with estimates of the statewide subsidized housing percentage. However, program staff reported having a hard time reaching low-income properties in rural areas because rural properties tend to be smaller, not a traditional program focus, and low-income not a traditional program focus. This issue may be overcome as the program shifts its focus somewhat in 2013 to reach smaller properties.

Program focus on small share of the market. Program staff reported initially targeting properties with at least 50 units per property and has shifted to targeting those with 30 or more units. The program does not focus exclusively on properties at that size, as about half the participant sample were properties with fewer than 50 units. Moreover, although incented projects were more concentrated in smaller properties, the focus on larger appears to be driven by two things: 1) greater cost-effectiveness of ISMs (since a single contact can result in more installed ISMs); and 2) larger properties yield larger projects with greater savings. We note, though, that properties with fewer than 20 units constitute about 96% of the entire multifamily market in Oregon, and therefore an over-emphasis on larger properties may undermine attempts to achieve more incented projects.



Very low multifamily vacancy rate. Oregon, and particularly the Portland metro area, is experiencing very low vacancy rates for multifamily properties. This might suggest that multifamily property owners have little incentive to improve a property to reduce vacancies. However, results from the participant and nonparticipant surveys indicate that multifamily owners and managers often do projects for reasons that are relevant to reducing turnover rates, such as improving the comfort and the look of their property and, in the case of participants, to lower tenant utility bills.

BETC program expiration. Energy Trust responded to the expiration of BETC by offering the Comfort Now bonus³ that encouraged owners and managers to do larger upgrades. Interviews with trade allies indicate the expiration of BETC did not have a large adverse effect on program participation. Therefore, Comfort Now may have had the desired effect.

CONCLUSIONS AND RECOMMENDATIONS

Results suggest there is great opportunity for savings in the multifamily property market. The program has penetrated only a small percentage of the overall market, and ACEEE estimates Oregon could save large amounts of energy from the multifamily segment. Therefore, Energy Trust should continue efforts to achieve savings in this market sector. Our findings suggest the following specific conclusions and recommendations.

Conclusion: While ISM measures are cost effective energy savers, it is unclear whether installing ISM measures results in additional energy saving projects at a site. A previous report authored by Heschong-Mahone Group⁴ concluded that the Multifamily program should move away from ISMs and encourage non-ISM measures. Program staff indicated that they are moving away from relying on ISMs to provide program savings. ISMs do not appear to be good “foot in the door” projects that result in additional incented projects. Therefore, we agree that more emphasis should be put on promoting incented measures. However, there appears to be a distinct market niche for ISMs in large multifamily properties. Targeting organizations that own or manage a large number of properties may allow the program to maximize the cost-effectiveness of ISMs.

Recommendation: Continue to promote and market incented projects independent of ISMs, and target large multifamily property owners and managers for ISMs.

Conclusion: The program fosters relationships with portfolio managers but the coordination of actual work such as installing measures is frequently done with an on-site property manager. It is not clear that on-site property managers communicate with portfolio managers regarding energy saving projects or walk-through audits potentially leading to a communication breakdown. Communicating results of a walk-through audit and following up with portfolio managers or

³ The Comfort Now Bonus began when BETC expired and ran until June 30, 2012.

⁴ Heschong – Mahone Group. *Quality Assurance Review – Business Energy Solutions*. Submitted to Energy Trust of Oregon on December 8, 2011.



owners is likely the best path to attaining additional energy saving projects at a site. Results indicate that deeper energy saving projects (incented projects) are associated with senior decision-makers (owners, portfolio managers and similar).

Recommendation: The program should continue to target senior decision makers in addition to property managers, with messaging about incented projects, and should consider ways to create greater linkage between its activities at the site level and portfolio level.

Conclusion: Multifamily property owners and managers will make efficiency improvements as part of other projects but are unlikely to do projects for efficiency alone. Owners make property upgrades often, but encouraging efficient purchasing and installation needs to happen when owners and managers are considering upgrades for these reasons: when they are repairing broken equipment, improving the look of their property, or improving the comfort of their property.

Recommendation: The implementer should work more closely with equipment vendors and contractors to drive efficiency upgrades when property owners and managers are replacing failed equipment and when units are in between tenants. One strategy for doing this may be to identify trade allies and equipment suppliers that specialize in the multifamily sector, to establish a multifamily trade ally “sub-network.”

Conclusion: There are many properties in Oregon under the currently targeted size of 30 units per property, and many of those properties are outside the traditional service area (Portland Metro area) of the Multifamily Program. Focusing marketing and promotion efforts on smaller properties may yield additional savings as well as increase participation in underserved areas.

Recommendation: Energy Trust should continue to expand program efforts to reach smaller properties (those with fewer than 30 units) and properties outside the Portland area to increase savings. Vacancy rates for rental properties are higher in rural Oregon than the Portland area. Therefore, marketing efficiency improvements as a way to reduce vacancies may be more effective in areas outside of Portland.

Recommendation: As incented projects tended to be concentrated in smaller properties, Energy Trust and the implementer should explore the most effective strategies for marketing to such properties, including continuing to work through associations and doing presentations at trade shows. Figuring out how to market to small properties should yield specific results for rural areas that tend to have smaller multifamily properties.



MEMO

Date: March 20, 2013
To: Board of Directors
From: Dan Rubado, Evaluation Project Manager
Scott Swearingen, Sr. Business Sector Project Manager, Existing Multifamily Program
Subject: Staff Response to the 2012 Existing Multifamily Program Process Evaluation

The primary findings from this evaluation suggest that the Multifamily Program strategy must continue to evolve as it penetrates deeper into the multifamily market. Energy Trust generally agrees with the evaluators' assessment of the Program's operations and the market conditions. However, Energy Trust has a slightly different perspective on some specific conclusions and recommendations made by the evaluator.

Although the evaluation noted that there is low awareness of the Program in the market, it was not substantially lower than in the commercial sector as a whole. In addition, the Program does some broad promotions and event partnerships with the multifamily industry associations. For example, the Program partners with the Multifamily Northwest (formally Metro Multifamily Housing Association), the largest multifamily industry association in the state. They also use a targeted approach to reach specific property management firms that control large numbers of properties. These outreach channels have had wide reach and are very cost-effective. As the Program shifts towards serving multiple markets, including small multifamily properties and assisted living facilities, it has engaged with a new group of industry associations to target these markets. The Program's visibility may still be somewhat limited among some small owners, but, overall, Program awareness will probably increase.

Energy Trust has started to make a dent in Oregon's multifamily housing market since it opened its doors. The Program has touched more than 2,000 of the approximately 10,000 5+ unit multifamily properties in its service territory, with nearly half of those interactions occurring in 2012. Now that they have begun building relationships with owners and managers of about 20% of the large multifamily market, they are starting to expand their outreach efforts to work with owners of small properties (2-4 units), particularly those that own multiple properties. Although the evaluation also recommended expanding into underserved geographic areas, the Program has successfully achieved about 20% of its savings in outlying areas despite being constrained by its budget how much it can grow beyond the Portland Metro area. The Program appears to be on the right track in reaching out to the key decision makers for multifamily properties. However, for large properties, there appears to be a communication gap between the on-site property managers and corporate portfolio managers that may need to be addressed.

Program staff contend that ISMs are their primary tool for accessing multifamily properties and establishing relationships with owners and management companies. Even though from the evaluation it appears that ISMs have a low conversion rate to incented measures, it may be too soon to say what their long term effects are. They may contribute to the success of Program outreach. ISMs also have an important role in achieving cost-effective savings. That being said, the Program continues to pursue other avenues to acquire savings and reduce its reliance on ISMs in achieving its savings goals. This is already leading to an increase in the number of incented projects and appliances. They have started working with equipment vendors, as recommended in the evaluation, to drive the sales of efficient equipment with good initial success. They are currently running a refrigerator buy-down initiative through appliance distributors and running an RFP to increase the amount of distributors participating in a similar clothes washer buy-down. The Program is also developing a distributor buy-down for hot water heaters and looking at potential initiatives for additional appliances and HVAC equipment.

1

INTRODUCTION

Energy Trust of Oregon (Energy Trust) launched the Multifamily program in its current form in January 2011. Prior to December 2010 Conservation Services Group (CSG) administered the program under Energy Trust’s residential portfolio. Since January 2011, Lockheed Martin has administered the multifamily program under Energy Trust’s commercial portfolio.

PROGRAM SUMMARY

Energy Trust currently defines multifamily properties as properties with buildings comprising five or more units⁵; within such properties, the program covers both rental and owner-occupied units. Energy Trust offers multifamily property owners two pathways to participation for multifamily property owners: instant savings measures (ISMs; inexpensive efficiency products installed at no charge), and cash incentives for efficiency improvements (incented measures and projects).

Instant Savings Measures (ISM) and Walk-Through Analysis

Under Lockheed Martin’s administration, Fluid Market Strategies (FMS) implements the ISM portion of the program. The ISM program portion, also known as the direct-install program, provides multifamily properties with free installation of compact fluorescent light bulbs, faucet aerators, and high-performance showerheads in tenant-occupied areas.

The program theory is that the installation of ISM measures provides a “foot in the door” with multifamily property owners and managers. During these installations, Energy Trust representatives conduct a walk-through analysis of the property to identify possible energy saving opportunities. Specifically, the walk-through analysis reviews floor and attic insulation, windows, water heating systems, clothes washers, and lighting.

Lockheed Martin business development staff contact multifamily owners and managers to offer the above services at no cost to them. Alternatively, owners may approach Energy Trust to request these services.

Once an owner grants permission to access their property, FMS staff provides a pre-install letter to the property manager to deliver to tenants. This letter explains what the tenants can expect from the measures and when installation is scheduled. Included with the letter, tenants receive information about the proper disposal of CFLs and energy saving behaviors.

A FMS direct install team installs all ISM measures. Business Development staff from either Lockheed Martin or FMS take the opportunity to conduct a walk-through survey of the facility to

⁵ As of January 2013, the program will include any multifamily property of two or more units.



identify other energy saving opportunities. A few weeks after installation, Business Development staff follow up with the owner or manager to assess tenants' response to the measures and discuss other energy savings opportunities. If Business Development staff identifies a lighting opportunity during the walk-through survey phase of the project, they determine the facility's capacity to upgrade the lighting and provide that information to Evergreen Consulting, which then works with the property owner or manager and coordinates with a lighting Trade Ally.

Cash Incentives for Efficiency Improvements

Energy Trust offers cash incentives to contractors or their customers for energy efficient upgrades to windows, appliances, water heaters, building envelope, heating and cooling systems, and lighting and for other energy saving improvements, such as solar water heating and pool heating. Customers must pre-apply for cash incentive for either prescriptive or custom incentives. Custom incentives are provided on a case-by-case basis and are determined by a formula that uses a percentage of the incremental cost (the difference between the non-efficient and efficient measure) of installing the measure. This portion of the program is market driven and builds on existing market relationships, working through a network of lighting trade allies and other trade allies (e.g. HVAC, Building Shell) to identify and deliver energy-saving projects for multifamily property owners.

EVALUATION SUMMARY

Research Into Action, Inc. was awarded a contract in January 2012 to conduct a process analysis of the Multifamily program to reflect the current strategy and to provide real-time, in-progress feedback to Energy Trust. This evaluation was based on a review of program processes and interviews with the following:

- ➔ Business Project Manager, Multifamily – Energy Trust of Oregon
- ➔ Implementation Program Manager, Multifamily – Lockheed Martin
- ➔ Eleven trade allies familiar with multifamily projects
- ➔ Forty-two program participants (27 that did only ISM projects, 8 that only received cash incentives, and 7 that did both)

Additionally, we conducted a market assessment, which included a survey of 24 Oregon-based multifamily property owners that have not participated in Energy Trust projects and analysis of secondary data related to the size of the multifamily market.

RESEARCH QUESTIONS

In consultation with Energy Trust evaluation staff, we identified the following research questions:



- ➔ How persistent and deep is owners'/managers' desire to keep tenants comfortable and happy? Do owners and managers continue to see this as a way to reduce turnover/increase occupancy?
- ➔ Do the owners and managers know whether tenants leave ISM measures in place? What, if anything, do they do to encourage tenants to do this?
- ➔ What is the owner/manager experience with the ISM contractors?
- ➔ Do ISM measures lead to additional energy efficiency upgrades?
- ➔ Of those participants doing incented projects, why are owners and managers doing deeper energy saving projects?
- ➔ Of those participants doing just ISM measures, why are owners and managers not doing deeper energy savings projects?
- ➔ What kind of customer re-engagement is occurring, if any?
- ➔ To what extent do owners replace equipment only on failure rather than replacing it proactively?
- ➔ Do trade allies see the program's direct-install activities as competition? If so, what can the program do about that?
- ➔ How can Energy Trust best support trade allies working in the multifamily market?





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ENERGY TRUST AND PMC STAFF

To understand the goals and implementation of the program, we completed an interview with Energy Trust’s Business Project Manager for the Multifamily Program and the Implementation Program Manager from Lockheed Martin. We conducted these interviews in mid-April 2012 and each interview lasted approximately one and a half hours. Additional follow-up calls and emails helped clarify any questions that arose as the evaluation progressed. Interview topics included the following.

- ➔ Respondents’ role and responsibilities
- ➔ Communication between and among Energy Trust and implementation contractors
- ➔ Implementation, including marketing and outreach
- ➔ The role of ATACs and trade allies in program implementation
- ➔ The role of the ISM portion of the program
- ➔ Clarification of how a project progresses from beginning to completion

PROGRAM OVERVIEW

Over the last two years, the Multifamily program met its annual program savings goals. Program and implementation managers both reported that annual savings goals for this program have continually increased over time, but the program has consistently been able to meet its annual gas and electricity savings goals, even during the recent market downturn (see Table 1).

Table 1: Savings Goals and Actual Savings

TIME PERIOD	CONSERVATIVE GOALS		STRETCH GOALS		ACTUAL SAVINGS (YTD)	
	kWh	Therms	kWh	Therms	kWh	Therms
2011	11,305,000	65,552	13,300,000	77,000	16,538,195	67,861
Through August 2012	8,035,967	50,257	9,454,079	58,667	8,165,391	49,784

Despite meeting the overall savings goals, the program has been unable to achieve Energy Trust’s preferred mix of measures for meeting those goals. As can be seen in Table 2, Energy Trust prefers that 60% of all annual program savings come from ISM measures and 40% come from incented measures. The program was unable to meet the desired percentage of incented measures in 2010 and 2011 and sought approval from Energy Trust to exceed the percentage of savings attributed to ISM measures. However, program staff reported that as the program matures they have been able to get closer to Energy Trust’s preferred mix each year and



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anticipate meeting it in 2012. Both Energy Trust and the implementer agree that accessing the multifamily market has been challenging and that moving achieving more savings from incented measures versus ISM measures has been particularly challenging.

Table 2: Percent of Savings by Measure Type

CATEGORY	ISM MEASURES	INCENTED MEASURES
<i>Energy Trust Preferred</i>	60%	40%
2010 Actual Savings	85%	15%
2011 Actual Savings	74%	26%

COMMUNICATION

Both the Energy Trust and Lockheed Martin managers reported good communication among the various parties involved in the program. They described communication as collaborative, focused, and frequent. The Energy Trust manager and the Lockheed Martin manager communicate daily by email and phone and they each meet weekly. Additionally the managers meet at a monthly meeting that includes Fluid Market Strategies (FMS) and Evergreen Consulting. Additionally, the Lockheed manager meets weekly with FMS and Evergreen staff.

MARKETING AND OUTREACH

Lockheed Martin markets the program primarily by building relationships between their business development staff and multifamily property owners and portfolio managers. Additionally, program staff attend trade shows, place ads in trade publications like *Landlord Times*, and have developed collateral aimed at multifamily property owners and managers.

Staff reported that the program targets owners that have 50 or more units per property because their participation would most benefit the program. The program will also serve smaller properties, such as fourplexes, that come to the program; but program staff do not currently market to this population.⁶

Outreach staff work with all eligible multifamily properties within a geographic zone. However, because property owners and managers may have properties in multiple zones, outreach staff are assigned to specific properties if they have an existing relationship with that owner or manager. Therefore, existing relationships between the program and property owners and managers trump zones. Developing personal relationships between business development staff and multifamily owners and managers is the focus of program outreach efforts and those relationships are prioritized

⁶ Small multifamily properties, such as fourplexes currently reside under the Existing Homes program, but they will be part of Multifamily program in 2013.



Staff reported that their geographic focus is in the Portland Metro area. Specifically, 80% savings goals, and a corresponding level of marketing effort, is in PGE territory, which largely overlaps the Portland Metro area.

REPEAT PARTICIPATION

The program design aims to get additional savings over time from participants by building relationships with them during the ISM phase. The ISM measures “begin dialogue with the customer ...[this gets us] a foot in the door to do something deeper.” The implementation contact acknowledged that “some customers will take longer than others to do projects [beyond the ISM measures].” However, the implementation manager reported that 30% of program participants that receive ISMs do subsequent prescriptive incented projects in their buildings. Those subsequent projects generally take place in common areas of the property as opposed to the tenant areas that receive the ISM measures.

