Multifamily Small-Project Financing Program Market Research Study

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The Bay Area Regional Energy Network (BayREN)
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Energy Solutions. Delivered

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Project Background and Objectives

BayREN offers several programs to help multifamily building owners increase energy efficiency in their properties. BayREN's Bay Area Multifamily Building Enhancements (BAMBE) program offers cash rebates and no-cost energy consulting for energy and water efficiency upgrades. BayREN's Bay Area Multifamily Capital Advance Program (BAMCAP) provides low interest loan capital for qualifying properties through the property owner's lender of choice.

While BayREN has experience supporting energy efficiency investments in medium-to-larger multifamily properties, however, the organization knows less about the challenges associated with financing energy upgrades in smaller multifamily properties. To better understand opportunities in this sector, BayREN sponsored primary market research to:

- Estimate the scope of the opportunity that exists to support smaller multifamily renovation projects that include energy efficiency components,
- Estimate how many energy-efficiency related building renovation projects did not occur due to financing availability issues,
- Estimate how many renovation projects that have energy efficiency components are planned for the near future,
- Identify barriers to implementing more energy efficiency-related projects,
- Develop insights into the willingness of owners of smaller multifamily properties to participate in an energy upgrade financing program, and
- Make recommendations regarding program design and marketing.

The research plan included a quantitative survey conducted with multifamily building owners and managers, along with qualitative research and analysis that included several different activities.

Key Findings and Implications

The research indicates that finding adequate project financing is still an important challenge that most MF owners / managers encounter as they think about implementing future energy efficiency-related building improvements. The following survey results indicate that project financing challenges may well create a market for a BayREN financing program focusing on energy efficiency projects with budgets under $100,000:

- There are an estimated 3,500 eligible multifamily renovation projects planned each year for the next two to three years.
    - A third of all respondents describe financing-related issues as a "critical" barrier for future projects, and this is clear from the fact that 45% of owners/managers who have a planned project with an energy upgrade budget of less than $100,000 say they did not implement at least one energy efficiency project in the past due to lack of financing.
- However, all respondents who have a planned project with energy efficiency costs less than $100,000 and who plan to pursue financing say they are very or somewhat confident they will be able to obtain financing (in some form).
- Two-thirds of respondents who have a planned project with energy upgrade costs less than $100,000 also say they would pursue a low-cost or no-cost financing option through BayREN.

These results suggest that MF owners / managers are conflicted about finding financing for their building improvement projects. They say they do often need external financing, but they also say that financing can be challenging to get for a number of reasons. They say they do often (or even usually) get financing in some form, but sometimes they have had to reduce their scope, delay their project, for make other project changes, that they would have preferred not to make. And note that the concerns owners / managers have about finding acceptable financing for building improvements in general are only exacerbated when those improvements focus on energy efficiency (and all of the additional uncertainty that is entailed by these investments).

In sum, of the 3,500 or so qualifying MF building upgrades that are likely to occur each year moving forward, finding appropriate project financing will be a significant challenge for many. In the past, these owners / managers have been able to find financing to fund some projects, but this appears to be a challenging, onerous, and uncertain process that often requires the owner / manager to scale back, delay, or change their building renovation plans. These challenges are exacerbated when attempting to make changes which create benefits (e.g., energy efficiency) that owners / managers are not comfortable they can quantify or value accurately.

Recommendations

The recommendations in this report are derived from the research team's analysis of both the quantitative data and the qualitative data and insights captured and analyzed as part of this engagement. AEG believes that if BayREN were to explore offering a financing program focusing on energy efficiency projects with budgets under $100,000, these are important considerations:

