research/into/action inc

Final Report

Survey of Multifamily Property Owners

Funded By:

EnergyTrust of Oregon

Prepared By:

research/into/action inc

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ACKNOWLEDGMENTS

We would like to thank Philipp Degens and Brien Sipe of Energy Trust of Oregon, Inc. for their direction and insight. We also thank the staff of Energy Trust's Multifamily Program for their help in crafting program specific questions. Their assistance helped us collect meaningful data about what multifamily property owners consider when making energy efficiency decisions.

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1 INTRODUCTION

BACKGROUND

Energy Trust of Oregon's Multifamily Properties Program promotes the installation of energy-efficient measures in apartment buildings, condominiums, and other multifamily complexes. In April 2010, Energy Trust of Oregon (Energy Trust) selected Research Into Action, Inc. to conduct a survey of owners of multifamily dwellings who participated in the program during 2009 to identify non-energy-related motives for carrying out energy-efficient equipment upgrades or installations.

According to the American Council for an Energy-Efficient Economy (ACEEE), over 80% of multifamily residents rent their units and are therefore not responsible for capital investments and property upkeep, but often they are the ones paying the energy bills.[1] Conversely, owners are charged with making capital investments and property upkeep, but they do not directly realize the energy-related benefits of those investments. This phenomenon, known as *the split incentive problem*, makes it difficult to understand why multifamily property owners choose to participate in energy efficiency programs. Do they participate to attract or retain tenants, to reduce greenhouse gases, or are there other reasons they install energy efficiency measures?

This report provides information about why multifamily property owners and managers chose to participate in the Multifamily Program and what things they considered before participating. The results will help Energy Trust ensure that the program obtains the greatest possible savings in the multifamily market.

PROGRAM DESCRIPTION

The Multifamily Properties Program provides financial incentives to owners for any of the following upgrade types:

- Appliances
- Heating and Cooling
- Lighting and Lighting Controls
- Solar Electric

[1] *Multifamily and Manufactured Housing Program.* Fact Sheet of the American Council for an Energy-Efficient Economy. Dated Feb. 1, 2009. Washington D.C. Retrieved from *http://www.aceee.org/fact-sheet/multifamily-and-manufactured-housing-program* on October 7, 2010.

- Solar Pool Heating
- Solar Water Heating
- Water Heating
- Weatherization

According to Energy Trust, when the incentives are combined with state tax credits, owners can have up to 50% of their project costs covered. In addition to energy and cost savings, energy efficiency projects can reduce operating costs, limit tenant complaints, and improve the aesthetic value of the property.

SURVEY OBJECTIVES

Energy Trust funded this survey to identify any non-energy-related benefits, in addition to any energy-related reasons, that motivate multifamily property owners and managers to participate in the Multifamily Properties Program. Key questions were:

- Are owners participating solely for energy savings?
- Are they most interested in reducing maintenance costs or are they participating for other reasons?
- What tenant benefits do they expect from installing windows or insulation in tenant-occupied areas?

METHODOLOGY

Energy Trust's *FastTrack* database showed that Energy-Trust-supported energy efficiency projects were carried out in 2009 at 190 multifamily dwelling sites associated with 115 owners or managers. A total of 117 unique contacts were associated with those projects. Of those, 103 were associated with a unique site, 11 were associated with two to three sites, and the remaining 3 were associated with six to eight project sites.

The survey was done in two waves. The first wave was directed at all program participants. The second wave was directed at those participants that had installed windows or insulation. That group was selected for additional follow-up because of feedback that tenant satisfaction and retention are among the most important reasons for carrying out window improvements and installing insulation.

With a population of 115, a sample of 42 provides 90% confidence and 10% precision for the first wave. Anticipating a completion rate of about 30%, we retained the entire population of contacts. We attempted to interview all contacts associated with multiple sites and randomized the remaining list; multiple calls were placed to these contacts in order until we obtained a final

disposition or reached the survey quota. We excluded participants associated with condominiums, as they are not subject to the split-incentive problem.

Among the 115 unique program participants, the program tracking file indicated that 60 had installed windows and/or insulation: 42 had installed windows and 40 had installed insulation. To achieve 90% confidence and 10% precision, we needed a sample of 26 windows participants and 25 insulation participants.

We developed an interview guide for the first survey wave by reviewing recent studies of the multifamily property market[2] and consulting with Energy Trust program and evaluation staff. The interview guide combined open and close-ended questions and was designed to balance the depth of understanding one can glean from open-ended questions with the quantifiable numbers close-ended questions offer. The second wave survey consisted only of brief questions to verify that the participant had installed windows or insulation, and to ascertain the expected benefits from installing windows or insulation in tenant-occupied areas. The questions for both waves are included in the Appendix.

The surveys in the first wave averaged approximately 20 minutes each; those in the second wave averaged about 5 minutes each.

We conducted the interviews by telephone with the contact named in the *FastTrack* database or with another contact identified by that person. The caller explained the purpose of the survey and identified Research Into Action by name as a contractor hired by Energy Trust to conduct the survey. The first wave was conducted between May 24 and June 18, 2010, and the second wave was conducted between August 20, 2010, and September 24, 2010. Close-end responses were exported to *Excel* and *SPSS 18* for analysis; open-end responses were exported to *Excel* and *NVivo 8* for coding and analysis.

[2] Rounick, Gustav (2010). *Energy Efficiency in Multifamily Properties: Drivers and Policies*. Dept of Real Estate and Construction Management, Master of Science Thesis no. 500.

MEMO

Date: November 22, 2010
To: Board of Directors
From: Brien Sipe, Evaluation Project Manager
Scott Swearingen, Business Sector Project Manager
Subject: Participant valuation of non-energy benefits stemming from Energy Trust multi-family projects.

Published Energy Trust evaluation findings on the multi-family program, from the program's inception through 2008, have indicated savings from weatherization measures are substantially lower than predicted, resulting in a re-screening of weatherization measures for cost effectiveness. Several measures, notably windows, no longer pass cost effectiveness checks based on energy savings alone. Currently, the Oregon Public Utility Commission allows the use of a proxy to represent the value of hard to quantify non-energy benefits (NEBs) stemming from incented projects (e.g., comfort, increased indoor air quality).

With around 90% of tenants paying their own utility bills (Census), owners face a 'split incentive' problem if they chose to upgrade tenant units. Tenants reap the benefits of energy saving improvements through savings on their utility bills, while owners shoulder the cost. Despite this, multi-family property owners continue to invest in efficiency upgrades in tenants' units. This has spurred interest in understanding owner motivations for pursuing these investments when they do not appear to receive direct benefits.

Investment motivation was touched on in the 2007-2008 residential process evaluation, conducted by Opinion Dynamics Corporation. Based on the results of the evaluation Energy Trust contracted with Research Into Action to perform a focused survey of property owners who participated in the 2009 program year, with the explicit aim of exploring motivations and perceived, or quantifiable, NEBs resulting from their projects.

While owners did indicate that reducing their tenants' energy bills was a substantial motivator for projects, enhancing the aesthetics of the property and reducing moisture issues were frequently cited as reasons for investing in new windows. Specific NEBs mentioned and the % of owners identifying them as a tenant benefit are listed below (multiple categories could be chosen):

- 38% Appearance
- 28% Control moisture
- 21% Reduce noise
- 14% Tenant service
- 14% Open windows

Follow-up questions asked owners to quantify the effect of the improvements on retention and rent. On average owners reported that they tenant retention would increase by 9%. Owners also indicated that rental income (7%) and re-sale value of the property would increase (4%).

Based on these findings, Energy Trust staff feel comfortable using the proxy in the cost-effectiveness test for windows measures. This was not the case for insulation, where owners did not feel that increased comfort or aesthetics were benefits that would be realized. Given that respondents focused predominantly on reducing tenant bills when discussing insulation, use of the proxy appears unjustifiable.

2 SURVEY RESULTS

This section summarizes the call dispositions and responses of each survey wave. The results of Wave One and Wave Two of the survey are presented under separate headings. Wave one results are grouped by several themes that emerged in the course of data analysis: what motivates and influences multifamily property owners to invest in energy efficiency, how owners advertise energy efficiency improvements, and how they understand the results of their energy efficiency work. We explore each of these themes and others below.

CALL DISPOSITIONS

The final dispositions of all contact attempts are shown in Table 2.1. We interviewed 43 contacts in Wave One and 32 in Wave Two. Three of the 43 wave-one interviews were incomplete because the respondent refused to continue with the survey. Approximately 10% of the sample was deemed ineligible because of bad or missing phone numbers, or failure to pass screening.

We conducted Wave Two interviews with people we contacted or attempted to contact during Wave One, so we did not have problems with missing phone numbers or duplicate contacts. These issues were resolved during calling for Wave One. Therefore, none of the Wave Two sample were ineligible.