KEY BARRIERS TO PARTICIPATION

We asked respondents to identify any potential barriers to program participation. Specifically we asked them to address the following:

- ➔ **ISM measures as competition to lighting contractors.** Program staff informants reported that a few lighting distributor sales staff perceive the ISM part of the program as competition. Program staff attempted to allay this concern by telling distributor staff that the program will prompt future sales for replacements and that the program identifies aging T-12 lights, which can generate work for lighting contractors.
- ➔ **BETC program expiration.** According to program staff, the end of the BETC program had a minimal impact on the Multifamily program. The time it took to get jobs pre-approved under BETC meant participants were reluctant to use BETC on smaller projects. In the few cases where participants did choose to use BETC, the process was often cumbersome and difficult, making participants unhappy with the program. Additionally, Energy Trust offered the Comfort Now bonus in the first half of 2012 to supplant BETC and encourage owners and managers to do larger upgrades.
- ➔ **Underserved areas of the multifamily market.** Reaching retirement centers and low-income properties has been a program focus for the last year. However, staff reported that reaching low-income properties in rural areas has been difficult. Energy Trust has started to work with the USDA to address low-income properties in rural areas but staff reported that this process has been slow. Also, rural multifamily properties tend to be smaller properties than what are found in metro areas. The program has not emphasized these smaller properties until January 2013.
- ➔ **Resistance to buying energy efficient appliances.** Program staff reported that appliance incentives have increased in recent years but multifamily owners and managers do not



seem to take advantage of these incentives. Program staff research indicates that multifamily owners were reluctant to participate because of the time required to participate in the program. In addition, owners reported that the incentive checks went to property management companies, not owners. Therefore, owners did not directly see benefits to participation.

- **Very low multifamily vacancy rate.** Oregon and the Portland metro area, in particular, are experiencing very low vacancy rates for multifamily properties. This trend means multifamily property owners have less incentive to improve a property to reduce vacancy. If someone moves out of a unit it is very easy to fill the vacancy in the current market..

DATA MANAGEMENT AND QUALITY CONTROL

Currently project data are logged in *FastTrack* and customer data are in *GoldMine*. Energy Trust recently developed a Customer Relationship Management (CRM) system to replace *GoldMine* and is in the process of developing a new database system to replace *FastTrack*. These new systems will provide greater project level granularity in the future.



3

TRADE ALLY FEEDBACK

In concert with our 2012 Existing Buildings process evaluation, we interviewed 20 lighting trade allies and 20 non-lighting trade allies. Three of the lighting trade allies and eight of the non-lighting trade allies reported working with multifamily properties. In this section, we discuss responses from those 11 trade allies as they relate to the Multifamily program.

Of the 11 trade allies we spoke to that serve the multifamily sector, six were business owners, four were in sales or business development, and one was a designer. Two of the 11, both building shell contractors, said they specialize in multifamily properties. Below, we summarize responses from all 11 respondents. At the end of this section, we provide a further in-depth discussion of the two respondents who reported they specialize in the multifamily sector.

PROGRAM EXPERIENCE

Experience with Program Staff

The 11 trade allies generally reported good experiences with program staff, with only two describing their relationship as “only ok.” One of these two respondents reported having a program point of contact in the past but he does not have anyone specific to call now. He appreciated having someone he could call regularly and was disappointed when he no longer had that point of contact. The second respondent specialized in energy efficiency upgrades for multifamily properties but said his inability to compete with many “low-cost service providers” that do not offer his range of services has prevented him from having much recent experience with Energy Trust. This respondent said he would like more Energy Trust work.

Energy Trust Training

Seven of the 11 trade allies that serve the multifamily market reported attending Energy Trust training (Table 3). Three of those allies made positive comments about training, indicating that the training provided important insight into Energy Trust priorities and program details. Three made negative comments suggesting that speakers were ill informed, the training was not specific enough, or that the training did not deliver extra business as was hoped.



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Table 3: Training Comments Summary

CONTRACTOR TYPE	TRAINING TYPE ATTENDED	COMMENTS ABOUT TRAINING
HVAC	Sales	Provided insight into what Energy Trust sees as valuable sales techniques and some industry trends. Some speakers were ill-informed, but respondents did not specify what they were ill-informed about.
HVAC	Administrative	Training kept them up to date on Energy Trust programs
Building Shell	BPI Building Envelope	Training covered technical issues of interest to him
Building Shell	BPI Building Envelope	BPI training/certification did not deliver any extra business for his company and training was not necessary to do work in field.
Lighting Contractor	Administrative and Lighting Technology	None
Lighting Distributor	Lighting Technology	Training needs to focus on specific audience more. Make training more specific to sector and technology.
Lighting Distributor	Administrative and Lighting Technology	None

All 11 allies attended a webinar and/or a roundtable, only two of whom specified the topic (a home weatherization webinar). Nine of the 11 allies indicated the webinars were generally helpful. The two who found the webinars unhelpful did not specify what they found unhelpful.

When asked, about half (six of 11) of the interviewed allies said they would be interested in training that helps up-sell customers to purchase energy efficient equipment; the preferred delivery method was split evenly between webinar and in-person training. One of the respondents also explicitly wanted additional training on how to do a payback analysis that will show customers the savings that will result from a project.

IMPACT OF LOSS OF BETC

Eight of the 11 trade allies reported that the loss of the Oregon Business Energy Tax Credit (BETC) did not adversely affect their business. One building shell respondent said that the loss of BETC had had an adverse impact specifically on his multifamily business. One reported it takes his customers longer to complete a project and another said his business was down 80% since the Energy Trust bonus that replaced BETC expired. Since we interviewed these latter two trade allies about both the Existing Buildings and Multifamily program at the same time, it was unclear whether the respondent was talking about multifamily projects specifically or all commercial building projects.



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MULTIFAMILY-SPECIFIC ISSUES

Differences between Multifamily and Other Commercial Customers

When asked to identify the main differences between the multifamily customers and other customer types, nine themes were reported (Table 4). Most comments focused on relative barriers of MF properties, specifically that it is difficult to access tenant-occupied areas, get approval to do work, and to overcome split incentive issues and language barriers. Another general observation is that there were differing views on customers' concern with energy efficiency: three respondents said that multifamily customers are more concerned than others about energy efficiency, while two said that they are reluctant to do energy efficiency that does not directly benefit them and two said that lighting upgrades are not a priority for them.

Table 4: Differences between Multifamily and Other Commercial Sectors (n = 11)

DIFFERENCE	COUNT
It is difficult to access tenant-occupied areas of multifamily properties	4
It is difficult to get approval from board or association to do work	4
Multifamily sector more concerned with energy efficiency than other customers	3
Multifamily has less money for capital projects	2
Lighting not a priority for multifamily properties	2
Landlords reluctant to do energy efficiency that does not benefit them	2
More language barriers with multifamily properties	1
Multifamily properties have limited range of energy-using equipment	1
Multifamily owners ignorant of energy efficiency program opportunities	1

Commenting on the relative budget constraint of his multifamily customers, one respondent reported about 30% of lighting audits for multifamily properties result in projects compared to about 60% to 70% of the audits he provides to other commercial customers.

Familiarity with the ISM Component

All but one of the interviewed allies that serve the multifamily market were familiar with the ISM component. Of those 10 allies, eight reported that the ISM measures had no impact on their work with multifamily properties. The other two did not provide much detail on the benefits of the ISM program, other than saying they got “good feedback” about it from customers, and it helps “build good communication and rapport with both tenants and owners.”



Better Engaging the Multifamily Market

Six respondents identified how Energy Trust might help trade allies engage the multifamily market more or better. Table 5 shows a summary of these comments. The most common comments (3) related to incentives, while two of the six respondents focused on educating the market (boards, associations, and owners). Only one focused on training trade allies.

Table 5: How Energy Trust Can Help Trade Allies Work with Multifamily Properties (n = 11)

SUGGESTION	COUNT
Provide same incentives for ductless heat pumps in multifamily units as single family home*	2
Provide larger incentives	1
Target information on the benefits of energy efficiency to boards and associations	1
Better educate multifamily owners	1
Provide information on how to better sell multifamily owners on ideas of energy efficiency	1
No comments	5

* The Existing Homes Program offers \$800 for DHP, while the Multifamily Program offers only \$600 per outdoor unit.

Multifamily Specialist Profiles

Two of the 11 trade allies reported they specialize in the multifamily market even though they both reported doing fewer than five projects in the last year. Both of these allies offer energy services such as insulation and duct sealing to residential and multifamily customers. However, each respondent reported divergent experiences serving the market and using the Energy Trust multifamily program. One respondent found the Multifamily program helpful to his business and the other struggled to use the program. A summary of each multifamily specialist's feedback is provided below.

Multifamily Specialist #1

This respondent reported that serving the multifamily market was easier than serving other sectors. Generally, this respondent finds that multifamily property owners are receptive to energy efficiency incentives and paybacks because they are more “business savvy” than his other customers are. He has found that multifamily owners will often call him about repair work, which gives him the opportunity to discuss Energy Trust incentives with the customer. This often results in successfully up-selling the customer to projects that qualify for Energy Trust incentives rather than the initially requested repair.

This respondent reported his customers are concerned about first cost but that other considerations, such as reducing operations and maintenance time, improving comfort for tenants, and doing the “right thing for the environment” are also concerns. Getting financing for some customers can be a problem, but this respondent reported that lack of financing delayed



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projects more often than cancelled them. In cases where financing was an issue, he would work with the customer to scale the project back so at least some elements of the project could proceed.

This respondent did not experience any problems working with the Energy Trust program or staff and reported he knew whom to call with questions.

Multifamily Specialist #2

This multifamily specialist respondent serves multifamily properties primarily through non-Energy Trust affiliated low-income programs supported by Portland area counties. He reported doing Energy Trust projects for customers with small rental complexes.

This respondent reported difficulty convincing multifamily owners to do efficiency upgrades without low-interest loans. According to this respondent, multifamily owners and managers were reluctant to pay the up-front costs associated with an efficiency project, even if they would receive an incentive after project completion. However, according to this respondent, these owners would invest in efficiency if they could get low-interest loans similar to what Clean Energy Works Oregon offers.⁷

When asked what challenges he experienced with the Multifamily program, this respondent claimed difficulties competing with “low-cost” contractors that are Energy Trust trade allies but use “cheap products” and do “cheap work.” He said that “some of the people doing Energy Trust work are not doing quality work,” which was adversely affecting his business.

This respondent also reported that the required Energy Trust trainings he attended that maintained his BPI certification were “a waste of time.” He earned BPI certification through Energy Trust but he let it lapse because he never found a use for the certification. He reported that Energy Trust was training “too many people in the [insulation and air sealing] industry for the amount of work out there.”

It is important to note that this ally may have a unique perspective because he serves low-income and smaller properties. He may be less familiar with larger market-cost properties.

⁷ The MPower pilot program might help provide financing assistance for multifamily property owners interested in making upgrades.





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4 MULTIFAMILY PROGRAM PARTICIPANTS

We surveyed 42 multifamily property owners and managers who participated in the Multifamily program between May 2011 and May 2012 (the one-year period preceding the start of the evaluation).

Using program data collected in the *FastTrack* database, we identified 548 multifamily sites that had either received ISM measures or completed an incented project in the period of study. We assigned a random number to each case in *FastTrack* and then weighted that number to prioritize larger properties (those with more units, as reported in *FastTrack*) and those that reported doing multiple projects. We then ordered the list using the weighted random number and selected the top 87 properties for our call list.

We completed 32 surveys between June 12 and July 9, 2012. After completing these 32 surveys, we realized the weighting process inadvertently prioritized properties with ISM projects. ISM projects became prioritized because larger properties were targeted by the ISM component of the program. Therefore, we carried out a second wave of surveys in early October, randomly selecting participants that did incented projects. We completed 10 additional interviews of participants that completed incented projects. The two waves combined resulted in 42 complete surveys (Table 6).

Table 6: Disposition Summary

DISPOSITION	COUNT	PERCENT
Complete	42	38%
Refusal	6	6%
No contact after five attempts	41	37%
Bad or wrong number	9	8%
No longer at job	8	7%
Did not pass screening	4	4%
Total	110	100%

Most of the survey respondents represented firms that owned or managed multiple properties. While we asked some questions to characterize the size of the company (number of properties owned or managed, whether it was for-profit or nonprofit), the majority of the survey questions focused on the specific property sampled. The survey asked interviewees to characterize the property’s size, target audience, and amenities. We also asked them to confirm our understanding of the type(s) of measures they had received (from *FastTrack*, which included ISM, cash-incented, or both) at that property. We asked about their interactions with Energy Trust and the



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program, including how they learned about Energy Trust, their experiences with Energy Trust representatives, and their experiences with the energy efficiency equipment they received. We then interviewed them about any plans they had to do other energy efficiency projects at their property and asked how Energy Trust could work better with them.

REPRESENTATIVENESS OF THE SAMPLE

There are two primary ways a participant can take part in the Multifamily program - receiving ISM measures or installing incented measures. In our sample, 27 respondents did only ISM projects, eight did only incented projects, and seven did both. Table 7 shows that properties with ISM measures were very slightly overrepresented in the final sample relative to the population. While properties that did only incented projects were somewhat less well represented in our sample, the combination of properties that did only incented or ISM and incented measures was only slightly underrepresented relative to the population.

Table 7: Sample Representativeness of Measure Types (ISM or Incented) in Population

TYPE OF MEASURES	POPULATION*		SAMPLE	
	Count	Percent	Count	Percent
Only ISM measures	370	68%	27	64%
Only incented measures	163	30%	8	19%
Both types	15	3%	7	17%
Total	548	100%	42	100%

* All properties with Multifamily projects, May 2011 to May 2012.

When analyzing the survey data, we examined whether responses differed for the ISM and incented project respondents. For the purposes of those analyses, we included the respondents who did both ISM and incented projects in the incented cohort. Doing an incented project requires more effort and an investment on the part of the participant, and it seemed that whatever factors that were likely to underlie differences in survey responses may be some of the same factors that drive the decision to undertake such a project. In addition, since just eight respondents did only incented measures, combining those with the respondents who did both kinds of measures provided better statistical power. When we discuss ISM-specific issues, we include all respondents who did ISM measures.

Since we found relatively few instances where survey responses differed by the type of measures taken, this slight overrepresentation of one group does not generally affect the overall survey results. Therefore, we did not differentially weight survey responses by , type of measures. We discuss any differences we found by measure type.



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SAMPLE CHARACTERISTICS

We asked respondent to describe their role at the sampled property, the size of their company (number of properties and units), the types of tenants they target, the characteristics of the specific sampled property, tenants' responsibilities for utility bills, and the sources of any other energy efficiency services they used.

Respondent and Organization Role

Respondents were about equally split between those whose organization owned the property in question or managed it for the owner (Table 8). ISM projects were much more likely among property management organizations, and incented projects were more common among owners.

Table 8: Role of Respondent's Organization in Property

ROLE	ISM		INCENTED		ALL RESPONDENTS	
	Count	Percent	Count	Percent	Count	Percent
Manages property	20	74%	2	13%	22	52%
Owns property	7	26%	13	87%	20	48%
Total	27	100%	15	100%	42	100%

Interestingly, although only half of the respondents said their organization managed the property, three-quarters of them (32 of 42) described their role as “property manager.” It is possible that in many of these cases, “property manager” is their title as an employee of the organization that owned the property. The other 10 respondents reported they were the owner or president (6 respondents), a corporate officer (3 respondents), or a facility manager (1 respondent).

Organization Size and Type

The firms represented varied widely in size, with about one-third owning or managing nine or fewer properties and about one-fifth controlling over 50 properties (Table 9). Those properties that received only ISM upgrades tended to be associated with larger organizations. The trend for ISM participants to be associated with larger organizations was statistically significant by *Mann-Whitney U* ($p = 0.004$).



Table 9: Number of Properties Owned or Managed by Organization

NUMBER OF PROPERTIES	ISM		INCENTED		ALL RESPONDENTS	
	Count	Percent	Count	Percent	Count	Percent
1 to 9	2	7%	10	67%	12	29%
10 to 50	9	33%	3	20%	12	29%
51 or more	8	30%	2	13%	10	23%
Don't know	8	30%	0	0%	8	19%
Total	27	100%	15	100%	42	100%

Three-quarters (31 of 42) of the respondents represented a for-profit company and eight represented a nonprofit (three did not know their company's status). Eighteen of the 42 respondents (43%) reported that the property specified for this survey targeted low-income renters (including all eight of the nonprofit respondents), and one of these respondents specifically targeted low-income elderly residents. The proportion of properties that target low-income renters initially seems higher than expected, given that subsidized housing constitutes from 17% to 29% of Oregon multifamily housing.^{8,9} However the program has been targeting low-income properties for the past year, and so we would expect to find relatively more low-income properties in the participant population than in the market as a whole.

Whether or not a specific property targeted low-income renters was unrelated to the number of properties the company owned or managed. However, we did find that it was related to some other survey responses, as described below.

Property Size

The size of the specific properties in question ranged from two to 312 units, with a mean of 71 and a median of 57 units (Table 10).

⁸ An Oregon Housing and Community Services (OHCS) analysis found approximately 67,000 "affordable housing" units in Oregon (personal communication, Natasha Detweiler, OHCS Research Analyst, October 15, 2012). This represents 17% of the estimated 386,000 multifamily units in Oregon (see Section 5 of this report).