- Strongly consider offering a low-interest / no-interest loan in these loan amount ranges. While many MF owners / managers say they are confident they can get required external financing elsewhere, few see current options as able to meet their needs. This would explain the strong support respondents give for the program model tested.
- Building vintage. Consider targeting multifamily properties built in the 1990s and 2000s as many of those will have HVAC systems and water heaters approaching their end of life.
- Communicating business benefits. Make outreach and education a strong component of the program, focusing not just on program features, but also on providing information on how energy efficiency investments can lower long-term building costs.
- Incremental renovations. Consider including properties that upgrade a few units each year during renter turnover, which is the only time some owners/managers upgrade rental units.
- Financing guarantees. Consider guaranteeing financing based project specifications so customers are assured they have the capital available before they begin the project.
- Low minimums for loans. Consider offering a product that supports a low minimum loan amount.
- Graduated terms. Consider offering improved terms, such as lower interest rates and/or longer repayment terms, for projects that achieve deeper savings.
- BAMBE alignment. Make sure new financing products align with BAMBE requirements to streamline a potential loan process.

- Non-debt financing structure: Consider financing structures that an owner would not need to consider as debt. Some Energy Services Agreements (ESAs) are structured so that payments are expenses for the owner, but are not classified as debt.

1 INTRODUCTION

Background

The Bay Area Regional Energy Network (BayREN) represents a collaboration of the nine counties that make up the San Francisco Bay Area and is led by the Association of Bay Area Governments. ABAG was formed in 1961 by a joint power agreement among Bay Area local governments and serves as the comprehensive regional planning agency and Council of Governments for the nine counties and 101 cities and towns of the San Francisco Bay Region.

The region encompasses Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties. BayREN implements regional energy saving programs and draws on the expertise, experience, and track record of local governments to develop and administer climate, resource, and sustainability programs. BayREN is funded by California utility ratepayers under the auspices of the California Public Utilities Commission (CPUC). One of three Regional Energy Networks in the state, BayREN represents 20% of the state's population.

BayREN's business plan outlines a variety of activities through 2025, including refinements to current programs and the potential implementation of new programs to fill gaps in the state's energy efficiency programs, with a specific focus on underserved populations. In 2017, the CPUC authorized BayREN to conduct evaluation, measurement and validation (EM&V) studies that would provide feedback regarding BayREN's current programs and provide market insight that could be used to refine existing programs or develop new programs.

BayREN's Bay Area Multifamily Capital Advance Program(BAMCAP) is geared toward providing energy upgrade financing amounts over $100,000. Recognizing that smaller projects may be underserved by current programs, BayREN is considering the implications of developing new programs that focus on projects requiring financing of less than $100,000 for energy upgrades.

Objectives

Is securing investment capital to implement energy efficiency upgrades—even when those upgrades would have positive long-term economic returns—one of the challenges faced by owners of smaller multifamily properties? While BayREN already has experience financing energy efficiency investments in medium-to-larger multifamily facilities, the organization knows less about the challenges associated with financing smaller multifamily energy upgrade projects.

To inform BayREN's decision-making process, this study investigated whether first costs and access to financing represent significant barriers to the ability of smaller multifamily facilities in the BayREN region to implement energy efficiency upgrades, or if other barriers also represent significant limiting issues for this population. To address these questions, BayREN chose to conduct primary market research to:

- Estimate the scope of the opportunity that exists to support smaller multifamily renovation projects that include energy efficiency components, including
    - the number of qualifying renovation projects there are annually within the BayREN service territory, and
    - the number of these projects that use external financing.

- Estimate how many energy efficiency-related building renovation projects did not occur due to financing availability issues.
- Estimate how many renovation projects with energy efficiency components are planned for the near future, including
  - the number of these projects that require external financing, and,
  - whether lack of financing will affect the size and scope of the projects.
- Identify barriers to implementing more energy efficiency-related projects.
- Develop insights into the willingness of owners of smaller multifamily properties to participate in an energy upgrade financing program.
- Make recommendations regarding program design and marketing.