Table 2.1: Disposition Report

DISPOSITION	WAVE ONE		WAVE TWO		TOTAL	
	CONTACTS	PERCENT	CONTACTS	PERCENT	CONTACTS	PERCENT
ELIGIBLE						
Completed	43	37%	32	74%	75	47%
Callback Scheduled, But Quota Met	9	8%	0	0%	9	6%
Refused	10	9%	0	0%	10	6%
Quota Met Before Reached	32	27%	11	26%	43	27%
Out of Office During Survey Period	2	2%	0	0%	2	1%
Subtotal	***96***	***82%***	***43***	***100%***	***139***	***87%***

Continued

DISPOSITION	WAVE ONE		WAVE TWO		TOTAL	
	CONTACTS	PERCENT	CONTACTS	PERCENT	CONTACTS	PERCENT
ELIGIBLE AND UNKNOWN ELIGIBILITY, NON-INTERVIEW						
Duplicate Company	1	1%	0	0%	1	1%
Missing Phone Number	3	3%	0	0%	3	2%
Left Job, Deceased	1	1%	0	0%	1	1%
Bad or Wrong Number	4	3%	0	0%	4	3%
Did Not Pass Screening	8	7%	0	0%	8	5%
Called for Other Energy Trust Survey	1	1%	0	0%	1	1%
Condominium[1]	3	3%	0	0%	3	2%
Subtotal	***21***	***18%***	***0***	***0%***	***21***	***13%***
TOTAL	**117**	**100%**	**43**	**0%**	**160**	**100%**

[1] We interviewed these respondents, but later excluded them from analyses because the concerns of condominium management companies are likely to be different from those companies that manager properties that are composed entirely of rental units.

RESULTS: WAVE ONE

Characterization of Participants

Respondents represented 36 for-profit businesses and 7 non-profits, such as housing authorities and low-income housing agencies (Table 2.2).

Table 2.2: Participant Organization Type

MULTIFAMILY ORGANIZATION TYPE	SPECIFIC TYPE	RESPONDENTS
For-Profit	LLC	16
	Sole Proprietorship	8
	Partnership	8
	Trust	2
	Single Asset Entity	1
	Other For-Profit	1
	Subtotal	***36***
Non-Profit		7
TOTAL		**43**

The for-profit and non-profit respondents were almost all owners of multifamily properties, with only three respondents indicating they solely managed properties. Twenty-three respondents

solely owned properties and 17 indicated they both owned their own properties and managed properties for others (Table 2.3).

Table 2.3: Own or Manage Multifamily Properties

OWN / MANAGE	FOR PROFIT	NON-PROFIT	TOTAL
Own	21	2	23
Manage	3	0	3
Both	12	5	17
TOTAL	**36**	**7**	**43**

Participants in our sample recently installed a variety of measures, with the majority conducting lighting and windows projects (Table 2.4).

Table 2.4: Measures Installed

MEASURE	INSTALLATIONS	PERCENT
Lighting	13	30%
Windows	11	26%
Ceiling Insulation	6	14%
Tanked Water Heater	4	9%
Floor Insulation	3	7%
Gas Furnace	2	5%
Clothes Washer	1	2%
Custom Lighting	1	2%
Boiler	1	2%
Door Insulation	1	2%
TOTAL	**43**	**100%**

Twenty-one respondents (49%) completed in-unit weatherization projects. These are windows and floor/ceiling insulation projects completed in traditional apartment buildings.[3] The cost-benefit ratio for such projects is not as advantageous as for other project types, yet the split incentive issue still pertains to them. Therefore, we examined the motives for installing energy efficiency measures separately for those who did and did not do such projects.

[3] One respondent represented a sorority house, which serves a unique population.

Respondents represented companies that managed as few as five rental units to as many as 14,000 units in Oregon (see Table 2.5). This array indicates we spoke with a good cross-section of the multifamily property market, ranging from small family businesses that own one or two small properties to large national operations.

Table 2.5: Respondents and Number of Units Owned or Managed

MEASURE	RESPONDENTS
Mean Number of Rental Units Owned/Managed	825
Median Number of Rental Units Owned/Managed	80
Range of Rental Units Owned/Managed	5 to 14,000
Number of Units Owned or Managed	
• **Up to 30 Units**	10
• **31 to 100 Units**	8
• **101 to 500 Units**	11
• **501 or More Units**	11
• **Unknown**	3

Capital Improvement Budgeting

Multifamily property owners reported not planning or budgeting to do any other building improvement, energy-efficient or otherwise, very far in advance. When we asked questions about their capital improvement budgets, it was common for respondents to dismiss the question quickly and state they do not have a capital improvement budget. Upon probing, it became clear that maintenance, capital improvements, and apartment turnover costs (replacing carpeting and repainting apartments after they are vacated) tended to be evaluated separately by only a few owners. Almost three out of four respondents stated they use an ad hoc/as needed approach to capital improvements. The following comments were typical:

- *"[Our capital budget is done] by the seat of our pants."*
- *"…It's more ad hoc…we just pay our own property taxes and insurance so I know what my debt service is and I have a mental picture of what my cash availability is… [I make decisions] based on that."*

Six respondents stated they apportion a certain percentage of their revenue to maintenance and/or capital improvements, but that the percentage varied by building and year. One reported that he has been told to put away five percent of revenue for building improvements, but that he does not do that. Another six respondents reported some other funding system or that it was unclear how they established an annual capital improvement budget.

When asked to identify the largest expenditure categories included in their capital improvement budgets, respondents struggled to provide any one category. We coded their open-ended responses (see Table 2.6) in an attempt to identify the various categories and found a range of answers.

Table 2.6: Largest Categories of the Annual Capital Improvement Budget

CATEGORY	RESPONSES	PERCENT	PERCENT OF VALID RESPONSES
Overall Maintenance and Turnover Expenses	11	25%	31%
Exterior[1]	10	23%	29%
Roofing	8	19%	23%
HVAC	3	7%	9%
Flooring	2	4%	6%
Plumbing	1	2%	3%
Don't Know / Refused	8	19%	—
TOTAL	**43**	**100%**	**100%**

[1] Siding, paint, decks, landscaping, and parking lot improvements

Most of the items listed in Table 2.6 represent at least some energy efficiency opportunities. Replacing or repairing external walls, roofing, and flooring provide opportunities for insulation. Plumbing includes water heaters and pipe-wrap. Even the overall maintenance and turnover category provides an opportunity for improving energy efficiency through more efficient lighting and appliances.

We hypothesized that the approach to capital budgets may have been related to the number of units the participant owned and/or managed. Our hypothesis was that those who owned or managed more units would employ more sophisticated capital improvement budgeting processes. However, we found that the number of units was unrelated to how capital improvement budgeting was done.

Motives for Installing Energy-Efficient Measures

Our assumption going into this survey was that tenants are generally responsible for their energy costs, and this survey supported that assumption. Thirty-four participants reported that the tenant pays utility costs and another eight stated that it depended on the building. Only one participant reported that the firm pays the utility costs for the tenants (Table 2.7). Even in the eight cases where it depended on the building, respondents reported that tenants still paid some of the utility costs. For instance, the landlord may pay the gas bill, but the tenant pays the electric bill.

Table 2.7: Who Pays Utility Bills

WHO PAYS	FOR PROFIT	NON-PROFIT	TOTAL	PERCENT
Tenant Pays	29	5	**34**	79%
Firm Pays	1	0	**1**	2%
Depends	6	2	**8**	19%
TOTAL	**36**	**7**	**43**	**100%**

These responses suggest something other than their own cost-savings motivates owners to install efficiency measures in their property. To gauge motives for investing in energy efficiency, we asked respondents how important it is to control energy use (gas and electricity) in both the common and tenant-controlled areas of their properties. We also asked whether current and prospective tenants requested energy-efficient features or units. Finally, we asked respondents to name all their reasons for investing in energy efficiency in the common and tenant-controlled areas, and asked which of those they named were most important.

Importance of Controlling Energy Use

A higher percentage of participants reported that controlling energy use was "very important" in common areas compared to tenant-occupied areas, although the difference was not statistically significant, nor was the difference in rated importance of controlling gas versus electricity costs (see Figure 2.1). (There were fewer responses for controlling gas costs because several respondents reported that many buildings do not have gas.)

As Figure 2.2 shows, in-unit weatherization project participants were slightly more concerned with controlling electricity costs in tenant areas versus respondents that conducted other types of measures. However, there appears to be almost no difference among participants regarding controlling electricity costs in common areas and statistical testing confirms this.