⁹ A 2007 report by the Energy Programs Consortium separate source reported that HUD-assisted housing made up approximately 29% of all Oregon multifamily housing. (Source: Energy Efficiency in Multi-Family Housing: A Profile and Analysis. Prepared by M. Brown and M. Wolfe, Energy Programs Consortium, June 2007. Accessed at http://www.michigansaves.org/Portals/0/Resources/Program_Financing_Reports/energy_efficiency_in_multi-familyFINAL-1.pdf on October 15, 2012).



Table 10: Number of Units Controlled by Participant Organization by Participant Type

	DIRECT INSTALL	INCENTED	TOTAL
1 thru 100 units	1	7	8
101 thru 900 units	3	5	8
901 thru 200 units	3	3	6
2001 thru 4000 units	4	0	4
Don't know	16	0	16
Total	27	15	42

The majority (60%) of properties that we contacted were multi-building complexes. The second most reported property type was a single apartment building (36%). Only two respondents (both with incented projects) described their properties as a duplex or townhouse; one respondent reported a total of two units in the property and the other reported a total of 12. The distribution of property sizes compares well with the population of project sites in *FastTrack*: a range of 1 to 931 units, with a mean of 63 and median of 38 and 9% of properties with 5 or fewer units.

PROPERTY AMENITIES AND SERVICES

Property Amenities

To identify places where the property owner or manager might directly benefit from energy savings through lower utility bills, we asked respondents to identify the types of common areas in their properties. Three-quarters of those properties that we contacted had laundry rooms and about two-thirds had outdoor parking available to tenants; other frequently mentioned common areas were outdoor lighted corridors or walkways and indoor hallways (Table 11).

Table 11: Property Common Areas by Target Audience

TYPE OF COMMON AREA	TARGET LOW INCOME RENTERS (n = 18)		NOT TARGET LOW INCOME RENTERS (n = 24)		TOTAL (n = 42)	
	Count	Percent	Count	Percent	Count	Percent
Laundry rooms *	17	94%	15	63%	32	76%
Outdoor parking	13	72%	16	67%	29	69%
Outdoor lighted corridors/walkways	9	50%	13	54%	22	52%
Indoor hallways	7	39%	8	33%	15	36%
Lobby	6	33%	4	17%	10	24%
Pool *	1	6%	8	33%	9	21%
Game or club room	3	17%	7	29%	9	21%

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TYPE OF COMMON AREA	TARGET LOW INCOME RENTERS (n = 18)		NOT TARGET LOW INCOME RENTERS (n = 24)		TOTAL (n = 42)	
	Count	Percent	Count	Percent	Count	Percent
Garages	2	11%	7	29%	9	21%
Exercise facility	1	6%	5	21%	6	14%
Cooking facility	0	0%	1	4%	1	2%
Outdoor recreation areas **	5	28%	2	8%	8	19%
No common area	3	17%	3	13%	6	14%

* The difference between properties that target low-income renters and other properties is statistically significant ($p < 0.05$) by chi-square.

** Playgrounds, courtyards, and lawns.

To provide additional information on the energy saving potential in properties with common laundry facilities, we asked how many washing machines were in such facilities. The 32 respondents (76% of the sample) who reported common laundry facilities reported from one to 15 washing machines, with a mean of five machines.

As noted above, the program has made low-income properties a focus. Therefore, we examined whether low-income properties differed from other properties in the types of common areas. This information may help program staff target their services appropriately. Overall, the two types of properties did not differ significantly in the number of types of common areas they provide, whether or not they have common areas in indoor, heated areas (such as hallways, lobbies, game rooms, and exercise facilities), or in whether or not they have outdoor, lighted common areas (parking areas, outdoor walkways, and recreation areas).

However, properties that target low-income renters were more likely to report common laundry facilities (as market-cost properties may be more likely to provide facilities in tenant units) and were less likely to have pools. Therefore, it may be valuable for the program to emphasize incentives for washers and dryers when dealing with properties that target low-income renters..

No other difference was statistically significant, although we observed a marginally significant ($p < 0.10$) trend for low-income properties to more frequently report common outdoor recreation areas, which may provide an opportunity for lighting upgrades.

Tenant Responsibility for Energy Bills

Whether or not tenants pay their own utility bills likely has a bearing on decisions about making energy-saving upgrades. A large majority (38 of 42) of respondents reported that tenants were responsible for paying their own electric utility bills. The other four respondents reported either that tenants did not pay utility bills, that tenants paid electricity bills that exceeded a set allowance, or that they did not know. About one-third (15 of 42) of the sampled



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properties had gas service; tenants were responsible for paying their gas bill at six of those 15 properties.

LEARNING ABOUT THE MULTIFAMILY PROGRAM

We asked respondents how they first learned about the Multifamily program. About half of them reported an Energy Trust source, mostly advertising or previous work with Energy Trust (Table 12)). Nearly one-third of them first learned of the program through their corporate office or from a property manager – they did not report the ultimate source of program knowledge in those cases.

Table 12: How Respondents First Learned About the Energy Trust of Oregon Program

SOURCE	COUNT	PERCENT
Company main office or property manager	12	29%
Advertisement/flyer/brochure	9	21%
Energy Trust representative	7	17%
Previous experience with Energy Trust	4	10%
Word of mouth (e.g., from a colleague)	4	10%
Contractor or distributor	2	5%
Other (PGE, ODOE)	2	5%
Don't know	2	5%

EXPERIENCE WITH THE ISM PROGRAM COMPONENT

To assess the quality of program experience and provide useful feedback for shaping program services going forward, we asked the 34 respondents who received any ISM measures (including the seven who received both ISM and incented measures) about their participation in that program component. Specifically, we asked who they interacted with about the program, what information they had received about available incentives, their satisfaction with the measures they received and interest in other ISM measures, any additional projects done or planned, and suggestions for how Energy Trust could work better with them.

Interactions with Program Representatives

Of the 34 ISM recipients, 28 respondents had had direct interactions with someone related to the program. Of those, 17 interacted with installers; six interacted with an Energy Trust representative via phone, email or in person; three interacted with a contractor; and seven did not recall with whom they interacted. Five respondents had interactions with an installer as well as some other Energy Trust representative.



Only six respondents reported that an Energy Trust representative had provided any information about Energy Trust incentives available for other projects. Only two of those respondents described receiving any printed program material; of the others, one each reported being given a verbal description of possible equipment upgrades, being told about online resources, being given a business card, or just receiving regular communication from Energy Trust.

We asked whether the information given them influenced their thinking about possible future upgrades. Three indicated some interest, but one indicated that budget was lacking and one stated that any upgrade would happen in the future “but not this year.” Three explicitly indicated that the information provided them did not have any influence on possible future upgrades.

Interest in Additional ISM Measures

Twelve ISM recipients reported they would like to have received additional measures installed during the ISM installation process, including weather stripping and door sweeps (seven respondents), windows (three), and additional lighting measures (two)¹⁰. Others indicated interest in installing ISM measures in units where tenants previously opted out and having spare measures left behind.

Satisfaction with Installed Equipment

We asked about tenant satisfaction or dissatisfaction with the installed equipment. Half (17 of 34) of the respondents reported positive feedback from tenants, some of whom reported multiple types of feedback. Six respondents reported that tenants enjoyed the new showerheads, six said tenants appreciated the new lighting, six said residents enjoyed lower utility bills, and one respondent reported that tenants generally appreciated the new upgrades.

Ten ISM respondents reported that tenants complained about the installed equipment. Seven of those 10 respondents reported dissatisfaction with the low water flow associated with the aerators. In addition, two respondents reported that showerheads broke, resulting in water spraying outside of the shower. Three respondents reported removing some of the measures from tenant units when tenants complained. When asked if complaints have been resolved, eight of the 10 respondents reported that the issues had been resolved.

Additional Projects Done or Planned

Eleven respondents reported having done additional energy efficient upgrades post ISM installation (four respondents) and/or plans to do energy efficient upgrades in the near future (10 respondents). The most common measure types mentioned were windows, insulation, and lighting (Table 13). Note that the four respondents that had carried out additional projects did not specify whether or not the installation of the ISM measures had influenced them to do so.

¹⁰ One respondent wanted ISM lighting measures installed in exterior spaces, and one wanted ISM lighting installed in other spaces in apartments, such as vanity lights in bathrooms.



Three of the ten ISM participants reported doing an incented project through Energy Trust.

Table 13: Recent and Planned Upgrades (n = 11)

MEASURE TYPE	NUMBER OF RESPONDENTS REPORTING...		
	Upgrades Completed After ISM Installation (n = 4)	Planned Upgrades After ISM Installation (n = 10)	Either Completed or Planned Upgrades (n = 11)
Windows	3	4	7
Insulation	2	5	5
Lighting	2	2	3
Other Shell *	1	1	2
Solar	0	2	2
Appliances	1	1	1
Don't know – waiting for audit results	0	1	1

* Siding or a reflective paint to improve the insulating characteristics of existing siding.

EXPERIENCE WITH INCENTED PROJECTS

To help program staff shape future program services, we asked the 15 respondents that received incentives why they did the upgrade, where on their property projects were completed, what role contractors played in their decision to do an upgrade, and their plans for future projects.

We were able to identify the types of measures installed from the program database. Five respondents received incentives for appliance replacements, three each did window and lighting upgrades, two carried out some unspecified custom upgrade, and one each did a weatherization project and a water heater replacement.

Reasons for Upgrades

About two-thirds of respondents reported they did the project to lower their tenants' utility bills, and about half said they did it to improve the look or feel of their property or replace old equipment. Environmental concerns, tenant retention, increasing property value, and complying with Housing and Urban Development HUD requirements were less common concerns (Table 14).



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Table 14: Reasons for Doing Incented Project (n = 15)

REASON FOR UPGRADE	NUMBER OF RESPONDENTS
Lower utility bills	11
Improve look or feel of property	8
Replace old or broken equipment	8
Environmental concerns	3
Keep tenants longer	1
Increase property value	1
Make property compliant with HUD inspection	1

Location of Upgrades

Thirteen of the 15 respondents reported that they had done upgrades in tenant areas. In 12 of those cases, the respondents reported they had carried out the tenant-area upgrades in all units. The other respondent reported installing new refrigerators in units “as needed” and had completed refrigerator upgrades in 10 of 16 units.

In addition to the tenant areas, respondents installed measures across the common areas of their property (Table 15). Laundry rooms were the most commonly cited common area for an upgrade.

Table 15: Common Areas Where Upgrades Took Place (n = 15)

AREA OF UPGRADE	NUMBER OF RESPONDENTS
Laundry rooms	6
Indoor hallways	3
Lobby	1
Garages	1
Other (not specified)	4

Role of Contractors

We have found from evaluations of the Energy Trust Existing Buildings program that many commercial building and business owners rely heavily on contractors for input into upgrade decisions. It would be valuable to the program to know whether contractors had similar levels of input into upgrade choices in the multifamily sector. Of the 15 incented project respondents, 11 reported that they used a contractor to help carry out their upgrade project. Six of those respondents reported that the contractor influenced their decision. Therefore, a contractor was influential in about one-third of the upgrade projects.



UPGRADE PLANNING AND DECISION-MAKING

To provide insights into how energy efficiency influences upgrade decisions among program participants, we asked respondents how they make upgrade decisions, about any efficiency-related policies in place their organizations, about their plans for future upgrades, and about the role that their competitors' actions have on their decisions.

Decision-Making Process

Decision-making processes regarding facility upgrades often involve multiple people and can be complicated. To understand the processes at multifamily properties, we asked who is involved in upgrade decisions and how decisions are made.

We asked respondents to describe the decision-making process involved in completing facility upgrades, including who was involved in decision-making. Two-thirds of the respondents said that individuals at the portfolio or corporate management level were involved, and about half said that the on-site property manager was involved. Fewer than half said that the owner was involved in the decision, and even fewer said that maintenance or facilities staff were involved (Table 16 **Error! Reference source not found.**).

Table 16: Individuals Involved in the Decision-Making Process (n = 42 Multiple Responses Allowed)

DECISION-MAKER	COUNT	PERCENT
Portfolio manager / corporate office	28	67%
On-site property manager	22	52%
Owner of the property	18	43%
Maintenance/facilities	5	12%
Don't know	3	7%

Nine respondents provided additional comments relating to decision-making. The general consensus was that on-site managers can make decisions about lower-cost upgrades, while large capital upgrade decisions are made at the corporate or ownership level. Property managers appear to have some influence over upgrades because they identify upgrade opportunities and make suggestions to corporate and owner decision makers. The exact cost threshold at which an on-site manager could make upgrade decisions was not consistently defined. Two on-site property managers cited thresholds of \$100 to \$200, one of whom said that the board of owners had to approve any expenses over \$2,000; another respondent (corporate level) did not say what an on-site manager could sign off on, but stated that the director of operations, finance director, and general manager make the final call on upgrades over \$100,000.



Although these findings suggest that on-site property managers may act as a “gatekeeper” regarding upgrades, they also emphasize the importance of conducting outreach to corporate-level management and not relying on contacts with on-site property staff. It is interesting that maintenance and facility staff were not mentioned as involved in decision-making, as they typically play some role in other commercial properties.¹¹ The difference may be in the types of responsibilities required of maintenance or facilities staff at a 50,000-square-foot office building versus those at an apartment complex.

Energy-Related Policies and Procedures

Previous evaluations of the Energy Trust Existing Buildings program have shown that many firms in the commercial market have policies in place to reduce energy use. To determine whether firms that own or manage multifamily properties had similar policies in place, we asked respondents what kinds of energy-related policies were in place at their organization. We asked specifically whether they had: an official company policy to reduce energy use; a specific person or persons responsible for energy and energy efficiency; a policy to purchase only energy efficient equipment; or some other energy-related policies. We found about 41% respondents had no policies in place.

About one-third of the respondents said their organization had one of the above policies in place, and nearly as many described some informal policy, such as staying up-to-date on efficiency information, trying to factor in energy usage when upgrading appliances, or asking tenants to assist in lowering energy costs through conservation (Table 17 **Error! Reference source not found.**). Most of these respondents either endorsed at least one or more formal policies or described some informal policy, but two indicated formal and informal policies. The other two-fifths of the respondents reported that their organization did not have any energy related policies or procedures

Table 17: Energy Related Policies or Procedures at Respondent's Organization (Multiple Responses Allowed)

	ISM (n = 27)		INCENED (n = 15)		ALL RESPONDENTS (n = 42)	
	Count	Percent	Count	Percent	Count	Percent
No policies	14	52%	3	20%	17	41%
Informal policies	6	22%	8	53%	14	33%
Any formal policy	9	33%	4	27%	13	31%
New equipment should be energy efficient	5	19%	2	13%	7	17%
An official company policy to reduce energy use	3	11%	3	20%	6	14%

¹¹ *Process Evaluation -2009 Existing Buildings Program*. December 1, 2010. Energy Trust of Oregon. Prepared by Research Into Action Inc.



Staff member(s) responsible for energy and energy efficiency	3	11%	2	13%	5	12%
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Respondents that had done incented projects were more likely than ISM respondents to indicate their organization had some formal or informal energy policy. This is reflected in the fact that only 20% the former reported no policies, while 52% of the latter did so ($p = 0.042$). Even so, the difference between the two groups is entirely in the number indicating informal, not formal, policies.

We also observed a non-significant trend ($p > 0.10$) for properties that target low-income renters to be more likely than other properties to have some kind of policy in place compared to those that do not target low-income renters: 72% of the former reported some type of policy, compared to 50% of the latter.

Consistent with the above findings, about two-thirds of respondents reported that energy efficiency either “usually” or “always” factors into their own decisions in equipment or facility upgrades at their company. Incented-project respondents were somewhat more likely than others to say they usually or always considered energy efficiency (80% vs. 60%), but this difference was not statistically significant ($p > 0.10$).

Perhaps more to the point in this case is that respondents representing companies that owned their property were more likely than those representing management companies to report they usually or always consider energy in equipment decisions (85% vs. 50%; $p < 0.05$).

Desired Additional Upgrades

We asked respondents what additional efficiency upgrades they would like to make at their property. We found that nearly half (20 of 42) of the respondents identified additional upgrades they would like to make at their property. The most common type of upgrade was window or door replacement, followed by insulation and lighting (Table 18).

Table 18: Types of Upgrades Property is Planning (Multiple Responses Allowed)

	COUNT	PERCENT
Windows and/or doors	9	45%
Insulation	4	20%
Lighting	3	15%
Appliances	2	10%
Renewable energy	2	10%
Water heater	1	5%
HVAC	1	5%



The 20 respondents representing property owners were more likely to identify additional upgrades they would like to do than were the 22 respondents for property managers (75% vs. 23%; $p < 0.001$).

ISM and incented project respondents were about equally likely to identify additional desired upgrades. Respondents targeting low-income renters were somewhat less likely than other respondents to identify additional upgrades, but the difference was not statistically significant ($p > 0.10$).

Of the 20 respondents that identified desired upgrades, one reported that the project was in fact already underway and another said they were waiting for an energy audit to identify needed upgrades (implying that they would be carried out when identified). We asked the other 18 why they had not yet made the upgrades. The majority (14) said they did not have the time or money to do the upgrade and one simply said that decisions take a long time at his company. The other three respondents did not know why upgrades had not yet been undertaken.