Research Plan

Overall direction for the research conducted as part of this project was provided by StopWaste, acting on behalf of BayREN. Applied Energy Group led the research, analysis, and reporting, with support provided by StopWaste staff and by the BAMCAP program implementer, Slipstream. The project team designed and implemented both a series of primary market research activities, and a set of secondary research assessments, which, when taken together, made it possible to address the full set of project objectives. As implemented, the research plan included the following components:

- Quantitative survey research conducted with 251 qualifying multifamily building owners and managers
- Qualitative research conducted using in-depth interviews to capture insight from other important populations:
  - Telephone interviews were conducted with 18 customers who had started the process of applying for BayREN's multifamily rebate program but did not continue with that process
    - Note that the research team interviewed customers who had applied for a rebate, but focused on exploring financing-related issues in those interviews, because no other client sources of sample for these interviews were available
    - Telephone interviews were conducted with lenders that provide financing to the multifamily sector. AEG was only able to complete one lender interview, so the client team worked under a separate contract with Slipstream to conduct another six lender interviews and the results of those interviews are included in this report
- Secondary information about the multifamily housing market in the Bay Area that was provided by StopWaste
- Information from StopWaste internal tracking sources regarding the reasons why customers do or do not pursue existing financing program participation
- The findings from a process evaluation interview with the program implementer for BayREN's current financing program (the BAMCAP and the Lender Referral Service)which focused on issues that could be addressed in a new financing program directed toward smaller loan amounts

Additional details regarding the research plan are provided in the appendices.

2 CHARACTERIZING THE MARKET FOR MULTIFAMILY BUILDING RENOVATIONS

This section describes the market characteristics and market size for multifamily renovation projects in the nine BayREN counties. The data to support this market characterization comes from a quantitative survey conducted online with a panel of property owners and managers in the Bay Area and from available secondary data that described the total size of the multifamily building market in the area. The appendices provide more detail about the survey process and include relevant survey documents.

To qualify for the survey, a respondent had to either own or manage at least one multifamily property in the nine San Francisco Bay Area counties—Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. For the purposes of this study, a multifamily property is defined as a residential building with least five attached residential housing units. Example properties include apartment buildings, condominiums, and townhouses. Additionally, to qualify for the survey, the manager or owner was required to either be somewhat or very knowledgeable about renovation projects that have taken place recently, or might take place soon, at one or more of their multifamily properties.

Total Multifamily Buildings in the Bay Area

Key finding: There are about 20,000 multifamily buildings in the region, with about half of these in the smallest size category of five to nine units.

BayREN provided AEG with data they obtained from CoStar estimating the total number of multifamily buildings in the Bay Area, broken down by number of units per building. As shown in Table 1, there are about 20,000 multifamily buildings in the region, with about half of these in the smallest size category of five to nine units.

Table 1. Total Multifamily Buildings in the Bay Area by Number of Units

Number of Units	Number of Buildings
5–9	10,296
10–24	5,353
25–49	2,851
50–99	931
100–249	508
250 or more	90
Total	20,028

Using Total Building Counts to Weight the Survey Data

AEG chose to weight the core survey data to represent the population of qualifying multifamily buildings in the Bay Area. This means that when the results say that XX% of “respondents” give a certain response, we actually mean that the survey weights have been calculated such that XX% of buildings gave that response.

The team chose to weight the data in this way so that it is possible to accurately estimate the number of renovation projects of varying budgets that occur within this population. Using building weights, we can say that XX% of buildings (which equals Y actual number of buildings) either have done a thing (such as implemented a given renovation project) or are likely to do such a thing in the future.

The value of this weighting approach is that it allows the team to estimate counts of projects directly, rather than having to estimate counts of renovation projects for given owners/managers, with no clear way to get from counting projects by managers to estimating total number of projects in the population as a whole.