Figure 2.1: Controlling Energy Use in Common Areas and Tenant Areas

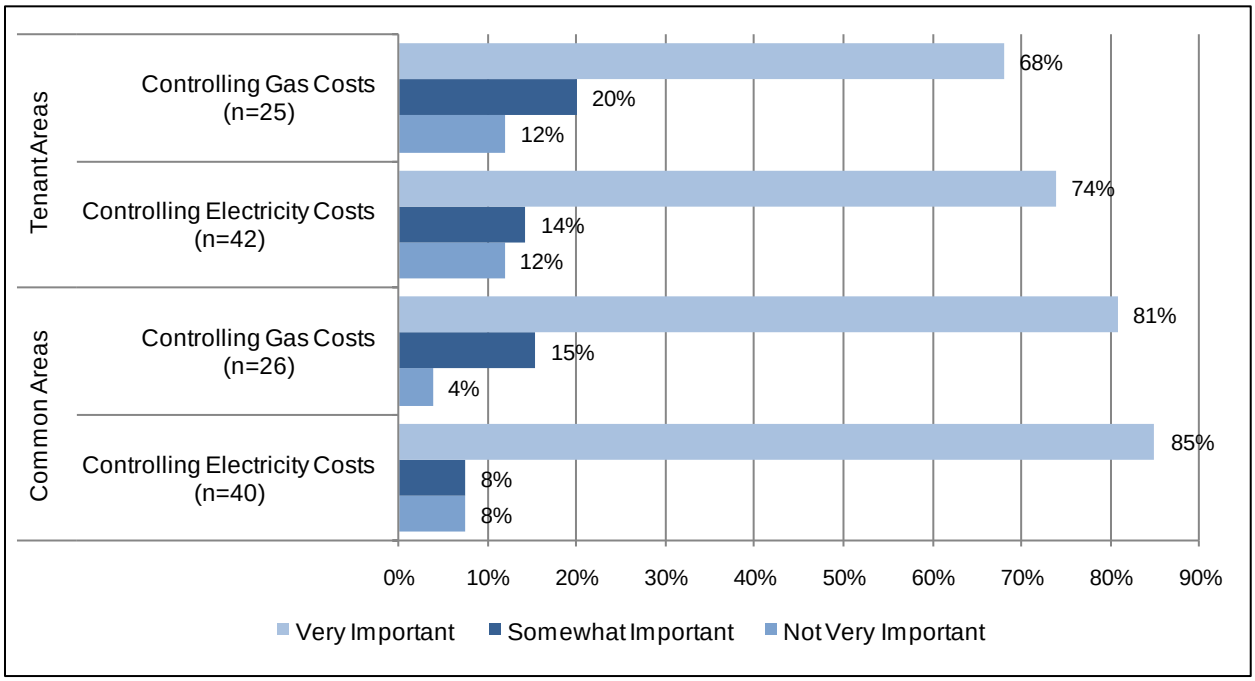
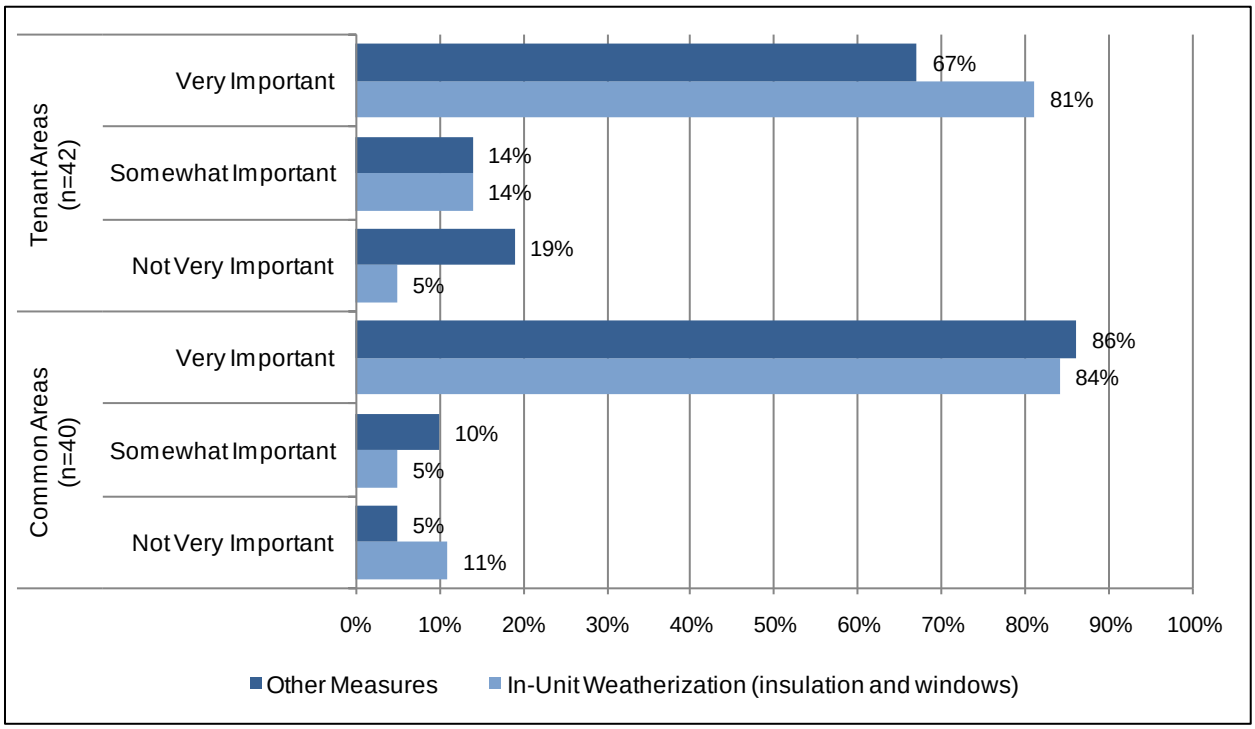


Figure 2.2: Controlling Electricity Costs in Common and Tenant Areas by In-Unit Project Type



Note: Participants' responses regarding controlling gas costs were not included because relevant responses were low in number.

Tenant Request

At first, it may appear that current tenants do not appear to have much influence on owners' decisions about energy efficiency because tenants do not ask for energy-efficient measures. Only one participant said that more than 25% of current tenants requested energy-efficient features in their apartments (Table 2.8) and many commented that no tenants ask for energy efficiency.

Table 2.8: Percentage of Current and Prospective Tenants that Request Energy Efficiency

RESPONSE	CURRENT TENANTS			PROSPECTIVE TENANTS		
	RESPONSES	PERCENT	PERCENT OF VALID RESPONSE	RESPONSES	PERCENT	PERCENT OF VALID RESPONSE
25% or Fewer	36	84%	97%	23	53%	77%
26% to 50%	0	0%	0%	1	2%	3%
51% to 75%	1	2%	3%	2	5%	7%
More than 75%	0	0%	0%	4	9%	13%
No Response	6	14%	—	13	31%	—
TOTAL	**43**	**100%**	**100%**	**43**	**100%**	**100%**

However, as we see in Table 2.8, at least some respondents recognized that tenants will relocate to another property if energy costs are too high, even though they may not explicitly ask for energy-efficient measures. Moreover, respondents indicated that prospective tenants may exert a somewhat greater pressure to invest in energy efficiency. Nearly a quarter of those who responded to this question reported that more than 25% of prospective tenants request energy efficient apartments, and 13% said that at least 75% of prospective tenants did so.