When asked what would get respondents to do additional upgrades at their property, respondents primarily said they needed financial incentives (12 respondents). Seven respondents either did not know what would encourage the upgrades to occur or said there was nothing that Energy Trust could offer. One person suggested that an audit of his building would have to show savings over time.¹² One of the respondents that cited the need for financial assistance also said that assistance with finding a contractor to help physically install measures would be valuable.

Awareness of Competitors' Improvements

Only six of the 42 respondents reported awareness of property improvements at their competitors' properties and only two of these six reported actually doing something formal to track competitors. Therefore, it does not appear that most decisions about property upgrades are driven by the need to "keep up" with the competition.

OTHER ENERGY EFFICIENCY SERVICES RECEIVED

The majority (81%) of respondents we contacted reported that they did not receive energy efficiency services from organizations other than Energy Trust of Oregon. Those who did receive efficiency services from other organizations named the Oregon Department of Energy BETC program, PGE, a grant from a private foundation, a HUD grant, and Lord Green Solutions.

¹² Revisions to the walk-through survey made in December 2012 will show savings over time according to program staff.



5

MARKET ASSESSMENT

This section of the report integrates findings from secondary resources with the results of a survey to provide information about the multifamily market in Oregon and opportunities for the program to increase its reach. We first present a brief analysis of existing data about the size of the market followed by a discussion of program opportunities, followed by the results of a survey of nonparticipant multifamily property owners and managers.

SIZE AND DESCRIPTION OF MARKET

We examined data from the US Census Bureau and from a database of commercial properties in Oregon developed by the CoStar Group from property tax records to attempt to estimate the size of the multifamily rental market in Oregon.¹³ Energy Trust supplied the CoStar data.

The US Census Bureau estimates there are about 386,000 multifamily units in Oregon, which includes everything from duplexes to large apartment buildings and complexes. Of those, 263,619 of those units are in structures with five or more units, which constitute approximately 18% of all housing in Oregon.¹⁴ This is consistent with a January 2012 report by the American Council on an Energy-Efficient Economy (ACEEE), which estimates there are more than 255,000 units in Oregon in properties with at least five units, representing about 16% of all dwellings in the state. Of those 255,000 units, about 219,000 receive heat from electricity or natural gas.¹⁵

Based on an analysis mapping Census tract data to the Energy Trust service territory, Energy Trust staff estimated that 229,529 of the Oregon rental units are within Energy Trust territory. That figure is about 87% of the total count of rental units for the state.

The Census data do not report numbers of rental properties. Rather, the tables show the number of units broken down by number of units per multifamily structure. From that information, we estimated a total of 63,598 multifamily structures in Oregon (55,330, if we assume that 87% are within Energy Trust territory), with a mean of six, and a median of about three units per structure (Table 19).

¹³ The CoStar Group is a provider of commercial real-estate information and analytic services. For more information visit their website at <http://www.costar.com>.

¹⁴ US Census Bureau; American Community Survey, 2006-2010 5 yr. estimate. For our analyses, we used Tables B25024 and DP04, generated using American Fact Finder, <http://factfinder.census.gov/home>, October 2 and 15, 2012.

¹⁵ McKibbin, A. et al. *Engaging as Partners in Energy Efficiency: Multifamily Housing and Utilities*. American Council for an Energy Efficient Economy (ACEEE). January 2012. Accessed October 1, 2012. <http://aceee.org/research-report/a122>



Table 19: Distribution of Oregon Multifamily Rental Structures by Size

STRUCTURE SIZE	NUMBER OF UNITS IN STATE	NUMBER OF STRUCTURES *	PERCENT OF ALL STRUCTURES
Two units	49,699	24,850	39%
Three or four units	72,619	20,748	33%
Five to nine units	76,225	10,889	17%
10 to 19 units	64,507	4,449	7%
20 to 49 units	49,844	1,445	2%
50 or more units	73,043	1,217	2%
Total	385,937	63,598	100%

* For each “structure size” category, we estimated the number of structures by dividing the total number of units in that category by the median number of units for that size structure. For the category “50 or more units,” we arbitrarily assigned a “median” value of 60, under the assumption that the distribution of size of structures in that category is positively skewed. Note that of Multifamily participant structures with more than 50 units, the mean number of structures is 126. As the program targets larger structures, we would expect that number to be greater than that for the general population of structures. While it is also likely that all size categories representing structures above the median size will be positively skewed, we found that using different values to represent the various categories had little effect on the totals.

The above estimates cover all multifamily properties, from duplexes up. If we constrain the analysis to structures with at least five units, the above data yield estimates of 18,000 such properties (15,660 within Energy Trust territory), with a mean size of about 15 units and a median of about eight.

The above estimates of structure size do not tell us about the mean size of multifamily properties: a single property may have several multi-unit structures. We used data from the CoStar database to estimate the number and size of multifamily properties. That database shows multifamily properties only for 20 of Oregon’s 36 counties. However, according to the Census data, those 20 counties account for 356,986 multifamily units, 92.4% of all those in Oregon. Therefore, we estimated the number and size of properties for the 20 listed counties.

That database lists a total of 6,686 multifamily properties within the Energy Trust service territory in the 20 included counties. This may underestimate the total for those counties, as only 1% of all multifamily properties in the database are subsidized housing, while various sources indicate that subsidized housing constitutes from 17% to 29% of Oregon multifamily housing.¹⁶ Therefore, we estimate that the 20 included counties probably have from 7,960 to 9,286 multifamily properties in Energy Trust territory.

¹⁶ An Oregon Housing and Community Services (OHCS) analysis found approximately 67,000 “affordable housing” units in Oregon (personal communication, Natasha Detweiler, OHCS Research Analyst, October 15, 2012). This represents 17% of the Census Bureau total of 386,000 units. A separate source reported that HUD-assisted housing made up approximately 29% of all Oregon multifamily housing in 2007 (*Energy Efficiency in Multi-Family Housing: A Profile and Analysis*. Prepared by M. Brown and M. Wolfe, Energy Programs Consortium, June 2007. Accessed at http://www.michigansaves.org/Portals/0/Resources/Program_Financing_Reports/energy_efficiency_in_multi-familyFINAL-1.pdf, October 15, 2012).



Of the estimated 229,529 Oregon rental units within Energy Trust territory, we expect 92.4% – 212,085 units – to be in the 20 counties. Another source for estimating the number of units yields a highly similar figure. The CoStar database shows the rental area of each multifamily property. The total across all properties listed was 213,101,250 square feet. We could not find published data on mean rental unit size, but analysis of a sample of 68 Portland metro area rental units advertised on a commercial rental broker website¹⁷ yielded a mean of 995 square feet. That mean unit size produces a total of 214,172 units in the CoStar data, very close to the estimate from the Census data.

Dividing the Census total of 212,085 by the above estimates of the number of properties yields estimates of 23 to 27 units per property (Table 20).¹⁸ These estimates are well below the average of about 63 units per property for Multifamily program participants. The difference is not surprising considering that the Multifamily program targets larger properties.

Table 20: Estimates of Multifamily Units, Multifamily Properties, and Units per Property

ITEM	STATISTIC
Multifamily units in properties with 5 or more units in Oregon *	263,619
Multifamily units (5+ unit properties) within Energy Trust territory (87% of total)	229,529
Multifamily properties in Energy Trust territory	
Lower bound	7,960
Upper bound	9,286
Mean number of units per property	
Lower bound	23
Upper bound	27

* US Census Bureau; American Community Survey, 2006-2010 5 yr. estimate, Tables B25024 and DP04.

If we could assume the same number of units per property, on average, for the 16 counties not covered in CoStar as in the 20 CoStar counties, then the estimated total number of multifamily properties within Energy Trust territory throughout the state would range from about 8,600 to about 10,000. That assumption may not be justified, as the former counties are among those with the lowest population densities in Oregon, and it would not be surprising that relatively more

¹⁷ http://www.zillow.com/homes/portland-suburban_rb/#/homes/for_rent/Portland-OR/apartment_condo_duplex_type/. Accessed October 16, 2012. The sample consisted of the first 68 apartments listed. We found no evidence of a trend for earlier-listed apartments to differ in size from later-listed ones.

¹⁸ Note that the subsidized housing properties tend, on average, to have more units than market-priced housing. A report prepared for the U.S. Department of Housing and Development estimated an average property size of 42 units. (Source: *Development and Analysis of the National Low-Income Housing Tax Credit Database*. Prepared by Abt Associates for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research, July 1996. Accessed at: <http://www.huduser.org/Datasets/lihtc/report.pdf>, on November 20, 2012.)



rental properties would be small “garden” style apartments rather than large suburban complexes and urban apartment buildings. As those counties account for only 7.6% of all Oregon multifamily units, however, variability in the estimated mean property size in those counties would have little impact on the statewide estimates.

The property owner’s location is identified for 5,184 (78%) of the properties identified in CoStar. Companies based in Oregon own 84% of multifamily properties in Oregon, with the owners of the remaining properties distributed over 39 other states. California companies own the second largest number of multifamily properties (487, 9% of all properties) and Washington companies own the third largest number of properties (174, 3%).

Properties with out-of-state owners appear to be as likely as those with in-state owners to have participated in the Multifamily program. Energy Trust staff classified each multifamily property in CoStar as likely or unlikely to have participated in the Multifamily program.¹⁹ Of all the Oregon-owned multifamily properties in the CoStar file, 85.2% were identified as unlikely to have participated in the program, compared with 85.7% of non-Oregon owned properties (Table 21).

Table 21: Energy Trust Participation by Location of Owner

	OREGON OWNER		NON-OREGON OWNER		TOTAL	
	Count	Percent	Count	Percent	Count	Percent
Unlikely Energy Trust Participant	3,706	85.2%	716	85.7%	4,422	85.3%
Likely Energy Trust Participant	642	14.8%	119	14.3%	761	14.7%

MARKET OPPORTUNITY

A 2012 ACEEE report suggests that Oregon policies for supporting multifamily energy efficiency can lead to large amounts of energy savings. The ACEEE report estimates that Oregon has the potential to save 135 to 264.9 GWh and 9 to 17.9 million therms annually among multifamily properties.²⁰

While there is great potential for energy savings, multifamily property owners and managers have not widely participated in Energy Trust programs. Based on the estimated a total of 229,529 multifamily units (in properties with 5 or more units) in Energy Trust territory and 25 units per property, we estimated a total of 9,181 properties. Table 22 shows the distributions of multifamily units (from Census data) across six areas of the state and the corresponding

¹⁹ The property and owner names in the Energy Trust *FastTrack* database did not necessarily match those given in the CoStar database. Therefore, Energy Trust staff used GPS to identify “likely” and “unlikely” matches.

²⁰ McKibbin, A. et al. *Engaging as Partners in Energy Efficiency: Multifamily Housing and Utilities*. American Council for an Energy Efficient Economy (ACEEE). January 2012. Accessed October 1, 2012. <http://aceee.org/research-report/a122>



distributions of properties and units that have participated in the program. As this shows, while the Portland Metro area represents about 55% of the rental units in the state, it accounts for 82% of the properties and 86% of the rental units in the Multifamily program. The program also emphasizes the Portland Metro area because the bulk of funding for the program comes from PGE, which is primarily in the Portland Metro area.

Table 22: Distribution of Multifamily Properties and Program Participation by Area of State

AREA OF STATE *	ALL MULTIFAMILY UNITS	PROGRAM PARTICIPANTS			
		PROPERTIES		UNITS	
	Percent	Count	Percent	Count	Percent
Portland Metro	55%	525	82%	34,705	86%
West-Central	24%	61	10%	3,002	7%
Southwestern	8%	25	4%	1,155	3%
Central	5%	21	3%	1,120	3%
Eastern	3%	1	0%	96	0%
Northwestern	4%	4	1%	54	0%
Total	100%	637	100%	40,132	100%

* Portland Metro = Clackamas, Multnomah, and Washington Counties;
 West-Central = Benton, Lane, Lincoln, Linn, Marion, and Polk Counties;
 Southwestern = Coos, Curry, Douglas, Jackson, and Josephine Counties;
 Central = Crook, Deschutes, Gilliam, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco, and Wheeler Counties;
 Eastern = Baker, Grant, Harney, Malheur, Morrow, Umatilla, Union, and Wallowa Counties;
 Northwestern = Clatsop, Columbia, Tillamook, and Yamhill Counties.

The area designated West-Central Oregon represents a quarter of multifamily properties and units, but only 10% of the program properties and 7% of the units. However, Energy Trust serves only gas customers in Eugene, the most densely populated part of West-Central Oregon and the most likely part of that area to have multifamily properties. As gas customers make up only about 20% to 30% of total Eugene households, the relatively low program reach into the West-Central area is not surprising. There does appear to be a possibility for greater reach into Northwestern and Southwestern and to a lesser extent, Central Oregon.

NONPARTICIPANT SURVEY

In order to understand how Energy Trust might increase participation in the program, we surveyed owners and property managers of properties that have not participated in the Energy Trust Multifamily program. We wanted to know the following from nonparticipants:

- ➔ What, if anything, had they heard of Energy Trust?
- ➔ How are property upgrade decisions made?



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- ➔ Who is involved in decision-making?
- ➔ What is their general approach to energy management?
- ➔ What would get them to participate in Energy Trust programs?

Disposition of Nonparticipant Calls

We used a list of multifamily building owners developed by Energy Trust from CoStar data to make our calls. From the CoStar data file, Energy Trust identified 1,407 multifamily properties that were unlikely to be Energy Trust participants. We defined the sampling frame as the subset of those properties with Oregon-based owners with contact information. We selected Oregon-based owners, as prior experience has shown that out-of-state owners are very difficult to reach – a 10% “hit” rate for telephone surveys is common. Given that Oregon-based owners represented about 84% of the properties in CoStar, we decided that we were justified in focusing on those properties.

We identified a total of 375 Oregon-owned properties with unique phone numbers, which defined the survey frame. To avoid any possible non-response bias, we drew an initial random sample of 100 records to call exhaustively to achieve the desired number of 30 completions. When he had not achieved the desired completion count after exhausting that list, we drew another 50 random records. We completed 24 nonparticipant interviews (Table 23).²¹ The available evaluation resources did not permit us to draw additional numbers and continue calling.

Table 23: Disposition Summary of Nonparticipant Calls

DISPOSITION	COUNT	% OF ELIGIBLE	% OF TOTAL
Eligible			
<i>Contacted</i>			
Complete	24	22%	16%
Refusal	8	7%	5%
Out of office	2	2%	1%
Did not pass screening *	27	25%	18%
<i>Subtotal, contacted</i>	61	56%	41%
<i>Attempted, Not Contacted **</i>	48	44%	32%
			Continued

²¹ We actually completed 27 interviews, but further analysis determined three of these interviews were ineligible for analysis because closer examination of results indicated they were actually participants in Energy Trust.



DISPOSITION	COUNT	% OF ELIGIBLE	% OF TOTAL
Ineligible			
Bad or wrong number	31	N/A	21%
Duplicate record (not previously identified)	10	N/A	7%
<i>Subtotal</i>	41	N/A	27%
Total	150	N/A	100%

* Respondents indicated they had participated in an Energy Trust program before or they no longer owned or managed property

** We attempted to reach contacts 5 times before ceasing calling.

The properties included in the sample differed somewhat from those that were not included. Compared to CoStar properties that were not in the sample, those in the sample were more likely to be located in the Portland Metro area (75% vs. 68%); were somewhat larger (57,480 square feet of rentable area, compared to 32,453); and were somewhat younger (42 vs. 49 years old).

As often is the case with nonparticipant lists, we faced challenges in completing calls. As Table 23, above, shows, almost half the contacts on the sample list were ineligible because of poor contact information, because the potential respondent was actually a program participant, or because buildings had changed ownership. We were successful in completing calls with 22% of the eligible sample (16% of our total sample).

When possible, we tried to complete interviews with property owners, but in four cases we spoke with a property or portfolio manager. Each completed call took approximately 15 minutes, and we completed interviews between August 13 and September 14, 2012.

Description of Respondents and Properties

Of our 24 respondents, 20 were owners, three were property managers, and one was a portfolio manager for a large company. Almost all (23) represented for-profit companies; one represented a non-profit organization. Eighteen respondents were from the Portland metro area, and six were from outside the Portland area.

Respondents represented 369 properties in Oregon and 6,854 units. The size of the respondents' portfolio was skewed toward smaller numbers of properties: 19 of the 24 reported five or fewer properties, three reported from 25 to 263 properties, and two did not report the number of properties. The distribution of total units in the portfolio was similarly skewed, with 18 respondents reporting 50 or fewer units and the others reporting from 75 to 4,600 units.

The mean age of the properties was 42 years. Twenty-two respondents reported the mean rent for units of various sizes. Across all respondents reporting, the mean rent ranged from \$608 for a one-bedroom apartment to \$972 for a three-bedroom (Table 24). None of the respondents offered studio apartments.



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Table 24: Property Rents

	NUMBER OF RESPONDENTS	MINIMUM	MAXIMUM	MEAN
1 Bedroom	16	\$350	\$850	\$608
2 Bedroom	19	\$500	\$1,000	\$742
3 Bedroom	6	\$800	\$1,275	\$972

The respondents within the Portland metro area reported higher rents for apartments with one bedroom (\$691 vs. \$425) and two bedrooms (\$787 vs. \$575). Only the Portland-area respondents reported rents for three-bedroom apartments.