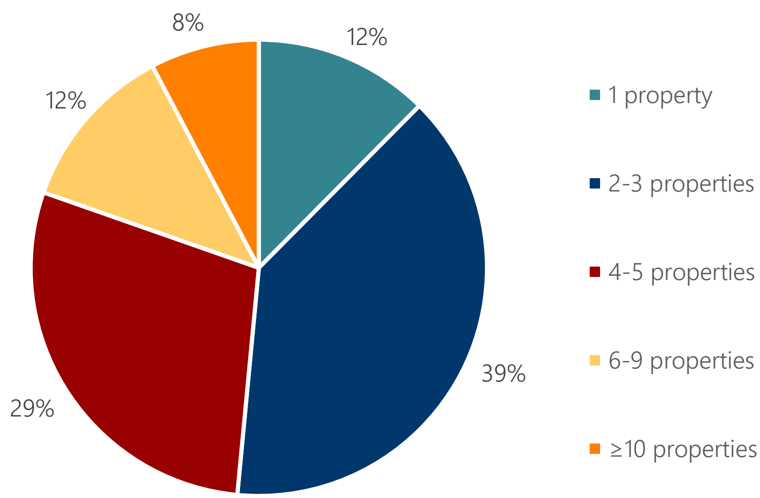
Building weights were applied to each respondent that accounted for both the size and number of buildings for which they were responsible. Once the weights were applied, the total number of buildings (by size) reported as ones for which survey respondents said they were responsible was equal to the actual building ownership data reported by CoStar.

Typical Multifamily Building Owner/Managers

Key finding: 12% of multifamily owner/managers oversee only one multifamily building, while 39% oversee two to three properties, and 29% oversee four to five properties.

As shown in Figure 1, only 12% of multifamily owner/managers in the nine Bay Area counties say they oversee only one building, while larger numbers say they oversee two to three multifamily properties (39%), or four to five multifamily properties (29%).

Figure 1. Number of Multifamily Properties Managed by Respondents

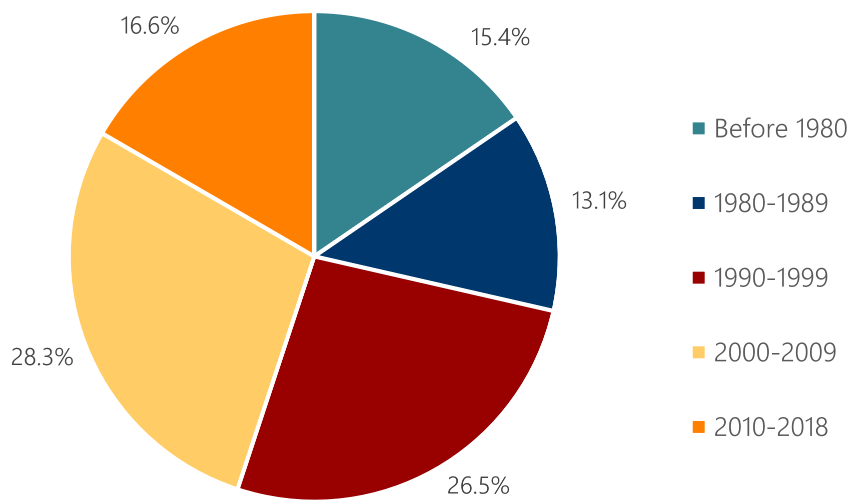


Typical Multifamily Property Characteristics

Key finding: The most commonly found multifamily property in the BayREN region has five to nine units, is 20+ years old, and is managed by its owner.

As shown in Figure 2, just over half (55%) of all multifamily properties were built before 1999, followed by those constructed in the 2000s (28%) and the 2010s (17%).

Figure 2. Multifamily Properties by Construction Year



In addition, owners/managers who oversee only one multifamily property are usually responsible for smaller buildings: 60% of them oversee buildings with five to nine units and 34% oversee a building with 10 to 24 units.

More than 90% of those who oversee a single building own this building rather than managing it for someone else (9%). The ownership versus management percentage for the entire multifamily property population differs substantially, with 72% of all buildings managed by owners and 28% managed by third parties.

The most commonly found multifamily property in the nine BayREN counties has five to nine units, is 20+ years old, and is managed by its owner.

Number and Type of Multifamily Building Renovation Projects

Key finding: About 10,000 multifamily building renovation projects start each year, with about 6,000 of these including energy efficiency elements.