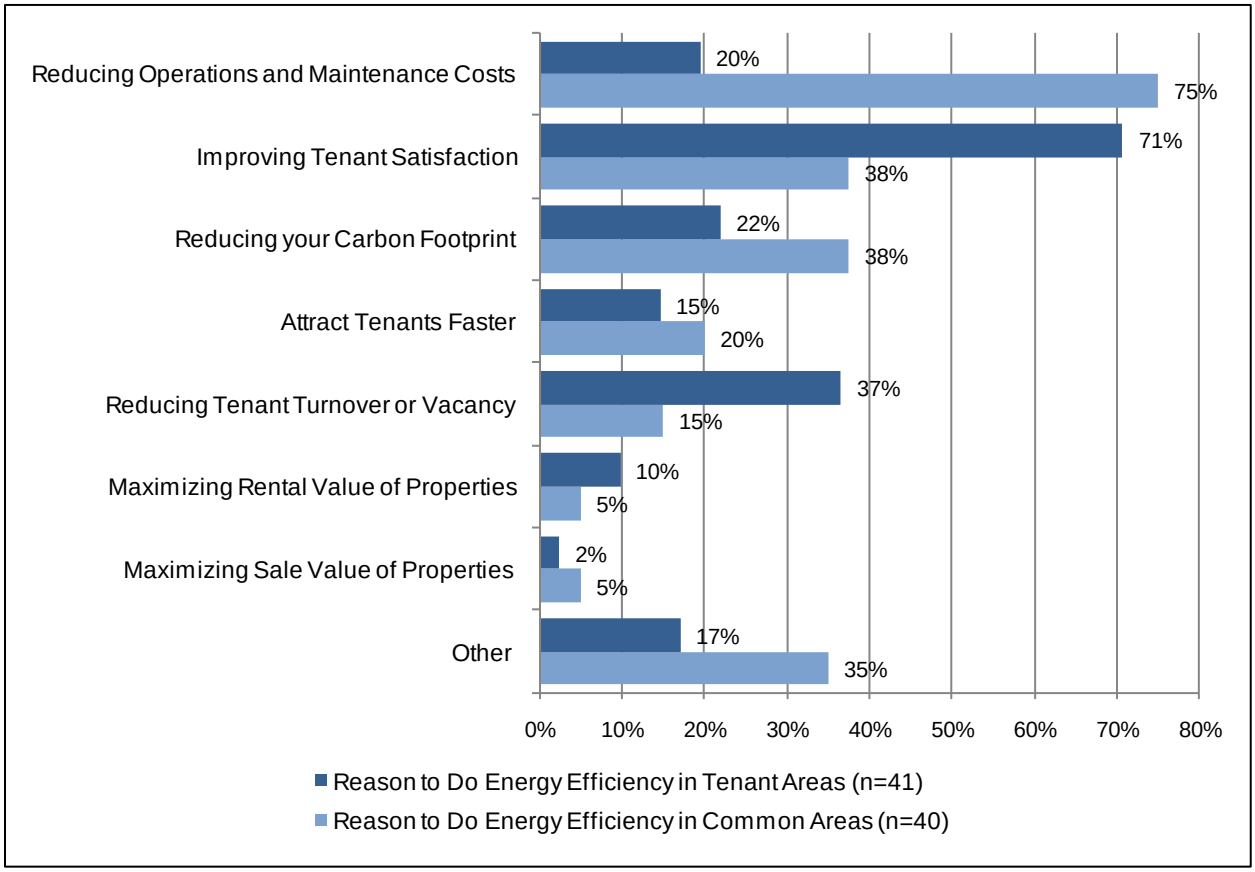
There was a slight difference between respondents that conducted in-unit projects versus other participants. Sixteen of the 21 respondents that completed in-unit projects (76%) stated that fewer than 25% of their tenants requested energy efficiency improvements, compared to 20 of 22 (91%) who completed other projects.

Other Reasons for Investing in Energy Efficiency

In response to our unprompted request to name reasons for installing efficiency measures in common and tenant-occupied areas, participants reported a range of reasons. By far, the most common reason given for investing in efficient equipment in common areas (75% of respondents) was to reduce operations and maintenance costs (Figure 2.3). About half as many respondents mentioned improving tenant satisfaction and reducing their carbon footprint. Fewer still reported they undertook energy investment in common areas to attract tenants faster or reduce tenant turnover, and only one or two participants said they did so to maximize the rental

or sale value of their properties. Similar numbers mentioned such other reasons as improving the firm's reputation and overall competitiveness.

Figure 2.3: Reasons To Invest in Energy Efficiency in Tenant and Common Areas



By contrast, improving tenant satisfaction was the most cited reason for investing in efficiency in the tenant-occupied areas, and reducing maintenance costs was cited by only one-fifth of respondents. Reducing tenant turnover was the second-most frequently volunteered reason. Also, about one-fifth of respondents reported that reducing their carbon footprint was an important reason for installing efficient equipment in tenant-occupied areas. As with the common areas, most participants did not volunteer that they installed efficient equipment to maximize rental or sale value.

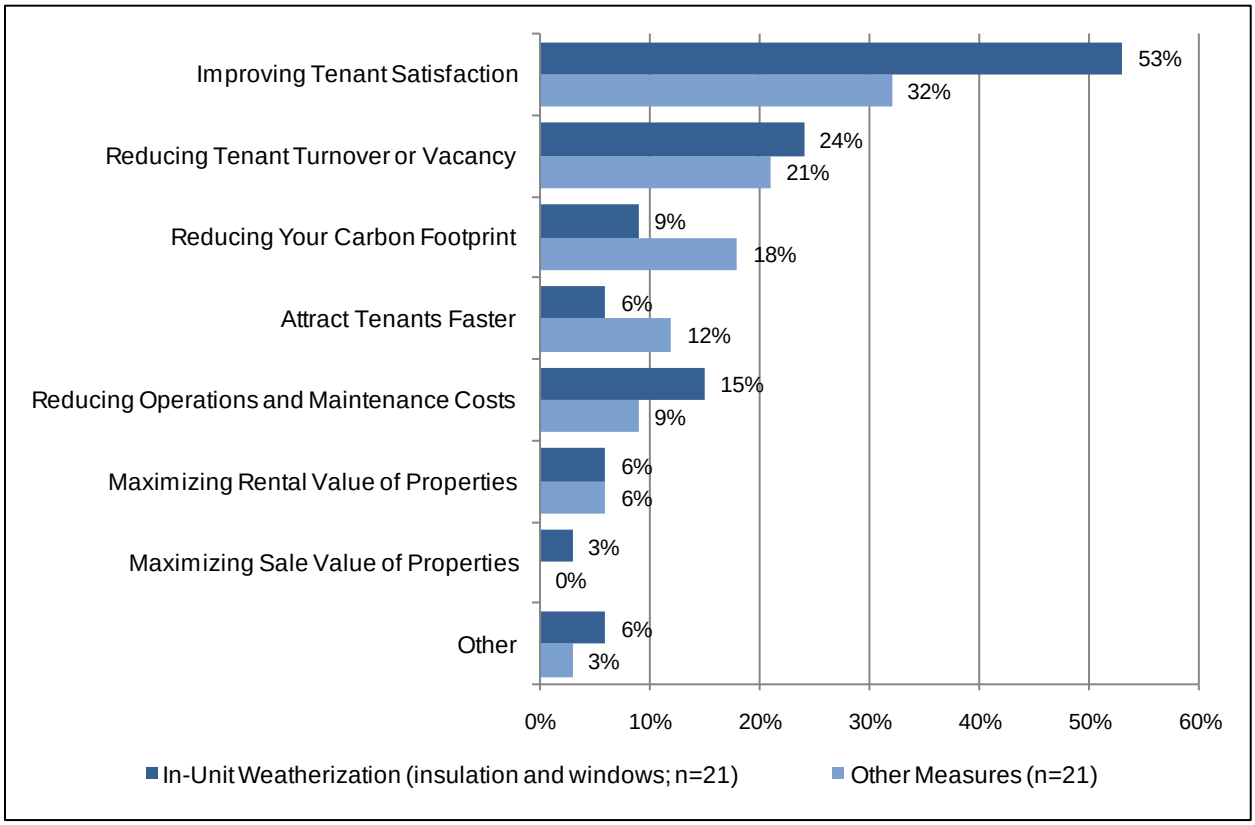
Although reducing turnover or vacancy was volunteered by about half as many respondents as improving tenant satisfaction, we infer that the main goal of keeping tenants satisfied is to keep them from moving out. This inference is supported by some open-ended comments made by respondents to explain why they are interested in lowering energy costs for tenants:

- *"If you take a 1970s building with aluminum single pane windows and the tenant pays $250 in utilities, they will be unhappy. Tenants pay the utilities, but if they are unhappy with situation they will move on… we want happy tenants."*
- *"Bottom line is you have to keep costs down for your residents or they will relocate elsewhere. [Tenants] will not ask for [energy efficiency] but they will complain about high energy bills after they move in."*

These statements from respondents and the survey data suggest that owners and managers are interested in installing efficiency measures in tenant areas to help them lower costs for their tenants, with the goal of reducing turnover.

Participants that installed in-unit weatherization measures (windows and/or insulation) reported being more concerned with improving tenant satisfaction, with 53% reporting that tenant satisfaction was a reason they installed efficiency measures, compared to 32% of other respondents (see Figure 2.4).