Respondents were usually the primary decision maker when it came to making property upgrades. When asked to identify their role in decision-making about property upgrades, 96% said they identify upgrade opportunities, 96% provide technical input, and 92% provide input about the cost of the project.

More than half the respondents reported they were the sole decision-maker about property upgrades. When asked to identify whom else provided input into decisions about property upgrades, about half (11) said someone other than themselves. The three property manager respondents reported the owner also had input, and the other eight respondents indicated a contractor or architect (five respondents), a portfolio or corporate manager (two respondents), or a property manager (one respondent) had input.

Awareness of Energy Trust

Respondents generally were aware of Energy Trust but reported inconsistent familiarity with multifamily incentives.

Just over half (13) of the respondents reported familiarity with Energy Trust programs for multifamily properties. Familiarity with Energy Trust differed slightly by location. Since the program's outreach focuses on portfolio managers and initially focused on larger properties, we examined whether awareness was related to size of portfolio. About half of the 13 respondents with three or fewer properties reported awareness of Energy Trust multifamily programs, compared to two-thirds of the six with up to five properties and all three of those with more than five properties. The small sample size did not provide high statistical power for detecting a significant effect. Nevertheless, the result approached statistical significance ($p < .09$ by Mann-Whitney U).

Similarly, of the 18 respondents from the Portland area, 11 were familiar with Energy Trust, compared to two of the six respondents from outside the Portland area. Although this difference is not statistically significant ($p > 0.20$ by *chi-square*), it may suggest some greater awareness of Energy Trust programs in the Portland area, which is consistent with program design.



We asked the 13 respondents who were familiar with Energy Trust what they had heard about Energy Trust programs. Four reported general awareness of Energy Trust. The remaining nine respondents stated they were familiar with various elements of Energy Trust programs. The majorities were aware that Energy Trust provided incentives to multifamily properties for energy efficient appliances and provided free direct install of CFLs. Fewer respondents were aware of building shell and HVAC upgrade incentives (Table 25).

Table 25: Energy Trust Program Area Respondents Familiar With ($n = 9$)

PROGRAM AREA	COUNT
Appliance	7
CFL direct install (ISM)	7
Faucet direct install (ISM)	6
Building Shell	5
HVAC	2

We did not ask respondents explicitly if they participated with Energy Trust at their other properties; however, three volunteered that they did participate in Energy Trust programs at other buildings.

Property Upgrades

To provide information on property owners' upgrade priorities, we asked a variety of questions about recent and planned upgrades. As detailed below, most respondents reported recent or planned upgrades, primarily to replace failed equipment and to improve the comfort of the property. They did not apply for incentives largely because they did not know they were available, and almost all were interested in receiving ISM measures.

Eighteen of the 24 respondents reported making upgrades to their property in the last two years. Most of those (11 respondents) had made one upgrade and the others had done from two to five upgrades. Sixteen respondents – 14 of those that had reported past upgrades and two others – said they would be doing at least one upgrade to their property in the next two years (Table 26). Replacing appliances, windows, and lighting were the most common past upgrades made and planned.



Table 26: Upgrades Reported by Respondents (n = 18)

ITEM	RECENT UPGRADES (n = 18)	PLANNED UPGRADES (n = 16)	RECENT OR PLANNED (n = 20)
Appliances (refrigerator, clothes washer, dishwasher)	8	5	10
Windows *	7	3	7
Doors	5	1	5
Lighting	3	3	5
Insulation (ceiling, wall, or floor)*	2	1	3
HVAC systems	2	0	2
Water heaters	2	0	2
Roof	1	1	2
Other (waterproofing, bathrooms, not sure)	3	4	7

* Two respondents did window upgrades in both tenant and common areas. One respondent did insulation in both tenant and occupied areas.

Most recent and planned upgrades were in tenant areas. Respondents reported carrying out or planning seven jobs in common areas: two window replacements, two lighting upgrades, one insulation job, and two roofing upgrade.

We asked respondents the primary reason they had made improvements to their property in the past – we asked this of all 24 respondents, not just those that had made recent upgrades. The most common reasons given were to replace failed equipment, to improve the comfort of their property, and to improve the look or feel of the property (Table 27).

Table 27: Nonparticipants' Reasons for Doing Facility Upgrades (n = 24)

RESPONSE	COUNT
Replace old or broken equipment	10
Improve comfort of property	7
Improve look or feel of property	5
Lower utility bills	1
Don't know	1

Only one of the 24 respondents cited lowering tenants' utility bills as the primary reason for carrying out upgrades. However, we cannot rule out the possibility that some respondents would have cited this as a secondary reason. For example, note that the participant survey captured



similar information through an open-ended question that allowed multiple responses.²² Of 12 respondents who cited failed equipment, improving comfort, or improving the property's look and feel, nine also cited lower tenant utility bills.

To gauge how much competition with other multifamily properties influences upgrade decisions, we asked respondents to tell us if they pay attention to upgrades done at competitor's properties. Generally, respondents reported not examining what their competition is doing in regards to property upgrades. . When asked if they were aware of property improvements at their competitor's properties, 18 of 24 (75%) said they were not aware, four were generally aware, and two said they were "very aware" – one indicated he examines the competition "all the time."

Interest in Energy Efficiency

To explore respondents' interest in energy efficiency, we asked about any company-wide energy management policies and the role that energy efficiency plays in decisions about property upgrades.

Twenty of the 24 respondents reported their company had informal policies along the lines of "trying to keep energy efficiency in mind when making improvements," but no respondent reported any formal or written company-wide policies. To explore further the role of energy efficiency in decision-making, we asked each respondent to indicate whether it enters into their decision making never, sometimes, usually, or always. Fourteen respondents (60%) reported that energy efficiency usually (10) or always (4) plays a role.

We hypothesized that the size of the business operating the property may influence the role that energy efficiency plays in decision-making. However, we saw no pattern when we cross-tabulated the size of the business (the number of properties owned and total number of units in the portfolio) by how often efficiency enters into decisions.

These findings indicate that energy management may be a factor in decision-making, but they do not tell us whether it is ever the only factor. The reasons that respondents gave for upgrades (see above) suggest that it is not frequently the only factor. When we specifically asked respondents if they would make an upgrade just to improve efficiency, only two reported they would consider doing so. We asked those respondents what upgrades they thought would yield the greatest energy savings. Only one of the two responded, indicating that improving the water heaters and installing low-flow showerheads and toilets would yield the greatest savings at his property.²³

²² We used the responses from the participant survey to generate a list of upgrade reasons that we used to prompt the nonparticipant responses in a close-ended question. We used this approach with nonparticipants to reduce the survey burden.

²³ According to program staff, landlords typically pay water bills in tenant occupied spaces, giving them greater motivation to want to lower water bills.



Interest in Energy Trust Incentives

Finally, we explored respondents' interest in Energy Trust incentives. When we asked these respondents why they did not apply for Energy Trust incentives for past projects and whether they would be interested in receiving ISM measures.

The most common reason given for not pursuing incentives was that they did not know incentives were available (Table 28). About one-fifth of the respondents reported that their upgrades did not qualify for incentives. Only two indicated that incentives were not worth the trouble.

Table 28: Reasons Why Energy Trust Incentives Were Not Pursued for Recent Projects ($n = 23$)

	COUNT
Did not know or forgot that incentives were available *	14
Upgrades did not qualify for incentives	5
Incentives seemed like more trouble than they were worth	2
Don't know	2

* One respondent reported that he "forgot about the program." We grouped this respondent with those who said they did not know that incentives were available, as it speaks broadly to the issue of awareness.

We were curious as to whether the importance of energy efficiency in decision-making was related to the reason that respondents did not pursue incentives. When we examined the frequency of each reason given separately for those who usually or always considered energy efficiency and those who never or sometimes did so, we found no statistically significant differences. We did, however, find a suggestive trend ($p = 0.13$) in the fact that all five of those who said their upgrades did not qualify for incentives reported they usually or always considered efficiency. By contrast, at least half of those who gave the other responses were among those who considered efficiency never or sometimes.

Almost all (22 of 24) respondents reported interest in receiving the ISM measures for their property. One of the two exceptions was a property manager who reported he had installed CFLs and low-flow faucets in the past: he was dissatisfied with the lighting quality and he reported tenant dissatisfaction with the low-flow water measures. The other exception was a property manager who did not know whether the owner would be interested in ISM items.



6

CONCLUSIONS AND RECOMMENDATIONS

Results suggest there is great opportunity for savings in the multifamily property market. The program has penetrated only a small percentage of the overall market, and ACEEE estimates Oregon could save large amounts of energy from the multifamily segment. Therefore, Energy Trust should continue efforts to achieve savings in this market sector. Our findings suggest the following specific conclusions and recommendations.

Conclusion: While ISM measures are cost effective energy savers, it is unclear whether installing ISM measures results in additional energy saving projects at a site. A previous report authored by Heschong-Mahone Group²⁴ concluded that the Multifamily program should move away from ISMs and encourage non-ISM measures. Program staff indicated that they are moving away from relying on ISMs to provide program savings. ISMs do not appear to be good “foot in the door” projects that result in additional incented projects. Therefore, we agree that more emphasis should be put on promoting incented measures. However, there appears to be a distinct market niche for ISMs in large multifamily properties. Targeting organizations that own or manage a large number of properties may allow the program to maximize the cost-effectiveness of ISMs.

Recommendation: Continue to promote and market incented projects independent of ISMs, and target large multifamily property owners and managers for ISMs.

Conclusion: The program fosters relationships with portfolio managers but the coordination of actual work such as installing measures is frequently done with an on-site property manager. It is not clear that on-site property managers communicate with portfolio managers regarding energy saving projects or walk-through audits potentially leading to a communication breakdown. Communicating results of a walk-through audit and following up with portfolio managers or owners is likely the best path to attaining additional energy saving projects at a site. Results indicate that deeper energy saving projects (incented projects) are associated with senior decision-makers (owners, portfolio managers and similar).

Recommendation: The program should continue to target senior decision makers in addition to property managers, with messaging about incented projects.

Conclusion: Multifamily property owners and managers will make efficiency improvements as part of other projects but are unlikely to do projects for efficiency alone. Owners make property upgrades often, but encouraging efficient purchasing and installation needs to happen when owners and managers are considering upgrades for these reasons: when they are repairing broken equipment, improving the look of their property, or improving the comfort of their property.

²⁴ Heschong- Mahone Group, Ibid.



Recommendation: The implementer should work more closely with equipment vendors and contractors to drive efficiency upgrades when property owners and managers are replacing failed equipment and when units are in between tenants. One strategy for doing this may be to identify trade allies and equipment suppliers that specialize in the multifamily sector, to establish a multifamily trade ally “sub-network.”

Conclusion: There are many properties in Oregon under the currently targeted size of 50 units per property, and many of those properties are outside the traditional service area (Portland Metro area) of the Multifamily Program. Focusing marketing and promotion efforts on smaller properties may yield additional savings as well as increase participation in underserved areas.

Recommendation: Energy Trust should continue to expand program efforts to reach smaller properties (those with less than 50 units) and properties outside the Portland area to increase savings. Vacancy rates for rental properties are higher in rural Oregon than the Portland area. Therefore, marketing efficiency improvements as a way to reduce vacancies may be more effective in areas outside of Portland.

Recommendation: As incented projects tended to be concentrated in smaller properties, Energy Trust and the implementer should explore the most effective strategies for marketing to such properties, including continuing to work through associations and doing presentations at trade shows. Figuring out how to market to small properties should yield specific results for rural areas that tend to have smaller multifamily properties.





APPENDICES

Appendix A: Interview Guide: Multifamily Program Implementer

Appendix B: Interview Guide: Energy Trust Program Manager

Appendix C: Interview Guide: Lighting Trade Allies

Appendix D: Interview Guide: Non-Lighting Trade Allies

Appendix E: Survey: Program Participants

Appendix F: Survey: Nonparticipants



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INTERVIEW GUIDE: MULTIFAMILY PROGRAM IMPLEMENTER

Program Description

Energy Trust's multifamily properties program offers cash incentives to contractors or their customers for upgrades to windows, appliances, water heaters, building envelope, heating and cooling systems, energy efficient lighting, and for other energy efficient improvements, such as solar water heating and pool heating. There is also a direct-install component for the free installation of compact fluorescent light bulbs, faucet aerators, and high-performance showerheads. Energy Trust also provides practical technical and financial advice, and assistance to obtain applicable Oregon Business Energy Tax credits. Customers must pre-apply for cash incentives and tax credits, and projects must be pre-approved by Energy Trust before work begins. Energy Trust defines multifamily properties as properties with buildings comprising five or more units, and includes both rental and owner-occupied units.

Scheduling Script

Hi, this is _____ from Research Into Action. As you probably know, we are working with Energy Trust to evaluate the Multifamily Program. We would like to get your perspective on how the program is doing before we start talking with participants. Our conversation should take about 1 hour. What would be a good time to schedule it?

Interview Script

[Repeat any of the above, as necessary]

For this evaluation, we plan to focus on the extent to which the Multifamily program generates repeat participation from owners and property managers. We'd like to get some input from you on what to look for in that area. But before we discuss that, we'd like to clarify current staff roles and get an update on general program operations.

Roles and Responsibilities

1. Can you briefly describe your role and responsibilities?
 - a. How long have you been managing the Multifamily program for Lockheed?
 - b. What did you do before that?
 - c. Who else at Lockheed is involved in delivering this program?
 - d. What are their roles and responsibilities?



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Program Overview

2. Can you give me an overview of the Multifamily program processes, including how applications for the various subtracks or project types are handled?

[Probe about: Differences among the various subtracks or project types (Custom, instant savings measures, Lighting, Prescriptive)]

The role of trade allies and other contractors, including instant savings measures contractors

- a. Do you have a process diagram for the multifamily program that you could send to me?
3. Overall, how is the program doing regarding its goals?

[If falling short:]

- a. Where and in what ways is the program falling short of goals?
- b. What is being done about that?
- c. What else might be done?
4. ***[If not addressed above]*** How well does the distribution of the various project types – custom, lighting, prescriptive, instant savings measures – fit with your expectations?
- a. How well do they fit with Energy Trust’s expectations, as they’ve been communicated to you?
- b. Are those expectations reasonable? If not, why not?

[If any are falling short:]

- c. Why do you think that is?
- d. Should ATACs be bringing in more custom projects?
- e. What is being done about that?
- f. What else might be done?
5. The Multifamily program used to be part of Existing Homes and is now its own program. When did that transition occur?
6. How has the transition to being a separate program affected delivery and implementation activities?

Probe about: Challenges; Transition from Conservation Services Group (CSG) to LM; Interactions with TAs and end-users; Changes in application processes or the types of projects]



Communication

Let's move on to communication.

7. How would you describe your communications with the Energy Trust Program Manager?
 - a. How often do you communicate, by what means, and what do you talk about?
[Probe/follow up about: Access to the Energy Trust PM - Can she reach him when she needs to? Does the Energy Trust PM return calls?]
8. *[If any challenges mentioned]* What has been done to address those issues?
 - a. Has that resolved the issues?
 - b. What else might be done?
9. What other Energy Trust staff do you communicate with as part of implementing the Multifamily program?
 - a. How is communication with them?
Same probe/follow up questions
10. How about with Roger Spring's Evergreen Consulting Group?
[Same probe/follow up questions]

Marketing and Outreach

Let's move on to marketing and outreach...

11. Can you please describe the major marketing and outreach activities?
[Probe about: Energy Trust's role vs. LM's role; Marketing materials provided to trade allies; Co-branding; Co-op marketing funds; Training]
12. What types of owners/property managers are currently being targeted by the program?
[Probe about: Public housing authorities (low income) and Section 8 (low income private ownership) vs. market-rent housing; Large vs. small; Multiple locations]
 - a. How is that working? (Met or exceeded target expectation?)
 - b. How, if at all, are targets being changed going forward? If changing, why?
13. How, if at all, is marketing and outreach targeted to property owners versus property managers or to different types of properties such as low-income vs. market price?
[Probe about: different collateral, messaging differences]



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14. How does the program interact and communicate with TAs?

[Probe about: Any recent changes in... Informing TAs about the program; Confusion among TAs about program status or where to apply; Which TAs are doing projects; Co-branding and co-op marketing; Marketing materials provided to TAs; TA training]

15. What changes to marketing and outreach are planned, if any? And why?

Repeat Participation

We would like to know more about the extent to which the program generates repeat participation...

16. First, what kinds of things are being done during instant savings measures measure installs to identify and encourage additional projects?
17. What more might be done? In general, how does the level of repeat participation by past program participants correspond to what you'd expect? And what are those expectations based upon?

[If falling short of expectations:]

- a. Why do you think that is?
 - b. What is being done to promote repeat participation?
 - c. What else might be done?
18. How does the level of repeat participation correspond to Energy Trust's expectations as they've been described to you?

[If falling short of Energy Trust expectations:]

- a. Are Energy Trust's expectations reasonable and if not, why not?
19. Tell me about the types of "repeat participation" scenarios:

[Probes: Is it usually an instant savings measure that results in another project? Is it more likely a prescriptive or custom project? Is it more likely to involve resident-occupied or common space? Is it likely a large project followed by a smaller one or vice-versa?]