As part of the quantitative survey, multifamily owners/managers were asked about any significant building renovation or upgrade projects they have implemented in the last two years or are currently implementing. We defined "significant" as a project that goes beyond normal maintenance or repair and involves upgrading the residential amenities or improving the way the building functions. The definition provided to respondents also noted that, for most multifamily properties, a "significant" investment would be at least $25,000.

In total, respondents reported 1,154 significant building renovation projects over the last two years. When we weight the data and extrapolate it to the total population in BayREN's service territory, we estimate that approximately 19,300 renovation projects took place in the past two years. This means there are around 10,000 total multifamily building renovation projects starting each year.

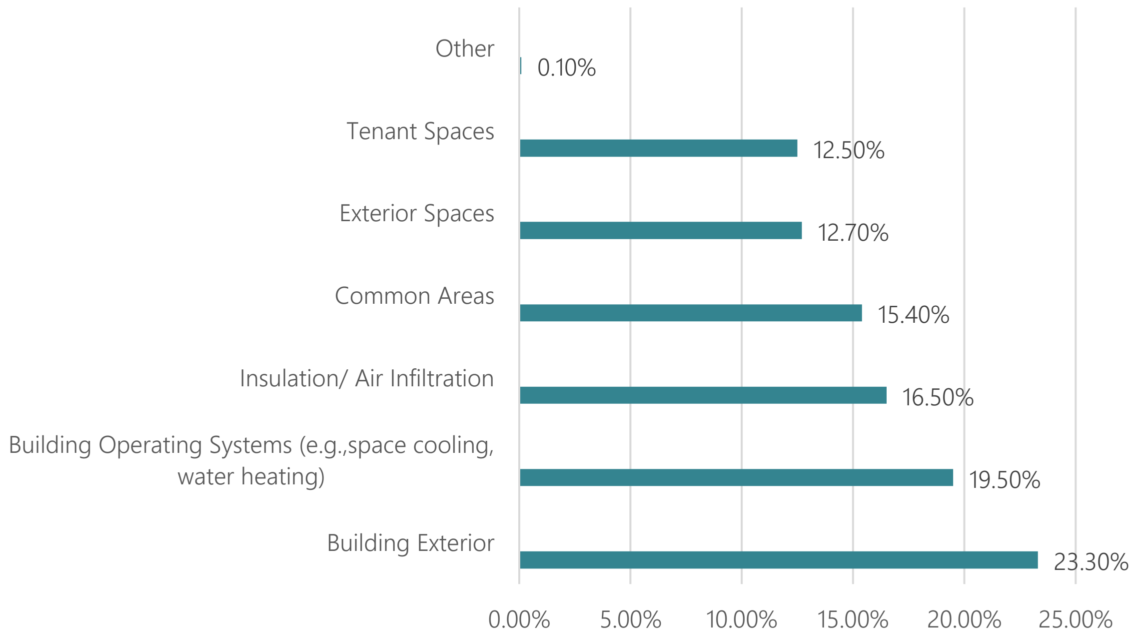
Sixty-three percent of all building renovation projects included specific energy efficiency-related elements, while 37% of projects did not. This means that about 12,100 projects every two years (or around 6,000 per year) include a component that specifically focused on energy efficiency.

Given that there are approximately 20,000 total multifamily buildings, this means that more than half of these buildings have a renovation project of some form occurring every other year. Many of these renovation projects may not have a fixed completion date, as some projects have extended time schedules or when individual units are renovated only at tenant turnover.

Because HVAC systems and water heaters have typical lifetimes of 15 to 20 years[1] and close to 30% of the multifamily properties in the BayREN region are currently 20 to 30 years old, it makes sense that a significant share of the multifamily renovations over the last two years have focused on upgrades to the building operating systems (e.g., space cooling, space heating, water heating). Specifically, Figure 3 reveals that close to 20% of these multifamily renovation projects have involved upgrading building operation systems, only slightly behind upgrades to building exterior upgrades and renovations (23%), and ahead of upgrades and renovations to building insulation/air infiltration (16%), common areas (15%), exterior spaces (13%), and tenant spaces (12%).