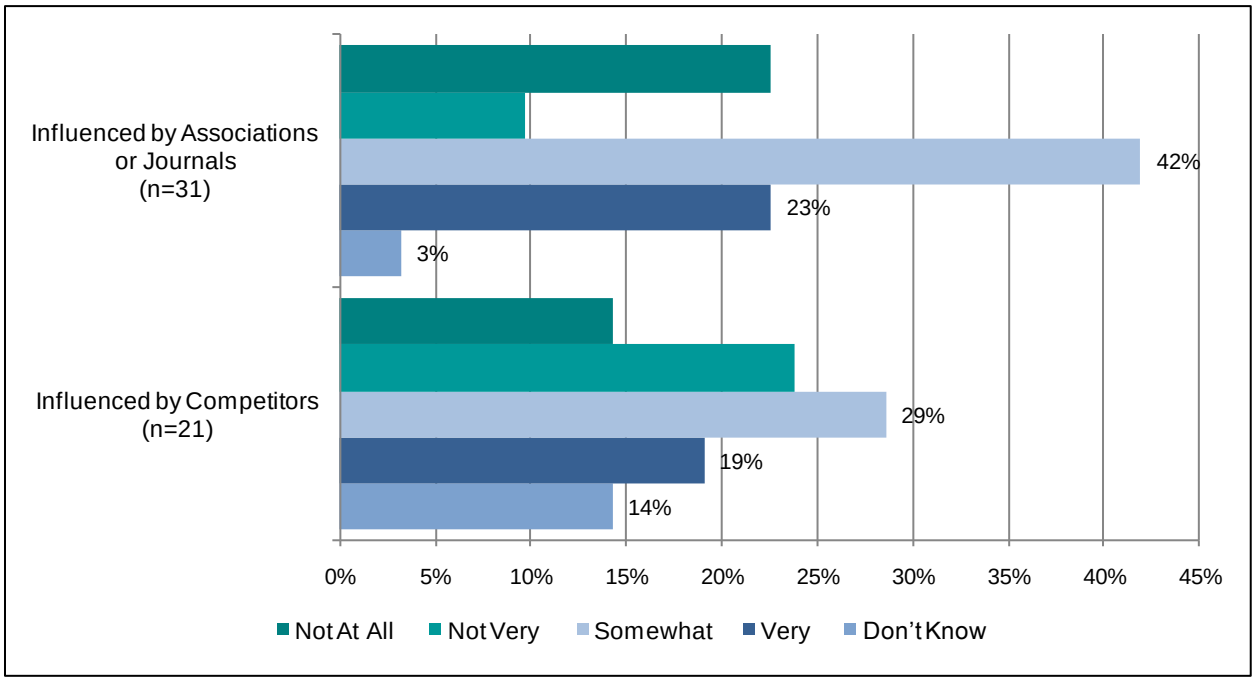
Figure 2.4: Reasons To Invest in Energy Efficiency by Measure Location



Influences on Multifamily Property Owners

It is possible that multifamily property owners are also influenced in their energy-efficiency-related decisions by what they see their competitors doing and what they learn from their affiliations with trade associations and similar organizations. For example, 21 respondents reported they try to find out what their competitors are doing about energy efficiency. Of those respondents, about half said they were somewhat or very influenced by their competitors (Figure 2.5). Associations and journals appear to be even more influential, with almost two-thirds of respondents stating they are somewhat or very influenced by associations or journals. Examples of the associations these participants belonged to and claimed to be influential include the Metro Multifamily Housing Association, the National Apartment Association, and the Oregon Landlord Association.

Figure 2.5: Influences on Energy Efficiency Decision-Making



Advertising Energy Efficiency

Twenty respondents, not quite half of the sample, indicated they advertise the energy-efficient features of their properties. Respondents that did not advertise the efficiency features indicated they owned an older property and believed they could not compete with the efficiencies available in newer properties. Therefore, they focused their advertising on things like location and inexpensive rent. When asked how participants advertise the energy-efficient features of their property, more than half (11 respondents) indicated they use Craigslist and another third (7

respondents) advertise efficiency on other websites. Only four participants indicated they used non-web-based methods to advertise the energy efficiency features of their facilities: two reported posting displays on their rental property and one each advertising their energy-efficient features through brochures or flyers or in newspapers.

Measuring the Results of Their Energy Efficiency Work

We asked respondents a series of questions designed to understand how multifamily owners quantify the value of installing efficient equipment. Questions addressed four areas in which installing energy-efficient equipment might have a quantifiable financial benefit for owners:[4]

1. Improving the ability to attract tenants or to reduce vacancy time
2. Increasing rental income
3. Increasing resale potential
4. Reducing tenant turnover

For each area, we first asked the contact to respond yes or no as to whether installing energy-efficient equipment at their properties had had any impact – had it improved the ability to attract tenants or reduced vacancy time, increased rental income, increased resale potential, or reduced tenant turnover?

For those who said yes to any of those questions, we asked how much installing energy-efficient equipment had improved their ability to attract tenants, improved rental income, increased the resale potential, or reduced tenant turnover. Based on early responses, we clarified the question about increased ability to attract tenants by adding: *"How much faster can you attract tenants, how much does it reduce vacancy time, and so forth?"*

Early efforts to solicit estimates of benefits with open-ended questions were unsuccessful, so we instead provided categories in 10% increments: "none," "less than 10%," "10% to 19%," and so forth, with "50% or more" as the highest level. Therefore, if installing energy efficiency had improved rental income by 15%, the respondent should answer "10% to 19%."

For those who did not report that installing energy efficiency features had yet produced a benefit, we asked how much benefit they thought installing energy-efficient features might produce over time.

[4] This line of questioning was not applicable to non-profits because they are not competing in the open market the way for-profit multifamily owners do. Non-profits that cater to low-income tenants on waiting lists do not think about whether efficient equipment attracts tenants, increases rental income, increases resale potential, or reduces turnover rates. Therefore, nonprofit responses are excluded from the analyses in this section.

Table 2.9 summarizes the responses to the above questions. Few respondents indicated benefits of more than 20%, so some response categories are collapsed in the table. About two out of three respondents indicated that installing efficient measures improved their ability to attract tenants. However, less than half of those respondents could provide an estimate of *how much* the equipment helped attract tenants, and about half of those who said there had not yet been a benefit were not willing to guess how much of an impact it might have.

Table 2.9: Benefits of Installing Energy Efficiency at Properties

RESPONSE	TYPE OF BENEFIT							
	IMPROVED ABILITY TO ATTRACT TENANTS / REDUCED VACANCY TIME		INCREASED RENTAL INCOME		INCREASED RESALE POTENTIAL		REDUCED TENANT TURNOVER RATE	
	REPLIES	PERCENT	REPLIES	PERCENT	REPLIES	PERCENT	REPLIES	PERCENT
HAS BENEFIT OCCURRED?								
Yes	22	65%	13	37%	25	71%	14	40%
No	6	18%	17	49%	3	9%	11	31%
Don't Know / Refused	6	18%	5	15%	7	20%	10	29%
TOTAL	**34**	**100%**	**35**	**100%**	**35**	**100%**	**35**	**100%**
DEGREE OF BENEFIT (OF THOSE REPORTING A BENEFIT)								
Less than 10%	2	9%	5	38%	9	36%	7	50%
10% to 19%	4	18%	3	23%	3	12%	3	21%
20% or More	3	14%	1	7%	1	4%	0	0%
Don't Know / Refused	13	59%	4	31%	12	48%	4	29%
TOTAL	**22**	**100%**	**13**	**100%**	**25**	**100%**	**14**	**100%**
DEGREE OF POTENTIAL BENEFIT (OF THOSE REPORTING NO BENEFIT TO DATE)								
It Has No Value	2	17%	3	14%	1	10%	6	29%
Less than 10%	2	17%	7	32%	3	30%	3	14%
10% or More	2	17%	3	14%	0	0%	2	10%
Don't Know / Refused	6	50%	9	41%	6	60%	10	48%
TOTAL	**12**	**100%**	**22**	**100%**	**10**	**100%**	**21**	**100%**

Similarly, more than 70% of respondents believed that installing efficiency measures increased the resale of the property, but only half could provide an estimate of how much. Furthermore, respondents that did provide an estimate concluded there were too many other factors to accurately estimate the resale potential.

The type of measure installed may affect respondents' answers to the resale potential questions. If the property owner received incentives for doing something that is not obvious to a potential

buyer, such as insulation, it is possible they would not see a large benefit in the resale potential. However, if the owner installs new windows and doors that improve the aesthetic value of the property, they are more likely to realize a higher profit on the sale of the property. For instance, one respondent mentioned that a real estate agent contacted him recently to compliment the improved looks of his property after he replaced all the windows in his complex.

We calculated an estimate of the mean benefit by assigning each respondent the mid-point of the range of percent benefit that the respondent selected. If a respondent indicated no benefit had been realized and did not estimate a potential benefit, we assigned a value of 0%. We assigned a value of 55% to those saying the value was 50% or greater. Based on that method, on average, investing in energy efficiency has delivered or is expected to deliver the following benefits:

- A 9% improvement in the ability to attract tenants or reduce vacancy (i.e., owners or managers will attract tenants 9% faster or reduce vacancy by 9%)
- A 7% increase in rental income
- A 4% increase in potential resale value
- A 3% reduction in tenant turnover (retention of current tenants)

We also examined whether size of the organization was related to whether or not respondents reported that energy efficiency upgrades produced benefits. To determine appropriate size categories, we classified each participant using information from the Energy Trust Multifamily Program Director. Table 2.10 shows similar patterns of response across the spectrum for owners with different numbers of units.