20. A survey of Multifamily properties we did some time back for Energy Trust found that property owners and managers did energy efficiency projects to keep tenants satisfied and reduce turnover and vacancy rates. In what way, if any, has the program used those findings?



21. What, if anything, has the program been doing to address the split incentive issue for multifamily property owners?
22. According to FastTrack records, there were 10 sites that had site evaluations or studies (for custom projects) in 2011, of which only two resulted in installed measures in that year.
 - a. What is the status of the other eight sites?
 - b. What does the program do, if anything, to work with facilities to move them from doing studies to doing a project?
 - c. What kinds of responses do you get to your efforts to move property owners or managers from studies to projects?
 - d. What else might be done?

Customer Strata

23. Can you identify from FastTrack whether a participant is a public housing authority or Section 8 landlord? If so, how is that done?
 - a. Do you have lists of PHAs and Section 8 landlords?

Key Issues/Barriers

24. We have heard that some lighting contractors see the program's instant savings measures activities as competition. Were you aware of that concern?
 - a. What do you think is at the heart of this concern?
 - b. What might be done to address this concern?
25. How have the changes in BETC affected the Multifamily program?
[Probe about: Changes in the types of projects or end-users that might qualify]
26. *[If not addressed]* What impact have those changes had on program participation?
27. From your perspective, are there portions of the multifamily market that might be under-served by the program? If so, what portions of the market are under-represented?
 - a. Why do you think that might be?
 - b. Has anything been done to address this issue?
 - c. What else might be done?



Data Management and Quality Control

We're almost finished. I'd just like to ask a couple of questions about Energy Trust's data management and quality control, and then move on to my closing questions.

28. Besides FastTrack, what tracking and reporting tools does the Multifamily program use? (Monthly reports, database uploads, what else?)
29. In your view, how are these systems working for your program?
30. What concerns are there about management of program data, either in terms of Energy Trust's data management systems, or how Lockheed manages data on its end?

[Probe about: reporting limitations, input accuracy, data security]

- a. What is being done about them?
- b. What else might be done?
31. What quality control procedures have you implemented?
 - a. What else might be done?

Closing

In closing...

32. Can you tell me about anything else that is going on in the market, such as other initiatives by NEEA, Energy Trust, BPA, or others, that may affect the Multifamily program?

[Probe about: Source of activity (e.g., NEEA, Energy Trust, BPA, other); Type of activity; Expected effects on Multifamily Program]

- a. Any future activities you expect to affect the program?
- b. What instructions, if anything, has Energy Trust given you regarding this?
- c. How might Lockheed deal with the effects of such activities?
33. What in particular would you like to learn from the evaluation?

[Probe about: Characteristics of owners of multifamily properties that may be important; Information that would help manage the program]

34. What would you like to know about TAs that work in the multifamily field?
35. Do you have any particular concerns about the customer experiences?



Those are all of my questions. Thank you for your time.



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INTERVIEW GUIDE: ENERGY TRUST PROGRAM MANAGER

Scheduling Script

Hi, this is _____ from Research Into Action. As you probably know, we are working with Energy Trust to evaluate the Multifamily Program. We would like to get your perspective on how the program is doing before we start talking with participants. Our conversation should take about 1 hour. What would be a good time to schedule it?

Interview Script

[Repeat any of the above as necessary]

For this evaluation, we plan to focus on the extent to which the Multifamily program generates repeat participation from owners and property managers. We'd like to get some input from you on what to look for in that area. But before we discuss that, we'd like to clarify current staff roles and get an update on general program operations. Later, we'll be speaking with Lockheed Martin staff to get more detailed information about program operations.

Roles and Responsibilities

1. Can you briefly describe your role and responsibilities as Program Manager?
 - a. How long have you been with the program?
 - b. Who are the other key Energy Trust program staff?
 - c. What are their roles and responsibilities?

[If someone else at Energy Trust is responsible for marketing and outreach, it may be necessary to talk to that person about those activities, rather than asking the PM about them.]

Program Overview

2. Overall, how is the program doing regarding its goals?

[If Falling Short:]

- a. Where and in what ways is the program falling short of goals?
- b. What is being done about that?
- c. What else might be done?



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3. *[If Not Addressed Above]* How well does the distribution of the various project types – custom, lighting, prescriptive, instant savings measures (ISM=DI) – fit with your expectations?

[If Any Are Falling Short:]

- a. Why do you think that is?
 - b. What is being done about that?
 - c. What else might be done?
4. The Multifamily program used to be part of Existing Homes and is now its own program. How has the transition to being a separate program affected delivery and implementation activities?

[Probe about: Challenges; Transition from CSG to LM; Interactions with TAs and end-users; Changes in application processes or the types of projects]

5. We plan to speak with Tracy Scott at Lockheed Martin. Are there any other key staff at Lockheed you recommend we interview to gain their perspective of program operations? If so, who?
6. Can you fill me in on the role that Evergreen Consulting and the NW Trade Ally Network play in the Multifamily program?

[Probe For Details]

7. We'll be talking with Roger Spring. Who else should we talk to at Evergreen? What is their role?

Communication

Let's move on to communication.

8. How would you describe your communications with the PMC Program Manager?
- a. How often do you communicate, by what means, and what do you talk about?

[Probe/Follow Up about: Access to the PMC PM - Can he reach her when he needs to? Does the PMC PM return calls?]

9. *[If Any Challenges Mentioned]* What has been done to address those issues?
- a. Has that resolved the issues?
 - b. What else might be done?



10. What about with other Lockheed program staff?

[Same Probe/Follow Up Questions]

11. ...and Evergreen?

[Same Probe/Follow Up Questions]

Marketing and Outreach

If already established that someone else is better to talk to about M&O, skip this section or quickly review major topics.

Let's move on to marketing and outreach...

12. Can you please describe the major marketing and outreach activities?

[Probe about: Energy Trust's role vs. LM's role; MF-specific collateral]

13. What types of owners/property managers are currently being targeted by the program?

[Probe about: Public housing authorities (low income) and Section 8 (low income private ownership) vs. market; Large vs. small; Multiple locations]

a. How is that working? [Met or exceeded target expectation?]

b. How, if at all, are targets being changed going forward?

14. How, if at all, do marketing and outreach differ for property owners versus property managers or for public housing authorities vs. Section 8 vs. market price property?

[Probe about: Different Collateral, Messaging Differences]

15. For multifamily low-income properties, what challenges have or might result from the fact that electric public purpose charges also provide a source for funding for efficiency upgrades (e.g., weatherization) for these residences?

[Probe: Does the potential for Energy Trust providing funding to a sector that qualifies for other funding sources for efficiency upgrades fit with the Energy Trust mission?]

Repeat Participation

We would like to know more about the extent to which the program generates repeat participation...

16. In general, how does the level of repeat participation by past program participants correspond to what you'd expect?



[If Any Are Falling Short:]

- a. Why do you think that is?
- b. What is being done to promote repeat participation?

[Probe: For owners of multiple properties]

- c. What else might be done?
17. What kinds of things are being done during ISM/DI measure installs to identify and encourage additional projects?
 - a. What more might be done?
18. A survey of Multifamily properties we did some time back for Energy Trust found that property owners and managers did energy efficiency projects to keep tenants satisfied and reduce turnover and vacancy rates. In what way, if any, has the program used those findings?
19. One frequently noted challenge for multifamily programs is the split incentive issue – that is, the property owner pays for upgrades but the resident gets the benefits, such as lower energy bills or a comfortable living space. What, if anything, has the program been doing to address this issue for multifamily property owners?

Customer Strata

20. How do we identify low-income properties in the FastTrack file?
 - a. Do you have a list of them?

Key Issues/Barriers

21. We have heard that some lighting contractors see the program's ISM/DI activities as competition. What do you think is at the heart of this concern?
 - a. What might be done to address this concern?

22. How have the changes in BETC affected the Multifamily program?

[Probe about: Changes in the types of projects or end-users that might qualify]

23. What impact have those changes had on program participation?
24. From your perspective, are there portions of the Multifamily market that might be under-served by the program? If so, what portions of the market are under-represented?
 - a. Why do you think that might be?



- b. Has anything been done to address this issue?
 - c. What else might be done?
25. What other issues is the program grappling with?

[Probe about: Finding measures that are cost effective; Estimating energy savings]

Data Management and Quality Control

We're almost finished. I'd just like to ask a couple of questions about Energy Trust's data management and quality control, and then move on to my closing questions.

26. Besides FastTrack, what tracking and reporting tools does the Multifamily program use? (Monthly reports, database uploads, what else?)
27. In your view, how are these systems working for your program?
28. What concerns are there about management of program data, either in terms of Energy Trust's data management systems or how the PMC manages data on its end?

[Probe about: Reporting limitations, Input accuracy, Data security]

- a. What is being done about them?
 - b. What else might be done?
29. What concerns do you have, if any, about the program's quality control procedures?
- a. What is being done about them?
 - b. What else might be done?

Closing

In closing...

30. Can you tell me about anything else that is going on in the market, such as other initiatives by NEEA, Energy Trust, BPA, or others, that may affect the Multifamily program?

[Probe about: Source of activity (e.g., NEEA, Energy Trust, BPA, other); type of activity; expected effects on Multifamily Program]

- a. Any future activities you expect to affect the program?
 - b. What instructions, if anything, has Lockheed Martin been given regarding this?
31. What in particular would you like to learn from the evaluation?



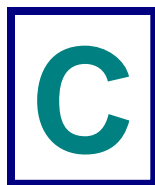
[Probe about: Characteristics of owners of multifamily properties that may be important; Information that would help manage the program.]

32. What would you like to know about TAs that work in the multifamily field?
33. Do you have any particular concerns about the customer experience?

Those are all of my questions. Thank you for your time.



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INTERVIEW GUIDE: LIGHTING TRADE ALLIES

Purpose

Conduct short answer interviews with 20 lighting TAs. Research questions include:

- ➔ What is their interaction with program staff like?
- ➔ How do lighting trade allies develop Energy Trust projects
- ➔ What percent of projects is Energy Trust related?
- ➔ How do TAs market the program/upsell?
- ➔ How can the program support them better (e.g., training in upselling)?
- ➔ TAs' experiences with Lighting PDC, and other PDCs
- ➔ Use of lighting calculators

This interview will be conducted in house by Research Into Action staff. We included four questions specific to lighting trade allies that have done more than seven projects in multifamily buildings. We anticipate conducting only a small number of surveys (<3) with this group because there are only four trade allies that conducted multiple lighting projects in multifamily properties.

Introductory Script

Hi, this is _____ from Research Into Action. We are working with Energy Trust to evaluate the Existing Buildings and Production Efficiency Program, which provides incentives for commercial and industrial lighting projects. We'd like to talk with you about your experience as a Trade Ally for the program. Our [telephone] conversation will probably take about 15 to 20 minutes. Your feedback is very important and will help Energy Trust improve the services and support it provides to Trade Allies and your customers.

S1. Do you have time right now to answer some questions about your experience with and thoughts about the program?

If NO,

Ask, "When would be a good time to schedule it?" [RESCHEDULE AND CLOSE SURVEY FORM.]

Great. I'd like to get some general background information on your company, then move on to your interactions with your customers, and how the program can improve the support it provides to you.



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General Program Participation

Let's start with some information about your company's participation in the Existing Buildings and Production Efficiency program and how a project gets involved with Energy Trust.:

1. About what percent of all your work is lighting?

Projects

I'd like to get some understanding of your experience with lighting projects that qualify for Energy Trust incentives.

2. In the past year, about how many nonresidential lighting jobs has your company done that received Energy Trust incentives?
 - a. Up to 10.
 - b. 11 to 50.
 - c. 51 to 100.
 - d. More than 100.
 - e. Don't Know / Refused
3. About what percent of all your commercial lighting work qualifies for Energy Trust incentives?
4. How much influence do you think you normally have on your customers' decisions about what kinds of lighting to install?
 - a. Does the amount of influence you have on equipment decisions vary much from customer to customer? [Click here to enter text.](#)
 - b. If so, what determines how much influence you have on a customer's equipment decisions?
5. Other than cost and return on investment, what are customers' primary considerations when deciding whether or not to implement a lighting upgrade?
6. Thinking about all the lighting projects you do that qualify for Energy Trust incentives, about what proportion typically result from each of the following:
 - a. Customers contact you because they already decided they wanted to upgrade the energy efficiency of their lighting
 - b. Customers contact you because they want new lighting and you suggest lighting that qualified for Energy Trust incentives
 - c. You take the initiative in contacting customers to encourage them to upgrade their lighting



- d. You do installations as a subcontractor for larger projects
 - e. Evergreen, a Program Delivery Contractor, or Energy Trust gives you a lead.
 - f. Something else:
7. When talking with a customer about a potential lighting project, how do you encourage them to do a project that qualifies for Energy Trust incentives?

PROBES:

- a. What elements of the project do you emphasize? Utility bills savings, staying up to date on codes, “being green,” cash incentives?
 - b. And how effective are you normally at getting them to do so?
8. I would like to know about your experiences using the program supported lighting calculators.
- a. How well do you feel these calculators are functioning?
 - b. Are there any challenges with using the calculators? [Probe:]
 - i. Any challenges on large projects?
 - ii. Any challenges in facilities where there are complex cooling systems?]
 - c. Do you share estimates from these calculators with customers? If yes, How do customers react to these estimates? [Probe: does the calculator increase their trust in the estimates?]
9. How often do you go to a customer site with a lighting specialist from Evergreen Consulting?

[If needed: A lighting specialist is a staff person from Evergreen Consulting that works on behalf of Energy Trust. A lighting specialist can provide technical assistance, administrative support (help with paperwork), and third party verification of the potential savings associated with a project.]

- a. *[If they have used a lighting specialist]* How, if at all, was the lighting specialist helpful to you?

PROBE:

Specifically, how helpful were they in selling an energy efficiency upgrade?

- b. How, if at all, could the lighting specialist have been more helpful?



Energy Trust Assistance

Now just a few questions about the services that Energy Trust offers trade allies.

10. First, has your company used the co-op marketing funds that Energy Trust offers?
 - a. Yes—What types of initiatives were funded with co-op dollars? Which sectors were targeted (commercial, industrial,...)
 - b. No – why not? [Click here to enter text.](#)
 - c. Don't Know
11. What types of training have you received from Energy Trust (or Lockheed Martin or Evergreen Consulting)?
 - a. General
 - b. Lighting Technology
 - c. No training received
 - d. Other, please specify:
12. [If training received] What, if anything, did you like or find helpful about the training?
13. [If training received] What, if anything, did you dislike or find un-helpful about the training?
14. Have you participated in any webinars or vendor roundtables sponsored by Energy Trust?
 - a. Yes – Which ones? What did you think of them?
 - b. No – why not?
 - c. Don't Know
15. What other Energy Trust assistance would help you sell more energy efficient lighting/equipment?
16. How interested would you be in training that helps you upsell energy efficient equipment? Would you say... [read list and check one]
 - a. Not at all
 - b. Somewhat
 - c. Very
 - d. Don't Know/Refused
17. What would influence whether or not you attended such training if Energy Trust offered it?

[Probe about time when offered, duration, number of sessions, distance to travel]



Other Resources

18. Which of the following pilot programs, if any, have you done any work with? (Read list, check all that apply):
 - a. Cool Schools
 - b. Rooftop Tune-ups (RTUs)
 - c. Building tune-ups
 - d. Commercial SEM pilot
 - e. Other _____
 - f. None (check if and only if no other box is checked)
19. [If Q18 not = None] In your opinion, how, if at all, do the above pilot programs help bring customers to the Existing Buildings program?
20. Has the cancelation of the Oregon Business Energy Tax Credit impacted your volume of lighting work? How so?
21. What types of businesses or market segments, if any, are particularly difficult to sell energy efficient equipment to?
22. About what proportion of your work is with businesses in rural areas?
23. In the last evaluation, some contractors indicated that rural businesses were difficult to reach. What do you think would help increase program participation in rural areas?

Multifamily Questions (If MF Projects >7)

24. You've done several projects for multifamily residences. What would you say are the main differences between those clients and your other clients in terms of...
 - a. The clients' priorities?
 - b. How you interact with the client?
 - c. Challenges in selling energy efficient upgrades?
25. Are you familiar with Energy Trust's service providing free direct install energy efficient equipment, such as CFLs, faucet aerators, and low-flow showerheads, to multifamily properties?
IF YES, ASK Q26
ELSE, SKIP TO Q28
26. How, if at all, has Energy Trust's free direct install service affected your dealings with multifamily properties?



27. What challenges, if any, did installing efficient lighting in tenant living areas compared to common areas present to you?
28. What assistance from Energy Trust would be helpful to you in dealing with multifamily properties?