[1] California Database for Energy-Efficient Resources (DEER) http://www.deeresources.com/index.php/deer-versions/deer2020#EUL

Figure 3. Typical Multifamily Renovation Projects,
Based on Last Three Projects Implemented in Last Two Years



Among owners/managers responsible for a single multifamily property, recent renovation projects focused primarily on the building exterior and tenant spaces. Given this, it seems likely that significant energy savings potential may still exist in smaller multifamily buildings that have not yet upgraded their building operation systems. Upgrading operating systems often results in an increase in energy efficiency, and these types of projects are likely to fall in the under $100,000 cost range that a new BayREN program might address.

Size and Financing for Multifamily Building Renovation Projects

Key finding: About 5,000 multifamily renovation projects started in the past year include an energy efficiency scope with a budget of under $100,000.

Table 2 shows that, of the approximately 12,000 renovation projects reported to have been started over the last two years that had an energy efficiency focus, the vast majority (81%) had a budget of under $100,000 for the energy efficiency portion of the work. This translates into approximately 10,000 such projects every two years, and therefore, approximately 5,000 each year.

Table 2. Summary of Energy Efficiency-Focused Project Budgets and Financing Over the Last Two Years

Energy Efficiency Focused Project Budget	Share of Energy Efficiency Projects	Budget Amount Allocated to Energy Efficiency Improvements	Use of External Financing	Use of Special EE Financing (if used external financing)
Less than $25,000	16%	Up to $12,250	51%	34%
$25,000–$99,999	35%	$5000 - $20,000	54%	46%
$100,000–$249,999	20%	$50,000 - $125,000	63%	51%
$250,000–$499,999	11%	$50,000 - $100,000	75%	48%
$500,000–$999,999	8%	$85,000 - $170,000	74%	72%
$1 million–$4.999 million	4%	$410,000 - $2,050,000	75%	55%
$5 million–$9.999 million	4%	$3.1 million -$6.2 million	62%	61%
$10 million or more	1%	$3.3 million or more	100%	85%
Total			61%	49%

In addition, just over half of these projects (54%) use external financing, and only half of these use special energy efficiency-oriented financing. If this is correct, these values would translate to around 2,500 projects each year that use external financing, and around 1,250 of those that use special energy efficiency-related financing.

However, when the respondents were asked who provided the special energy efficiency financing, they reported PG&E's On-Bill Financing and BayREN's Capital Advancement Financing at rates much higher than the programs' actual activity. This anomalous result is likely due to confusion on the part of respondents. Respondents were given a choice of financing program options and could select all that applied, and many respondents appeared to simply select program names that mapped to organizations with which they were familiar.

In hindsight AEG believes that this question might have been answered more accurately if asked as an "unaided recall" question (in which loan provider names are not included in the question), rather than an "aided recall" question (in which loan provider names are included). In this case, because of respondent unfamiliarity with different specialty lenders, the "unaided" version of the question would probably have provided more accurate results.

3 FUTURE MULTIFAMILY BUILDING RENOVATION PROJECTS AND PROGRAMS

The survey also allowed us to estimate how many multifamily renovation projects will likely include energy efficiency improvements within the next two to three years.

Number of Future Energy Efficiency-Related Renovation Projects

Key finding: Over the next two to three years, over 10,000 multifamily renovation projects are planned that will have energy upgrade budgets of $100,000 or less.

Based on our analysis, about three-fourths (nearly 13,000 projects) of the estimated 17,556 multifamily property renovation projects planned over the next two to three years will include energy efficiency improvements (see Table 3). Over 10,000 of these projects will have energy efficiency budgets of $100,000 or less. On average, 14% of the total budgets are projected to be allocated to improving energy efficiency.

This total number of expected future energy efficiency renovation projects averages to around 3,500 expected energy upgrade projects in the under $100,000 energy efficiency budget window.