Table 2.10: Reported Benefit from Energy Efficiency by Respondent Size

BENEFIT	RESPONDENTS BY NUMBER OF UNITS		
	5 TO 20 UNITS	21 TO 75 UNITS	MORE THAN 75 UNITS
Improved Ability to Attract Tenants or Reduced Vacancy Time (*n*=34)	4	6	9
Increased Rental Income (*n*=35)	4	3	6
Increased Resale Potential (*n*=35)	6	7	12
Reduced Tenant Turnover Rate (*n*=35)	2	5	7

Tax Credits and Incentives

According to the Energy Trust website, up to 50% of multifamily project costs can be covered by tax credits and incentives. However, it is interesting to see that one-third of the for-profit

participants did not pursue other incentives or credits and one did not even know if his company pursued other incentives or credits (see Table 2.11).

Table 2.11: Respondents Receiving Other Incentives or Tax Credits

RESPONSE	FOR PROFIT	NON-PROFIT	TOTAL	PERCENT
Yes	20	1	**21**	50%
No	12	5	**17**	40%
Don't Know	1	1	**2**	5%
Refused	2	0	**2**	5%
TOTAL	**35**	**7**	**42**	**100%**

Several participants did specifically mention the tax credit program and how that, combined with the Energy Trust incentive, pushed them to do the project:

- *"I think the tax credit program definitely pushed us in that direction; it would have been difficult to make the economics work without the assistance there."*

While clearly some respondents had an understanding of how much incentives and tax credits helped with their project, a large proportion could not answer. Of the 21 respondents who reported receiving other incentives or tax credits, seven (33%) were unable to tell us if the net cost of their equipment (after tax credits and incentives) exceeded the cost for standard equipment. Of the 14 who could answer, six said that the net cost did exceed the cost of standard equipment.

Despite the financial benefits of the tax credit, there were three negative comments about the tax credit program. One owner stated:

- *"We are frustrated with ODOE…Never got a return call from the state. Pleading for help and got no assistance… this was very disappointing."*

Another respondent was disappointed with the actual tax credit received versus what was initially quoted:

- *"I think originally it was in the high $7,000 range, and I think it might have ended up in the range of $1,200 or something like that."*

A non-profit respondent stated he used to receive assistance in finding a partner that could use their tax credit, but now BETC "is running for their lives" and that assistance unfortunately is no longer provided. Not surprisingly, most non-profits did not pursue other incentives or credits because they are tax-exempt and needed to find a pass-through partner.

Perceptions of the Rental Market

The last question in the survey asked respondents for their perception of the rental market; specifically, what the demand for rental property is in relation to the respondent's supply. While all but one non-profit stated that demand exceeds supply, for-profit owners reported a broader range of answers, with overall results suggesting that demand and supply are in balance (Table 2.12).

Table 2.12: Demand for Rental Property In Relation to Supply

RESPONSE	FOR PROFIT	NON-PROFIT	TOTAL	PERCENT
Demand Significantly Exceeds Supply	3	5	**8**	19%
Demand Somewhat Exceeds Supply	14	1	**15**	35%
Supply Somewhat Exceeds Demand	11	0	**11**	26%
Supply Significantly Exceeds Demand	3	0	**3**	7%
Don't Know / Refused	6	1	**7**	14%
TOTAL	**36**	**7**	**43**	**100%**

Based on these results, the current market is neither a buyers' nor a sellers' market. While tenant demand for energy efficiency may not, therefore, have as much influence as it might in a clear buyers' market, the responses indicate that many owners and managers are aware of the competitive benefits of offering energy efficiency features.

RESULTS OF WAVE TWO

The following summarizes the results of the wave-two survey, which was carried out with the program participants that installed in-unit weatherization measures (windows and insulation). This wave of interviews was designed to delve further into what leads multifamily property owners to make energy efficiency improvements that they do not directly benefit from by receiving lower utility costs. We wanted to know what benefits owners perceived by insulating and/or installing new windows in their properties. Were they interested in reducing their tenants utility bills, comfort of the property, or was it something else?

Additionally, we wanted to know how often utility costs were mentioned by prospective and current tenants to the owners. Therefore, we asked Wave Two respondents to tell us on a scale of 1 to 7 how often tenants and prospective tenants asked or complained about utility bills (see Appendix for Wave Two instrument).

Self-Reported Measure Installation

Of the 32 wave-two respondents, the tracking file indicated that 10 had installed insulation only, 9 had installed windows only, and 13 had installed both types of measures. As a check, we asked

respondents whether they had installed insulation and whether they had installed windows through the program. The self-report results differed in many cases from the tracking file (Table 2.13).

Table 2.13: Discrepancy between Energy Trust Data and Reported Data

MEASURE	TRACKING FILE	REPORTED BY RESPONDENT	DIFFERENCE
Insulation Only	10	3	-7
Windows Only	9	7	-2
Both Insulation and Windows	13	22	9
TOTAL	**32**	**32**	**0**

As Table 2.13 shows, many more respondents reported that they had installed both insulation and windows than was shown in the tracking file, which was more likely to show insulation only or (to a lesser extent) windows only. We are not sure why this discrepancy exists. One possibility is that some respondents installed the second measure at a different time than indicated by the tracking file records from Energy Trust.

Two respondents indicated they initially planned on doing a windows upgrade only, but they decided to install insulation also in order to qualify for program incentives that required insulation in combination with window upgrades.

Survey Responses

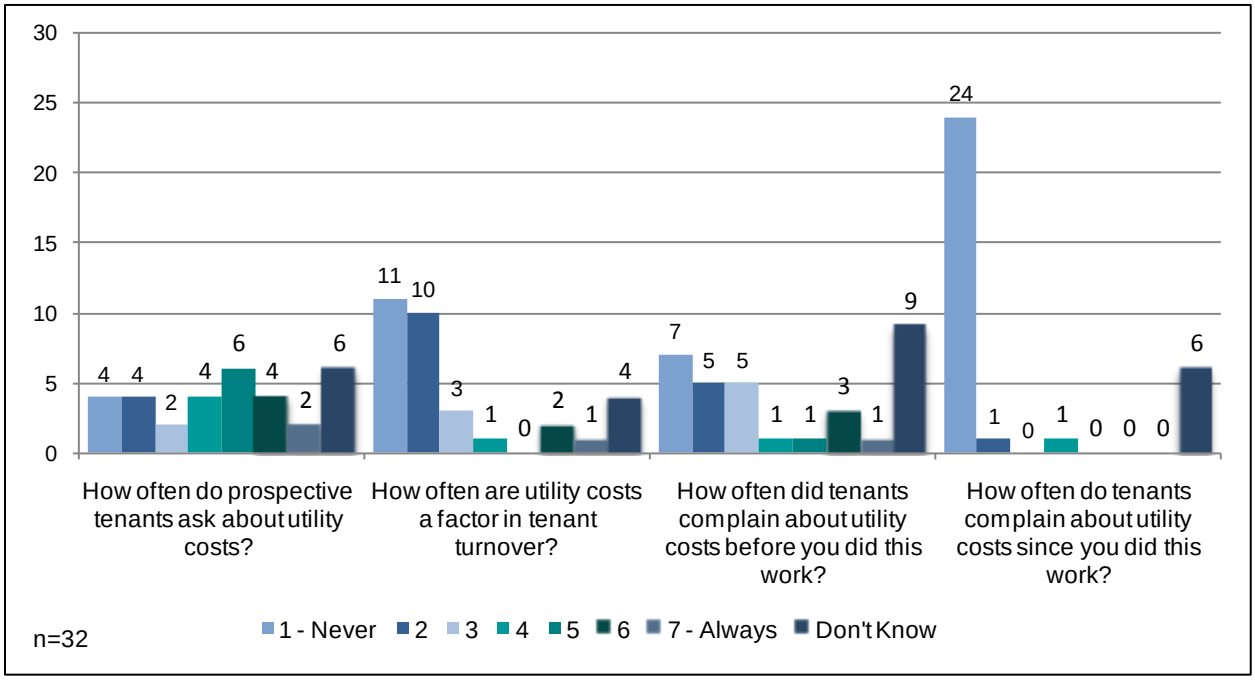
By far, the most common expected tenant benefit cited for both the windows and insulation was lowering their tenant's energy bills, followed by improving the overall comfort of the residence (Table 2.14). Approximately a third of respondents suggested they installed windows to improve the appearance of the facility. Less than 30% of respondents indicated they installed the measures for reasons such as controlling moisture infiltration or reducing noise.