Industrial and Agricultural Work

29. Have you had any Energy Trust supported lighting work in industrial or agricultural facilities? [Industrial facilities include production facilities, lumber/paper mills, food processing, food processing and cold storage, ...]
30. Have you worked on any projects where the customer was also working with an Energy Trust Program Delivery Contractor, or “PDC”? [If Q29 & Q30 = “No” go to Q35]
31. Typically what marketing, outreach, or relationships generate most of your leads for industrial and agricultural projects: [Do not read. Recode answer, mark all that apply]
 - a. Customers contact you
 - b. You contact customers
 - c. PDC gives you lead
 - d. You receive a lead from Evergreen
 - e. Energy Trust gives you a lead
 - f. Other: _____
32. When you sell program supported lighting to industrial and agricultural customers, does your sales approach differ from your approach with commercial customers? [If yes] How so?
33. Have you noticed any challenges unique to your program supported lighting work at industrial and agricultural facilities?
34. [If Q30 = “No” skip to Firmographics] On your lighting work where the customer is working with an Energy Trust Program Delivery Contractor, how do you interact with the PDCs? [Probe:]
 - a. What activities does the PDC perform?
 - b. Does the PDC offer support for working with the customer?



Firmographics

- 35. Which of the following commercial sectors does your company specialize in, if any?
(Read List)
 - a. Office
 - b. Retail
 - c. Hospitals
 - d. Schools
 - e. Grocery
 - f. Restaurants
 - g. Lodging
 - h. Does not specialize
 - i. Other

- 36. Which of the following best describes your role at your company?
 - a. Owner
 - b. Business Manager
 - c. Engineer
 - d. Contractor
 - e. Sales Manager/Business Development
 - f. Other (please specify):

- 37. How many people are employed by your firm? Click here to enter text.

Closing

- 38. Finally, we would like to ask you about what you see on the horizon as far as new energy efficiency opportunities or technologies....
 - a. What are the next EE lighting innovation products that will be coming along?
- 39. How, if at all, has being an Energy Trust trade ally helped your business?
- 40. How, if at all, has being an Energy Trust trade ally been a burden to your business?

Those are all the questions I have for you.

Thank you.

*****END OF SURVEY*****



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INTERVIEW GUIDE: NON-LIGHTING TRADE ALLIES

Purpose

Conduct short answer interviews with 20TAs, only large TAs with active projects. (There are approx. 400 TAs in the TA network, 100 in the RTU pool.). Also, we want to complete ~5 interviews with trade allies that completed >7 projects in multifamily buildings. Research questions include:

- ➔ What is their interaction with program staff like? Has the Triple Team improved things? What are the process issues, e.g., paperwork, wait time. Are they phase related?
- ➔ What is TA involvement with customers at various stages? Where do projects get hung up?
- ➔ How do TAs market the program/upsell? How do they leverage their relationship with customers? How can the program support them better (e.g., training in upselling)?

Introductory Script

Hi, this is _____ from Research Into Action. We are working with Energy Trust to evaluate the Existing Buildings Program, which provides incentives for commercial lighting projects. We'd like to talk with you about your experience as a Trade Ally for the program. Our [telephone] conversation will probably take about 20 minutes. Your feedback is very important and will help Energy Trust improve the services and support it provides to Trade Allies and your customers.

S1. Do you have time right now to answer some questions about your experience with and thoughts about the program?

[If No, Ask:]

When would be a good time to schedule it?

[Reschedule and Close Survey Form]

Great. I'd like to get some general background information on your company, then move on to your interactions with your customers, and how the program can improve the support it provides to you.

Interview Script

[Repeat any of the above as necessary]



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General Program Participation

Let’s start with some information about your company’s participation in the Existing Buildings program:

1. How would you describe your relationship with Existing Buildings program staff?
2. How about with the new “triple teams”?
3. What challenges, if any, have you encountered in working with the Existing Buildings program?

[Probe about: TA enrollment, requirements to remain active, paperwork, turnaround time, post-inspection]

Phases/Customer Barriers

4. I’d like to get some understanding of your experience with large custom upgrade projects that qualify for Energy Trust incentives. By “large custom upgrade projects” I mean the types of projects that usually result from a Site Evaluation or Technical Study done by an Energy Trust Allied Technical Assessment Contractor, or ATAC.
5. In the past year, about how many such jobs has your company handled?
 - a. Fewer than five.
 - b. Five to 10.
 - c. 11 to 20.
 - d. More than 20.
 - e. Don’t Know / Refused

The next questions are about how those types of jobs usually come to you.

6. How often would you say a large custom upgrade project comes to you because an Existing Buildings Business Development person recommends you to a customer? Would you say never, infrequently, somewhat frequently, or very frequently?

[Read each item, record one response for each]

	Never	In-frequently	Some-what frequently	Very frequently	Don’t Know/Refused
a. An Existing Buildings Business Development person refers you to a customer.	()	()	()	()	()



	Never	In-frequently	Some-what frequently	Very frequently	Don't Know/Refused
b. A customer who has received a Site Evaluation and/or Technical Assistance study asks you for bids.	()	()	()	()	()
c. A customer asks you for bids without having received a Site Evaluation and/or Technical Assistance study.	()	()	()	()	()
d. Another contractor brought you in as a subcontractor.	()	()	()	()	()
e. Other - specify: _____	()	()	()	()	()

[If Q6c = “somewhat frequently” or “very frequently” or Q6e = “somewhat frequently” or “very frequently” and indicates involvement before the pipeline, ask Q7]

7. So it sounds like large projects often come to you before they’ve entered the pipeline for an Energy Trust site evaluation or technical study. Can you briefly describe what, if any, assistance you’ve provided in such cases in getting Energy Trust site evaluations and technical studies done at the customers’ facilities?

[If Q6a = “somewhat frequently” or “very frequently” or Q6b = “somewhat frequently” or “very frequently,” ask Q8, else skip to Q9]

8. It sounds like large projects often come to you after they’ve already entered the pipeline for an Energy Trust site evaluation or technical study. Can you briefly describe what roles you have played, if any, during Energy Trust site evaluations and technical studies at your customers’ facilities?

9. What kind of roles have you played in helping your customers shape the final project?

10. Does the amount of influence you have on equipment decisions vary much from customer to customer?

c. If so, what determines how much influence you have on a customer’s equipment decisions?

11. Other than cost and return on investment, what are customers’ primary considerations when deciding whether or not to implement a large custom upgrade?



12. When talking with a customer about potential energy efficiency projects, how do you encourage them to do a project that qualifies for Energy Trust incentives?

[If not addressed above, probe with:]

- a. How do you make the case to customers to invest in energy efficient equipment?
 - b. What elements of the project do you emphasize? Utility bills savings, staying up to date on codes, “being green”....?
 - c. What advice do you give about the benefits of high efficiency measures/equipment (pay back, life cycle costs, O&M issues)?
 - d. What Energy Trust marketing materials do you use? Which are helpful?
13. What kinds of challenges have you experienced in helping customers get projects through the site evaluation or technical study process?

[Probe about: Program-related issues, like paperwork, wait time, etc.]

14. *[If not answered in Q11]* And what kinds of things have caused upgrade projects to get delayed on the customer’s side after they have entered the pipeline for a site evaluation or technical study?
- a. When big projects get delayed, what is useful in getting them moving forward again?
 - b. For those projects that do not move forward, what keeps them from moving forward?

Energy Trust Assistance

Now just a few questions about the services that Energy Trust offers trade allies.

15. First, has your company used the co-op marketing funds that Energy Trust offers?
- a. Yes
 - b. No – why not? _____
 - c. Don’t Know
16. What types of training have you received from Energy Trust (or Lockheed Martin)?
- a. General
 - b. Weatherization
 - c. Heating and Cooling
 - d. Design and New Construction
 - e. Performance Testing
 - f. Renewable Energy



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- g. Green / Sustainability
 - h. Energy Code
17. What, if anything, did you like or find helpful about the training?
 18. What, if anything, did you dislike or find un-helpful about the training?
 19. Have you participated in any webinars or vendor roundtables sponsored by Energy Trust?
 - a. Yes – Which ones? What did you think of them? _____
 - b. No – why not? _____
 - c. Don't Know
 20. What other Energy Trust assistance would help you sell more energy efficient equipment?
 21. How interested would you be in training that helps you upsell energy efficient equipment? Would you say... [read list and check one]
 - a. Not at all
 - b. Somewhat
 - c. Very
 - d. Don't Know/Refused

[If Q21 = Not at all, skip to Q23]
 22. What would influence whether or not you attended such training if Energy Trust offered it?

[Probe about: time when offered, duration, number of sessions, distance to travel]

Other Resources

23. Which of the following pilot programs, if any, have you done any work with? **[Read list, check all that apply]:**
 - a. Cool Schools
 - b. Rooftop Tune-ups (RTUs)
 - c. Building tune-ups
 - d. Other? _____
 - e. None **[check if and only if no other box is checked]**
24. **[If Q23 not = None]** In your opinion, how, if at all, do the pilots help bring customers to the Existing Buildings program?
25. What impact has the disappearance of the Oregon Business Energy Tax Credit Tax had on your business?



26. What types of businesses or market segments, if any, are particularly difficult to sell energy efficient equipment to?
27. About what proportion of your work is with businesses in rural areas?
[If Q27 = none or small amount, skip Q28]
28. In the last evaluation, some contractors indicated that rural businesses were difficult to reach. What do you think would help increase program participation in rural areas?

Multifamily Questions (If MF Projects >7)

29. You've done several projects for multifamily residences. What would you say are the main differences between those clients and your other clients in terms of...
 - a. The clients' priorities?
 - b. How you interact with the client?
 - c. Challenges in selling energy efficient upgrades?
30. Are you familiar with Energy Trust's service providing free direct install energy efficient equipment, such as CFLs, faucet aerators, and low-flow showerheads, to multifamily properties?
[If Yes, Ask Q31]
[Else, Skip To Q32]
31. How, if at all, has Energy Trust's free direct install services affected your dealings with multifamily properties?
32. What assistance from Energy Trust would be helpful to you in dealing with multifamily properties?

Firmographics

33. Which of the following commercial sectors does your company specialize in, if any?
[Read List]
 - a. Office
 - b. Retail
 - c. Hospitals
 - d. Schools
 - e. Grocery
 - f. Restaurants
 - g. Lodging



- h. Does not specialize
 - i. Other _____
34. Which of the following best describes your role at your company?
- a. Owner
 - b. Business Manager
 - c. Engineer
 - d. Contractor
 - e. Sales Manager/Business Development
 - f. Other (please specify): _____
35. How many people are employed by your firm?
36. Do you have plans to expand in the coming year?
- [Probe about: New facilities or hires; Number of projects in the pipeline]*
37. Besides from Energy Trust, where do you get training or other business development assistance? (e.g., marketing and other non-technical training?)

Closing

38. Finally, we would like to ask you about what you see on the horizon as far as new energy efficiency opportunities or technologies....
- a. What is the next EE innovation that will be coming along?
 - b. What new whiz-bang products should we keep an eye out for?

Those are all the questions I have for you.

Thank you.



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SURVEY: PROGRAM PARTICIPANTS

Scheduling Script

Hi, my name is _____. I am calling from Research Into Action on behalf of Energy Trust of Oregon.

[DI subscript:] In the last year someone from Energy Trust visited one or more of your properties to install some free energy efficiency equipment, including *items such as CFLs and faucet aerators*. We are working with Energy Trust on an evaluation of the program that provided that equipment.

[Incentive subscript:] I understand your business received an incentive through Energy Trust's Multifamily Program to install energy efficient measures in the last year. We are working with Energy Trust on an evaluation of the program that provided those incentives.

[Combined DI/Incentive subscript:] Back in (months/years), your business received some free energy efficiency equipment and an incentive through Energy Trust's Multifamily Program to install (measures). We are working with Energy Trust on an evaluation of the program that provided that equipment and those incentives.

[All respondents:] We need your assistance to help us understand the program from the perspective of a participant.

Energy Trust is seeking information on how participants make decisions about energy efficiency investments. We need approximately 15 minutes of your time. The information you can provide is **highly important** in helping Energy Trust to provide better service to organizations like yours. Do you have time to talk now, or can we schedule a better time in the next week?

I would like to speak with you about the building located at **[Insert project address here]**. Our records indicate one or more projects were done here that received Energy Trust incentives in 2011.

Respondent and Company Role

I would like to start with a few general questions about your organization and your role with your organization.

1. What is your title?
 - a. Property Manager



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- b. Maintenance/Facilities Manager
 - c. Owner/President
 - d. Other (please specify): _____
 - e. Don't Know, Refused
2. Is your organization a for-profit company, a non-profit, a government agency, or something else?
- a. For-profit company
 - b. Nonprofit
 - c. Public / Government
 - d. Other (please specify) _____
 - e. Don't Know, Refused
3. Including the [*Insert project address here*] property, how many properties does your company own or manage in Oregon? _____
4. How many units (apartments) are in all of those Oregon properties you own or manage?

Description of Property

5. Now, I would like to ask some specific questions about the [*Insert project address here*] property. All my remaining questions pertain to this property.
6. Does the company you work for own this property or manage it for the owner?
- a. Owns building [*May have been answered by Q1*]
 - b. Manages building
 - c. Other (please specify) _____
7. At this property, are tenants responsible for paying their electric utility bills?
- a. Yes
 - b. No
 - c. Don't Know
 - d. Other (please specify) _____
8. How about gas utility bills?
- a. Yes
 - b. No
 - c. N/A - No gas service
 - d. Don't Know
 - e. Other (please specify) _____



9. How many units does your property have?
- a. _____
- [IF NUM_UNITS field is populated, say] Our data indicates that your property has [fill in # of units from Energy Trust]. Is that correct?**
- b. Yes
- c. No – How many units are there? _____
10. What type of rental property is this?
- a. Duplex/townhouse
- b. Multi-building “complex”
- c. Single apartment building
- d. Other (please specify) _____
11. Which of the following types of common areas does this property have? **[If needed: By common areas, I mean areas other than tenant-occupied areas.]**
- a. Indoor hallways
- b. Outdoor lighted corridors or walkways
- c. Outdoor parking areas – how many units? _____
- d. Garages – how many? _____
- e. Laundry rooms – how many washing machines? _____
- f. Pool
- g. Game room or clubroom
- h. Lobby
- i. Exercise facility
- j. Cooking facility
- k. Dining facility
- l. Other (please specify) _____
12. Is the property a nursing home or residential care center?
- a. Yes
- b. No
13. Does this property target low-income renters?
- a. Yes
- b. No

Upgrade at Specific Property

14. Now, I'd like to ask some questions specifically about the equipment or facility upgrade(s) that was/were done at **[Insert project address here]**.



15. First, how did you learn about the Energy Trust program that (installed the efficiency equipment at your property/ provide the incentives for equipment upgrades)?
- An Energy Trust representative approached me
 - I was familiar with the Energy Trust program from my past participation
 - I saw an advertisement/flyer/brochure about the Energy Trust program
 - Other (please specify) _____
16. And can you tell me if the list of equipment I read earlier was correct? *[If needed, go over list again - insert list of items from Energy Trust dataset here].*
- Yes
 - No – Please tell me what work you did **[DO NOT READ LIST. Will code based on response.]**

For Direct Install Projects

[If No DI Project, skip to Q33]

17. Did you interact with anyone from Energy Trust or the person who installed the equipment?
- Yes
 - No
 - Don't recall

[If Yes] Whom did you interact with?

[If No or Don't Recall, ask for name and number of person who dealt with Energy Trust and/or installer, and ask for permission to speak to that person, then skip to Q22]

18. How would you characterize your interactions with that person or those persons?

PROBES:

- Were they professional? Helpful? Informative?
19. Did that person provide you with any information about incentives available from Energy Trust for additional equipment upgrades?
- Yes
 - No
 - Don't Know

[If Yes to Q19, ask Q20 to Q21; otherwise skip to Q22]

20. What did that person tell you? _____



21. In what ways, if any, did that information influence your thoughts or plans about additional equipment changes or upgrades? _____
22. Are there other items that you would like to have seen installed (For example, weather-stripping around doors and windows)?
23. Have you experienced any problems or complaints with the installed products?
- Yes
 - No
 - Don't Know

[If Yes to Q23, ask Q24 to Q25]

[Else, if No Incented Project, skip to Q26]

24. Please describe those problems and/or complaints: _____
25. Have those problems or complaints been resolved?
- Yes
 - No
 - Don't Know
26. Have you heard positive comments from tenants about the project?
- If so, what were those comments?
27. Since receiving the equipment (showerheads, CFLs, aerators), have you made additional efficiency related upgrades, such as new insulation or windows to your property?
- Yes
 - No
 - Don't Know

[If Q27 = Yes, Ask Q28 and Q29, Else Skip to Q30]

28. You mentioned you made additional efficiency related upgrades recently. What additional efficiency related upgrades did you make? **[Check all that apply]**
- Insulation (ceiling, wall, floor)
 - Windows
 - Doors
 - HVAC
 - Other (please specify) _____
29. Did you receive Energy Trust incentives for these additional upgrades?
- Yes



- b. No: Why not? _____
30. Are you planning to make additional efficiency related upgrades to your property?
- a. Yes: What types of upgrades are you planning? _____
- b. No
- c. Don't Know

[If Q27=No and Q30=No, Ask Q31, Else Follow Next Instruction]

31. Why have you decided at this point not to make additional efficiency related upgrades to your property? ***[Record verbatim and code all that apply]*** _____
- a. Insufficient funds
- b. No additional cost-effective upgrades
- c. Have done all recommended upgrades
- d. No demand from tenants
- e. Other: _____
32. Other than additional incentives, are there things Energy Trust could do to make it easier for you to make efficiency related upgrades?