Table 3. Projected Multifamily Renovation Projects with Energy Efficiency-Related Improvements

Total Renovation Project Budget	Number of Projects in Next 2–3 Years	Estimated Amount of Budget Allocated to Energy Efficiency Improvements
Less than $25,000	2,559	Up to $2,500
$25,000–$99,999	3,224	$3,500–$14,000
$100,000–$249,999	2,922	$14,000–$35,000
$250,000–$499,999	1,846	$35,000–$70,000
$500,000–$999,999	979	$75,000–$150,000
$1 million–$4.999 million	863	$150,000–$750,000
$5 million–$9.999 million	499	$750,000–$1.5 million
$10 million or more	27	$4.9 million or more
Total	12,919	

Future Renovation Projects by Type and Financing

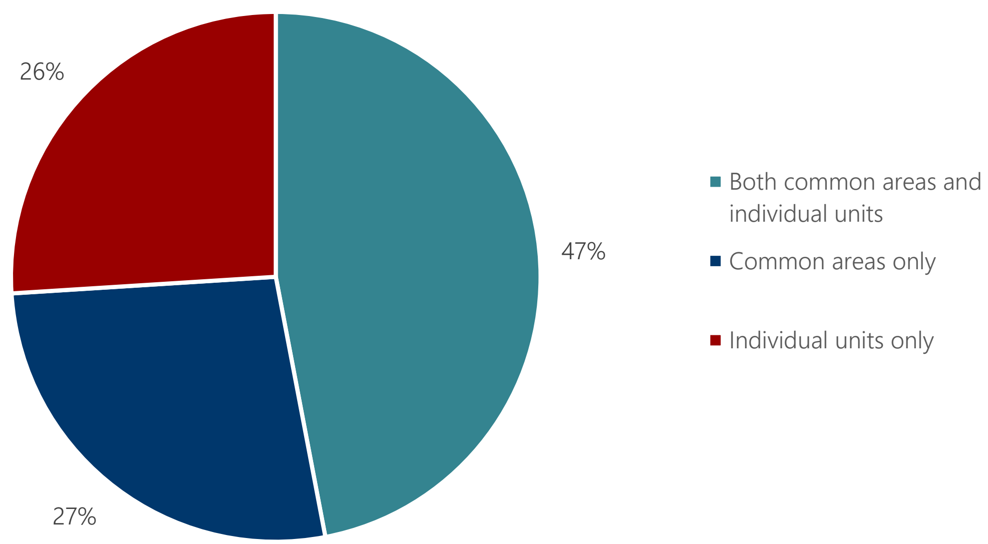
Key findings:

85% of respondents say they are somewhat or very likely to seek external financing for their next renovation project, and 83% are somewhat or very confident they will receive that funding.

Even if external financing is not available, nearly 80% say they will still do the next planned renovation project, although possibly with a reduced scope.

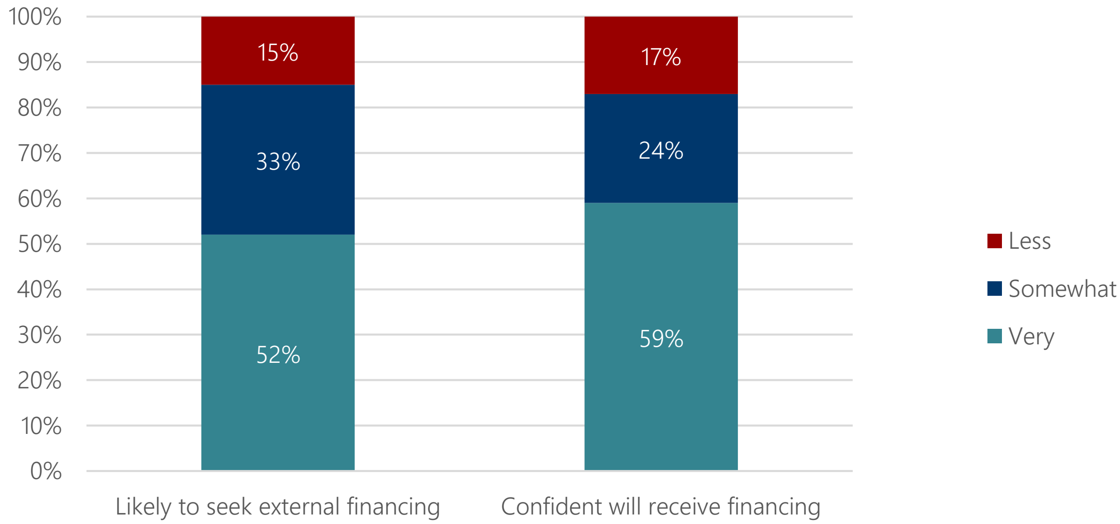
As Figure 4 shows, survey respondents indicate that roughly half of their upcoming largest planned projects (both with and without energy efficiency improvements) will include upgrades to both the common areas and individual tenant units. The remainder is split between those focused on common areas only and those focused on individual units only.