Table 2.14: Primary Tenant Benefits Motivating Installation of Windows and Insulation

PRIMARY TENANT BENEFIT	WINDOWS (*N* = 29)		INSULATION (*N* = 25)	
	INSTALLATIONS	PERCENT	INSTALLATIONS	PERCENT
Reduce Energy Bills	24	83%	20	80%
Improve Overall Comfort	12	41%	12	52%
Improve Appearance	9	31%	N/A	—
Control Moisture Infiltration	8	28%	N/A	—
Reduce Noise	6	21%	1	4%
Tenant Service	4	14%	—	—
Allow Windows to Open	4	14%	N/A	—
Easier to Wash Windows	1	3%	N/A	—
Prevent Pipe Breakage	—	—	1	4%

We asked Wave Two respondents to indicate how often prospective tenants asked about utility costs, how often utility costs affected turnover, and how often tenants complained about utility costs before and after the measures were installed (see Figure 2.6).

Figure 2.6: Tenants and Utility Costs



As seen in Figure 2.6, five respondents reported that tenants often complained about utility costs (scored as 5, 6, or 7) prior to the efficiency measure being installed, but no respondents complained about utility costs since the project was completed. Furthermore, after the measures were installed, 24 respondents claimed to never hear complaints from tenants about utility costs versus just 7 respondents prior to the work being done. This suggests that tenants appreciate the installation of the efficiency measures. We hypothesized that tenants may have not had time to complain about utility costs because the measures may have been installed only recently. However, we counted the number of days from when the measures were installed to when we spoke with the respondent and found that the projects concluded anywhere from 172 to 527 days prior to our call. We then examined responses by the number of respondents that completed projects over the median number of days (376) and under the median. We did not find any difference in the distribution of responses.

We found thirteen respondents could not answer one or more of the above four questions. The most common reason, given by seven, was that the respondent, as property owner, did not interact directly with tenants. In addition, three respondents could not say how often tenants had complained about utility costs before the work was done because they had recently purchased the property in question or did not interact with tenants before the renovation was done. Similarly, one had recently sold the building and had not had much tenant turnover, and so could not say how much utility costs were a factor in tenant turnover.

3 CONCLUSIONS

Results of this survey suggest that many multifamily property owners and managers make investment decisions on an ad hoc basis.

Regardless of the ad hoc nature of making decisions, owners are concerned with controlling utility costs both for themselves and their tenants. Their motives for controlling costs vary, but they are willing to do efficiency projects regardless of who pays the bill. They will consider efficiency projects in areas where they pay the bills to lower their monthly bills and they will consider efficiency projects in tenant areas to keep tenants satisfied by providing them a comfortable apartment and lower utility bills, thereby retaining tenants.

Owners and managers tended not to volunteer that attracting tenants faster, reducing turnover, or maximizing rental or sales value were motives for investing in energy efficiency. However, direct questioning about the value of installing energy efficiency features showed that most believe investing in energy efficiency improves their ability to attract tenants and increases resale value, and about two-fifths believe it increases rental income and reduces turnover. Quantifying those benefits is difficult, however.

Unlike other sectors, such as large offices, that have sophisticated methods of calculating such things as capital improvement budgets, payback, and tenant turnover, many multifamily property owners appear to run their business on an ad hoc basis. They make decisions based on their cash flow and what makes sense to them at a given moment.

An estimate of the mean benefit can be calculated by assigning each respondent who answered each of the pertinent questions the mid-point of the category that respondent chose. If a respondent indicated no benefit had been realized and did not estimate a potential benefit, we assigned a value of 0%. A value of 55% is given to those saying the value was 50% or greater. Based on that method, the estimated benefits are:

- A 9% improvement in the ability to attract tenants or reduce vacancy (i.e., owners or managers will attract tenants 9% faster or reduce vacancy by 9%)
- A 7% increase in rental income
- A 4% increase in potential resale value
- A 3% reduction in tenant turnover (retention of current tenants)

Survey results suggest that multifamily owners are not taking full advantage of tax credits. At least three of the respondents deemed the tax credit program cumbersome and frustrating.

Data from Wave Two respondents suggest that multifamily property owners invest in efficiency measures for tenants as a way to maintain satisfied tenants. Over 80% of respondents indicated

they wanted to help tenants control their utility costs, which allows the property owner to control the overall expense (rent and utilities) of the unit; this appears to be the primary motivation of owners. Secondarily, owners are interested in doing things that lead to satisfied tenants, and thus lower turnover, such as improving the comfort of the unit and reducing the noise level.

A SURVEY INSTRUMENTS

WAVE 1 SURVEY INSTRUMENT

ASK TO SPEAK WITH NAMED CONTACT. IF NOT AVAILABLE, FIND OUT THE BEST TIME TO CALL. LEAVE NAME AND NUMBER AND BRIEF EXPLANATION OF REASON FOR CALL.

Hi, my name is _____. I am calling from Research Into Action on behalf of Energy Trust of Oregon. In 2009 your firm received one or more incentives through Energy Trust's Multifamily Properties Program to install energy efficiency equipment at one or more of the properties you own or manage. Energy Trust is evaluating the program and has hired my company to interview selected participants about their experience with the program. This should take no more than 20 minutes, and your responses will give Energy Trust important feedback to help it ensure that the program serves the Multifamily market as well as possible.

Is now a good time to talk?

IF NOT, SCHEDULE A TIME

IF AGREES TO TALK:

First, can you tell me what your role is in making decisions about whether or not to install equipment at your properties?

IF RESPONSE INDICATES NO SIGNIFICANT ROLE:

I need to speak with someone who is involved in making decisions about installing equipment so that I can ask about how those decisions are made. Who would be the best person to talk to?

ATTEMPT TO TRANSFER TO THAT PERSON OR SCHEDULE A TIME TO CALL BACK.

IF RESPONSE INDICATES A SIGNIFICANT ROLE, CONTINUE

General Decision-Making and Company Capabilities

I'd like to start by getting some general information about your business and your role in it.

[Attempt to get as much detail about the business as possible before the interview and then review that info with interviewee.]

1. What is the ownership structure of your firm?

   () Sole proprietorship

   () Partnership

   () S-Corporation

   () C-Corporation

   () Nonprofit

   () Trust

   () Other: _____

2. Does your firm own multifamily properties, manage them for others, or both?

   () Own

   () Manage

   () Both

3. How many properties do you own or manage? _____

4. How many rental units are in these properties? _____

5. Who pays the utility bills in the residential units at the properties that your firm owns or manages – your firm, the tenant, someone else, or does it depend on the property? *[Clarification: This question is about the units, not the common areas]*

   () Firm pays

   () Tenant pays

   () Someone else pays: _____

   () Depends

IF Q5 NOT = DEPENDS, SKIP TO Q7

6. What percent of your managed/owned properties are master metered versus tenant paid?

   Master metered ___

   Tenant-paid ___

Energy-Related Decision-Making

Now let's talk a little about how your firm makes decisions related to capital improvement and energy costs.

7. What basis does your firm use to establish an annual capital improvement budget?

   PROBE – Is it a percentage of assessed property value? If so, what percentage?

8. What kinds of improvements make up the largest percentages of the annual capital improvement budget?

   PROBE –

   What are the various categories used – for example, roofing, carpet and paint, fixtures, heating, kitchen appliances, and so forth? NOTE: THESE ARE JUST EXAMPLE CATEGORIES – GO WITH WHATEVER CATEGORIES THEY GIVE YOU.

   About what percentage of the capital improvement budget goes to each of those categories? NOTE – WE REALIZE THEY MAY NOT KNOW EXACTLY – PROBE FOR AN ESTIMATE. IF THEY SAY 'MOST,' ASK – 'MORE THAN 75%?' ETC.