[If Q16= Yes or Q29 = Yes, Ask Q33, Else Skip To Q44]

Incentive Projects

33. The next questions are about the equipment for which you got Energy Trust incentives.
34. Please tell me why you decided to do a project that received Energy Trust incentives.
PROBES:
- a. How did making the property more attractive to potential tenants influence your decision?
- b. How did improving your property to maintain current tenants influence your decision?
- c. How did lowering utility costs in common areas influence your decision?
- d. How did lowering utility costs in tenant areas influence your decision?
35. Was the upgrade done to replace broken equipment (such as a broken furnace or water heater) or to upgrade old inefficient equipment (for example, windows can still work, but be inefficient in comparison to new windows)? Please elaborate.
36. Was equipment installed in tenant-occupied units?
- a. Yes – in all tenant units
- b. Yes – in some units
- c. No



d. Don't Know/Refused

[If not all units, ask Q37 and Q38, Otherwise Skip to Q39]

37. Why wasn't the equipment installed in all units? _____

38. Do you have plans to do so in the future? If not, why not? _____

39. Was equipment installed in common areas? If so, which ones? *[Select all that apply]*

Area	Follow up	Affected all?	Why not?	Plan to do? If not, why not?
a. Indoor hallways	All hallways?	Yes		
b. Outdoor lighted corridors or walkways	All lights?	Yes		
c. Outdoor parking areas	All lights?	Yes		
d. Garages	All garages?	Yes		
e. Laundry rooms	All equipment?	Yes		
f. Pool	N/A	Yes		
g. Game or club room(s)	All areas?	Yes		
h. Lobby(ies)	All areas?	Yes		
i. Exercise facility(ies)	All areas?	Yes		
j. Cooking facility(ies)	N/A	Yes		
k. Dining facility(ies)	N/A	Yes		
l. Other	Adapt Q	Yes		
m. No common areas	N/A	N/A	N/A	

[For each item checked, ask if equipment installation affected the entire area as directed above. Adapt questions as needed.]

[If answer is no, ask why not, whether they have plans to cover the remaining area and, if not, why not.]

40. What role did your contractor play in helping you decide what efficient equipment to install?

- a. Did the contractor offer you choices to consider?
- b. Did the contractor provide different levels of efficiency as options?

41. Have you experienced any problems or complaints with the products that were installed?

- a. Yes, please describe those problems and/or complaints: _____
- b. No

42. Have those problems or complaints been resolved?

43. Did you have any problems or complaints about the contractor that did the work?



- a. Yes, what were those problems? _____
- b. No

All Respondents: DI and Incentive

44. What kind of feedback, if any, have you gotten from tenants about the energy efficiency equipment that was installed?

[If Did Both DI And Incentive, Probe About Each]

45. Has this property received energy efficiency services from organizations other than Energy Trust?

a. Yes Which organizations? _____
What services? _____

b. No

46. Are there additional efficiency-related equipment upgrades you would like to do at your property?

a. Yes – Please describe those additional projects _____

b. No – Why not? _____

[If Q46=Yes, Ask Q47 and Q48]

47. What has kept you from pursuing these additional projects? _____

48. What would get you to do them? _____

General Energy Management

49. The next few questions refer to your role in making decisions about and carrying out facility repairs or upgrades at this and other properties.

50. Can you briefly describe how decisions are made about upgrades to equipment and facilities at this property, including your role? _____

[PROBE about Role Of Property Staff, Contractors, Vendors, Consultants, Tenants, Etc., and About Who Makes Final Decision]

[Record response and check all that apply] Respondent...

- a. Identifies prospective upgrades (upgrade opportunities)
- b. Provides technical input
- c. Provides cost input
- d. Is primary decision maker
- e. Contributes to decision-making (beyond providing input)
- f. Don't Know, Refused



51. Which of the following policies or procedures does your organization have in place regarding energy efficiency improvements? [*Check All That Apply*]
- An official company policy to reduce energy use
 - A specific staff member or members responsible for energy and energy efficiency
 - Company policies specifying that new equipment should be energy efficient
 - Other (please specify) _____
 - None of the above
52. When making equipment or facility upgrades, how often does energy efficiency enter into your decision making?
- Never
 - Sometimes
 - Usually
 - Always
 - Don't Know, Refused
53. Which of the following best describes your organization's approach to equipment replacement and facility upgrades?
- We choose the most efficient equipment available
 - We choose the best balance between efficiency and cost
 - We choose the best efficiency for the amount budgeted
 - Other: _____
54. Are you aware of property improvements made at your competitor's properties?
- Yes – How much do you consider your competition when deciding to make property improvements? _____
 - No

Conclusion

55. Finally, just a few questions about your experience with Energy Trust.
56. Do you have any suggestions for how Energy Trust of Oregon could work with you better?
57. Do you have any suggestions on how to encourage businesses similar to yours to participate in Energy Trust of Oregon programs?

Thank you for your time.

*****END OF SURVEY*****



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SURVEY: NONPARTICIPANTS

Scheduling Script

Hi, my name is _____. I am calling from Research Into Action on behalf of Energy Trust of Oregon.

1. Are you familiar with Energy Trust?

1_Yes
2_No
98_Don't Know
99_Refused

[IF Q1 = "No" or "Don't Know" or "Refused":]

2. Energy Trust of Oregon is an independent nonprofit organization dedicated to helping utility customers benefit from saving energy. Energy Trust services include cash incentives and technical assistance for customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas. Energy Trust has helped customers of these utilities save nearly \$800 million on their energy bills.

[IF Q1 = "Yes":]

3. To help it improve its services to the business community, Energy Trust is seeking information on how business that manage and own multifamily properties make decisions about energy efficiency investments. As a top manager of one of those key businesses, your responses to a few questions would be highly valuable to the program and its efforts to reduce energy use in Oregon.

4. To the best of your knowledge, has your property located at _____ received any incentives or rebates as a result of an energy efficiency improvement in the last five years? An "energy efficiency improvement" could include adding insulation, replacing windows and doors, or something similar. Also, by the term incentive or rebate, we do not mean a tax credit.

1_Yes
2_No
98_Don't Know
99_Refused

[If Q4 = "Yes," END SURVEY, Else Q5]

5. Do you have a few minutes to share your thoughts and experiences about the role of energy in your business decisions at property _____?



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[If No, Attempt To Schedule A Time]

[If Needed:]

The interview takes approximately **10 minutes**, but the information it will provide is **highly important** in helping Energy Trust better serve businesses like yours.

[If Yes:]

6. Before we start, can you please tell me your name?

Name: _____

Respondent and Company Role

I would like to start with a few general questions about your organization and your role with your organization.

7. What is your title?

1_Property manager
 2_Maintenance/Facilities manager
 3_Owner/President
 4_Other (please specify): _____
 98_Don't Know
 99_Refused

8. Is your organization a for-profit company, a non-profit, a government agency, or something else?

1_For-profit company
 2_Nonprofit
 3_Public / Government
 4_Other: _____
 98_Don't Know
 99_Refused

9. How many properties does your company own or manage in Oregon? _____

10. How many units (apartments) are in all of those Oregon properties you own or manage?
[An approximate number is ok] ____ [Record a number]

The next few questions refer to your role in making decisions about and carrying out facility repairs or upgrades at the property located at _____.

11. On average, how much is the monthly rent for a studio apartment at this facility?

1_Studio Apartment \$_____



- 2_...and a one bedroom apartment \$ _____
 3_...Two bedroom apartment \$ _____
 4_...Three bedroom apartment \$ _____
 98_Don't Know
 99_Refused
12. What role do you play in making decisions about property upgrades? Do you *[Check all that apply]*
- 1_Provide technical input
 2_Provide cost input
 3_Identify prospective upgrades (upgrade opportunities)
 4_I do not play any role in making decisions about property upgrades
 5_Other, please specify: _____
 98_Don't Know
 99_Refused
- [If Q12_ = 4_ "I do not play any role in making decisions about property upgrades" skip to "thank you" statement at the end of the survey.]*
13. Who else provides input into decisions about property upgrades? _____ *[Probe About Property Staff, Contractors, Vendors, Consultants, Tenants, Etc.]*
14. *[If not addressed]* Who makes the final decision about property upgrades? *[Record verbatim]*

Energy Trust Knowledge

15. Have you heard of the programs run by Energy Trust of Oregon that offer energy efficiency services to multifamily properties?
- 1_Yes
 2_No
 98_Don't Know
 99_Refused
- [If Q15= "No" or "Don't Know" or "Refused," Skip to Q17]*
16. What have you heard about Energy Trust programs for each of the following items? *[Record verbatim for each item mentioned]*
- 1_Appliances
 2_HVAC upgrades
 3_Building Shell (Windows, doors, insulation)
 4_New CFLs (swirly bulbs)
 5_Faucet and showerhead water flow reducers
 6_Other, please specify: _____



98_Don't Know

99_Refused

Property Upgrades

17. Have you made any of the following upgrades to your property in the last two years?
[Select all that apply]

Property Upgrades	Select if Yes
1_Replaced windows	<input type="checkbox"/>
2_Replaced doors	<input type="checkbox"/>
3_Replaced appliances (refrigerator, clothes washer, or dishwasher)	<input type="checkbox"/>
4_Installed insulation (ceiling, wall or floor)	<input type="checkbox"/>
5_Upgraded HVAC systems	<input type="checkbox"/>
6_Upgraded lighting	<input type="checkbox"/>
7_Installed solar pool heating	<input type="checkbox"/>
8_Installed solar electric	<input type="checkbox"/>
9_Installed solar water heating	<input type="checkbox"/>
10_Other: _____	<input type="checkbox"/>

[If Q17 = None selected, Skip to Q19]

18. Did you make these upgrades in tenant occupied areas or common areas?

Skip/Display Logic	Property Upgrade	Tenant Occupied Area (1)	Common Area (2)
<i>If Q17_1_ = "Yes"</i>	1_Replaced windows	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_2_ "Yes"</i>	2_Replaced doors	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_3_ "Yes"</i>	3_Replaced appliances (refrigerator, clothes washer, or dishwasher)	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_4_ "Yes"</i>	4_Installed insulation (ceiling, wall or floor)	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_5_ "Yes"</i>	5_Upgraded HVAC systems	<input type="checkbox"/>	<input type="checkbox"/>



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Skip/Display Logic	Property Upgrade	Tenant Occupied Area (1)	Common Area (2)
<i>If Q17_6_ “Yes”</i>	6_ Upgraded lighting	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_7_ “Yes”</i>	7_ Installed solar pool heating	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_8_ “Yes”</i>	8_ Installed solar electric	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_9_ “Yes”</i>	9_ Installed solar water heating	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q17_10_ “Yes”</i>	10_ Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

19. *[To confirm they are a nonparticipant]* Is it correct that you did not receive any monetary incentive or rebate from Energy Trust for these projects?

- 1_ We **did not** receive Energy Trust incentives
- 2_ We **did** receive Energy Trust incentives
- 98_ Don’t Know
- 99_ Refused

[If Q19 = “We did receive Energy Trust incentives” Skip to End of Survey]

20. Did you apply for incentives or rebates from Energy Trust?

- 1_ Yes
- 2_ No
- 98_ Don’t Know
- 99_ Refused

[If Q20 = No skip to Q22; If Q20 = Don’t Know or Refused skip to Q24]

21. Why didn’t you qualify for the incentives or rebates from Energy Trust?

22. Why didn’t you apply for Energy Trust incentives or rebates for these projects?

- 1_ Did not know incentives were available
- 2_ Incentives seemed like more trouble than they were worth
- 3_ Upgrades did not qualify for incentives
- 4_ Other, please specify: _____
- 98_ Don’t Know
- 99_ Refused

23. How much influence did Energy Trust have on you making these upgrades even though you did not receive an incentive? Would you say Energy Trust had...[



- 1_No influence
- 2_Some influence
- 3_Significant influence
- 98_Don't Know
- 99_Refused

24. What improvements do you plan to install in the next two years at your property/properties? *[Select all that apply]* Do you plan to...

Property Upgrades	Select if Yes
1_Replace windows	<input type="checkbox"/>
2_Replace doors	<input type="checkbox"/>
3_Replace appliances (refrigerator, clothes washer, or dishwasher)	<input type="checkbox"/>
4_Install insulation (ceiling, wall or floor)	<input type="checkbox"/>
5_Upgrade HVAC systems	<input type="checkbox"/>
6_Upgrade lighting	<input type="checkbox"/>
7_Install solar pool heating	<input type="checkbox"/>
8_Install solar electric	<input type="checkbox"/>
9_Install solar water heating	<input type="checkbox"/>
10_Other: _____	<input type="checkbox"/>

[If Q24 = None selected, Skip to Q26]

25. Will these upgrades take place in tenant-occupied or common areas?

Skip/Display Logic	Property Upgrade	Tenant Occupied Area (1)	Common Area (2)
<i>If Q24_1_“Yes”</i>	1_Replace windows	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_2_“Yes”</i>	2_Replace doors	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_3_“Yes”</i>	3_Replace appliances (refrigerator, clothes washer, or dishwasher)	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_4_“Yes”</i>	4_Install insulation (ceiling, wall or floor)	<input type="checkbox"/>	<input type="checkbox"/>



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Skip/Display Logic	Property Upgrade	Tenant Occupied Area (1)	Common Area (2)
<i>If Q24_5_ “Yes”</i>	5_Upgrade HVAC systems	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_6_ “Yes”</i>	6_Upgrade lighting	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_7_ “Yes”</i>	7_Install solar pool heating	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_8_ “Yes”</i>	8_Install solar electric	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_9_ “Yes”</i>	9_Install solar water heating	<input type="checkbox"/>	<input type="checkbox"/>
<i>If Q24_10_ “Yes”</i>	10_Other: _____	<input type="checkbox"/>	<input type="checkbox"/>

26. Would you/your company consider carrying out facility upgrades with the sole purpose of improving energy efficiency?

- 1_Yes
- 2_No
- 98_Don’t Know
- 99_Refused

[IF Q26 = “No” or “Don’t Know” or “Refused” Skip to Q28

27. What types of upgrades to your property do you think would yield the greatest energy savings? ***[Choose all that apply]***

- 1_Replace windows
- 2_Replace doors
- 3_Replace appliances (refrigerator, clothes washer, or dishwasher)
- 4_Install insulation (ceiling, wall, or floor)
- 5_Upgrade HVAC systems
- 6_Upgrade lighting
- 7_Install solar pool heating
- 8_Install solar electric
- 9_Install solar water heating
- 10_None of the above
- 11_Other: _____
- 98_Don’t Know
- 99_Refused

28. When you made property upgrades in the past, what was the primary reason? Was it to...

- 1_Improve the look/feel of the property



- 2_Replace broken items
- 3_Improve the comfort of the property
- 4_Lower tenants' utility bills
- 5_Lower the property owners' utility bills
- 6_Other, please specify: _____
- 98_Don't Know
- 99_Refused

29. Other than funding, what sorts of services or products could Energy Trust offer to make it more likely that you would make energy efficiency improvements to your property? ***[DO NOT READ. Code using options below.]***

- 1_Provide information about benefits of energy efficiency improvements to me
- 2_Provide information about benefits of energy efficiency improvements to my board or boss
- 3_Other, Please specify: _____
- 98_Don't Know
- 99_Refused

Interest in Direct Install Program

30. Energy Trust offers multifamily property owners and managers no-cost installations of items such as faucet aerators, CFL light bulbs, and low-flow showerheads. The person that installs these products will then point out opportunities for energy savings at your property. Are you interested in receiving this service for your property?

- 1_Yes
- 2_No
- 98_Don't Know
- 99_Refused

[If Q30 = "Yes" Skip to Q32]

31. Why are you not interested in receiving these free items? ***[DO NOT READ LIST. Code based on response.]***

- 1_We already have these items in our property
- 2_Scheduling installations with all my tenants would be problematic
- 3_The savings these items would provide does not seem worth the effort
- 4_Other, please specify: _____
- 98_Don't Know
- 99_Refused



General Energy Management Questions

Now I'd like to ask about your company's general approach to energy management at this property.

32. Which of the following policies or procedures does your business or organization have in place regarding energy efficiency improvements at _____? **[Check All That Apply]**
- 1_An official company policy to reduce energy use
 - 2_A specific staff member or members responsible for energy and energy efficiency
 - 3_Company policies specifying that new equipment should be energy efficient
 - 4_Other, please specify: _____
 - 5_None of the above
 - 98_Don't Know
 - 99_Refused
33. When making equipment or facility upgrades, how often does energy efficiency enter into your decision making?
- 1_Never
 - 2_Sometimes
 - 3_Usually
 - 4_Always
 - 98_Don't Know
 - 99_Refused
34. Are you aware of property improvements made at your competitor's properties?
- 1_Yes – How much do you consider your competition when deciding to make property improvements? _____
 - 2_No
 - 98_Don't Know
 - 99_Refused
35. Thank you very much for helping Energy Trust of Oregon learn how best to use its resources to enhance its services for multifamily property owners and managers. Would you like Energy Trust to send you information about energy efficiency programs currently available to Multifamily Property Managers and Owners? **[Confirm Name, Phone, & Mailing Address]**

*****END OF SURVEY*****



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