Capital Category	% of Budget

9. First, I'd like to know how important it is to control electricity and gas costs in the common and tenant-occupied areas of properties that your firm owns or manages. Let's start with… [READ EACH ITEM; READ THE FIRST FOUR RESPONSE OPTIONS FOR THE FIRST FEW ITEMS AND ANY OTHERS NEEDED]

   [RANDOMLY ROTATE RESPONSES]

Item	Not at all	Not very	Some-what	Very	No opinion	DK	REF
Controlling electricity costs in common areas							
Controlling gas costs in common areas							
Controlling electricity costs in tenant-occupied areas							
Controlling gas costs in tenant-occupied areas							

10. What are all your reasons for investing in efficient equipment in the common areas of properties your firm owns or manages?
[DO NOT READ ITEMS; CHECK ALL THAT APPLY]

	Reason	Most important
Reducing your carbon footprint or helping to prevent global warming	[]	[]
Increasing local employment or producing other community benefits	[]	[]
Attracting tenants faster	[]	[]
Maximizing the rental value of your properties	[]	[]
Maximizing the sale value of your property	[]	[]
Reducing operations & maintenance costs	[]	[]
Improving tenant satisfaction	[]	[]
Reducing tenant turnover or vacancy	[]	[]
Improving your firm's reputation	[]	[]
Improving your overall competitiveness	[]	[]
Other (specify all): _____		

Which of those reasons are the most important? [RECORD IN MATRIX]

11. What are all your reasons for investing in efficient equipment in the tenant-occupied areas of properties your firm owns or manages?
[DO NOT READ ITEMS; CHECK ALL THAT APPLY]

	Reason	Most important
Reducing your carbon footprint or helping to prevent global warming	[]	[]
Increasing local employment or producing other community benefits	[]	[]
Attracting tenants faster	[]	[]
Maximizing the rental value of your properties	[]	[]
Maximizing the sale value of your property	[]	[]
Reducing operations & maintenance costs	[]	[]
Improving tenant satisfaction	[]	[]
Reducing tenant turnover or vacancy	[]	[]
Improving your firm's reputation	[]	[]
Improving your overall competitiveness	[]	[]
Other (specify all): _____		

12. How are decisions about whether or not to purchase energy efficient equipment affected by the type or cost of equipment? _____

    a. And how are those decisions affected by whether the company or tenants pay the energy cost? _____

13. About what percentage of your current tenants have requested that energy efficient features be added to their apartments?
[DO NOT READ]

    () 25% or fewer

    () More than 25%, up to 50% (include "about half")

    () More than 50%, up to 75%

    () More than 75%

    () Don't know

    () Refused

14. About what percentage of prospective tenants have requested energy efficient apartments?
[READ FIRST FOUR OPTIONS]

() 25% or fewer

() More than 25%, up to 50% (include "about half")

() More than 50%, up to 75%

() More than 75%

() Don't know

() Refused

15. Does your firm try to find out what your competitors have done about energy efficiency at the properties they own or manage?

() Yes

() No

() Don't know

() Refused

16. To what degree have the energy efficiency investments your firm have made been influenced by what your competitors are doing? [READ FIRST FOUR OPTIONS]

() Not at all influenced

() Not very influenced

() Somewhat influenced

() Very influenced

() No opinion

() Don't know

() Refused

17. What associations or organizations do you belong to or journals do you take that serve the multifamily property market? _____

() None

IF NONE MENTIONED, SKIP TO Q19

18. To what degree have the energy efficiency investments your firm have made been influenced by information you have received from such associations or organizations or journals? [READ FIRST FOUR OPTIONS]

() Not at all influenced

() Not very influenced

() Somewhat influenced

() Very influenced

() No opinion

() Don't know

() Refused

19. Does your firm advertise the energy efficient features of the properties it owns or manages?

() Yes

() No

() Don't know

() Refused

Q19_comment _____

IF Q19 NOT = YES, SKIP TO Q21

20. How do you advertise the energy efficient features of your properties? [DO NOT READ ITEMS; CHECK ALL THAT APPLY]

[] Purchased advertising: specify _____

[] Brochures/flyers/leaflets

[] Classified listings (incl. online): specify _____

[] Posted displays on rental property

[] Telling people during apartment viewings

[] Other: specify _____

21. When you are showing apartments to a prospective tenant, about what percentage of the time do you or a salesperson use utility costs or energy efficiency features to sell the apartment?

() 25% or less

() More than 25%, up to 50% (include "about half")

() More than 50%, up to 75%

() More than 75%

() Don't know

() Refused

Decision-Making about 2009 Project(s)

Now let's talk about the specific equipment upgrade or installation projects that your company has done with Energy Trust support since the beginning of 2009.

22. First, how did you hear about the Energy Trust program that provided the incentive for the energy efficient equipment you installed? _____

23. What led to your recent decision to make energy efficient improvements to your building?

PROBES –

Had you been thinking of making this upgrade for a long time?

Was this project part of a larger building improvement?

24. Has installing energy efficient equipment at your properties improved the ability to attract tenants or reduced vacancy time?

() Yes

() No

() Don't know

() Refused

Q24 comment_____

IF Q24 = NO, DK, REF, SKIP TO Q26

25. How much has installing energy efficient equipment at your properties improved the ability to attract tenants – how much faster can you attract tenants, how much does it reduce vacancy time, and so forth? Would you say… [READ EACH OPTION, PAUSING AFTER EACH ONE FOR A YES OR NO – IF THEY SELECT 50%, ASK HOW MUCH. IF THEY DON'T GIVE A NUMBER, CONTINUE IN 10% INCREMENTS: 60%? 70%? ETC.]

() It has no effect

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

SKIP TO Q27

26. How much value do you think having apartments with energy efficient features and equipment at your properties would have in terms of attracting tenants – how much faster can you attract tenants, how much does it reduce vacancy time, and so forth? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

27. Has installing energy-efficient equipment at your properties increased rental income?

() Yes

() No

() Don't know

() Refused

IF Q27 = NO, DK, REF, SKIP TO Q29

28. How much has installing energy efficient equipment at your properties increased rental income? Would you say… [SAME INSTRUCTION AS ABOVE]

() It has not increased at all

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

SKIP TO Q30

29. How much impact do you think installing energy efficient equipment at your properties would have on rental income? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

30. Has installing energy efficient equipment at your properties increased their resale potential?

() Yes

() No

() Don't know

() Refused

IF Q30 = NO, DK, REF, SKIP TO Q32

31. How much has installing energy efficient equipment at your properties increased their resale potential? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

SKIP TO Q33

32. How much impact do you think installing energy efficient equipment at your properties would have on their resale potential? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

33. Has installing energy efficient equipment at your properties reduced the tenant turnover rate at those properties?

() Yes

() No

() Don't know

() Refused

IF Q33 = NO, DK, REF, SKIP TO Q35

34. How much has installing energy efficient equipment at your properties reduced the tenant turnover rate at those properties? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

SKIP TO Q36

35. How much impact do you think installing energy efficient equipment at your properties would have on the tenant turnover rate of those properties? Would you say… [SAME INSTRUCTION AS ABOVE]

() Less than 10%

() 10% to 19%

() 20% to 29%

() 30% to 39%

() 40% to 49%

() 50% or more – specify: _____

() Don't know

() Refused

36. What other economic benefits, if any, has installing energy efficient equipment at your properties had for your firm or do you expect it to have?

_____

PROBE

Have you seen lower maintenance and operation costs?

_____

37. Have you received any other incentives or tax credits for the energy efficient equipment for which you received incentives from Energy Trust in 2009?

() Yes

() No

() Don't know

() Refused

IF Q37 = NO, DK, REF, SKIP TO Q39

38. In total, when the Energy Trust incentive and any other incentives or tax credits you received were considered, was the net cost of the energy efficient equipment still more than what you would have paid for standard efficiency equipment?

() Yes

() No

() Don't know

() Refused

39. Currently, how is the demand for rental property in relation to your supply? [READ FIRST FOUR OPTIONS]

() Demand significantly exceeds supply

() Demand somewhat exceeds supply

() Supply somewhat exceeds demand

() Supply significantly exceeds demand

() Don't know

() Refused

40. Finally, in what ways has participating in the Energy Trust program changed how you think about energy efficiency investments? _____

That's all the questions I have. Thank you very much for your time.

APPENDIX B: WAVE TWO INSTRUMENT

1. What measure did you install?

    ()Windows

    () Insulation

2. What benefits to the tenant were you primarily concerned about achieving by installing new windows? (Code responses based on answer. Record order of mention or of importance). [If response is "drafty" or "windows leak" or "cracks", probe: "Why is that a problem exactly?" to get at whether it is comfort or energy savings]

    () Improve overall comfort (keep warm in winter, cool in summer)

    () Reduce energy bills

    () Improve appearance

    () Customer service

    () Keep dust or insects out

    () Other:_____

2a. Comments about Q2

_____

_____

_____

3. What benefits to the tenant were you primarily concerned about achieving when you installed insulation? (Code responses based on answer. Record order of mention or of importance) [If response is "drafty" or "cracks", probe: "Why is that a problem exactly?"]

() Improve overall comfort (keep warm in winter, cool in summer)

() Reduce energy bills

() Improve appearance

() Customer service

() Keep dust or insects out

() Other:_____

3a. Comments about Q3

_____

4. Please answer the following questions on a scale of 0 - 10 where 0 is never and 7 is always.

	1	2	3	4	5	6	7
How often do prospective tenants ask about utility costs?							
How often did tenants complain about utility costs before you did this work?							
How often do tenants complain about utility costs since you did this work?							
How often are utility costs a factor in tenant turnover?							