Figure 4. Scope of Largest Planned Renovation Project



It is very important to note that while, as we report in Section 4, many respondents say that financing issues are sometimes a barrier for them, the responses in Figure 5 show that most (85%) say that they are somewhat or very likely to seek external financing for their next project. And nearly the same number (83%) say they are somewhat or very confident that they will actually receive that funding.

Figure 5. Seeking External Financing for Next Planned Renovation Project



Not only do most of these respondents say they will seek external financing (and are confident that they will get it), they also say they will likely get that funding from traditional bank resources. As shown in Figure 6, fully two-thirds of respondents (66%) say they will seek funding from a traditional financial institution with which they have worked before, while another 12% say they will also seek financing from a traditional financial institution but not one they have used before.

This strongly suggests that the expectation of workable financing (at some arbitrary level of favorability) is rooted in their previous experiences with traditional financing models, and that the size and scope of their anticipated projects reflects this preexisting expectation and estimation of project feasibility. These estimates also exclude an unknown number of potential latent renovation projects that are not currently planned because the favorability of known financing options is inadequate to sustain these projects.

Figure 6. Expected Financing Sources for Next Planned Renovation Project

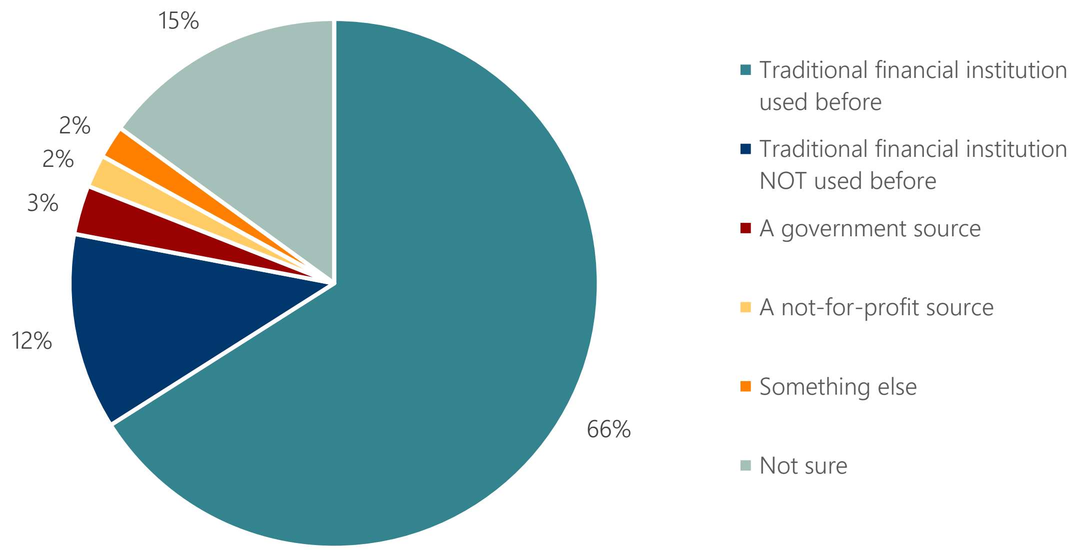
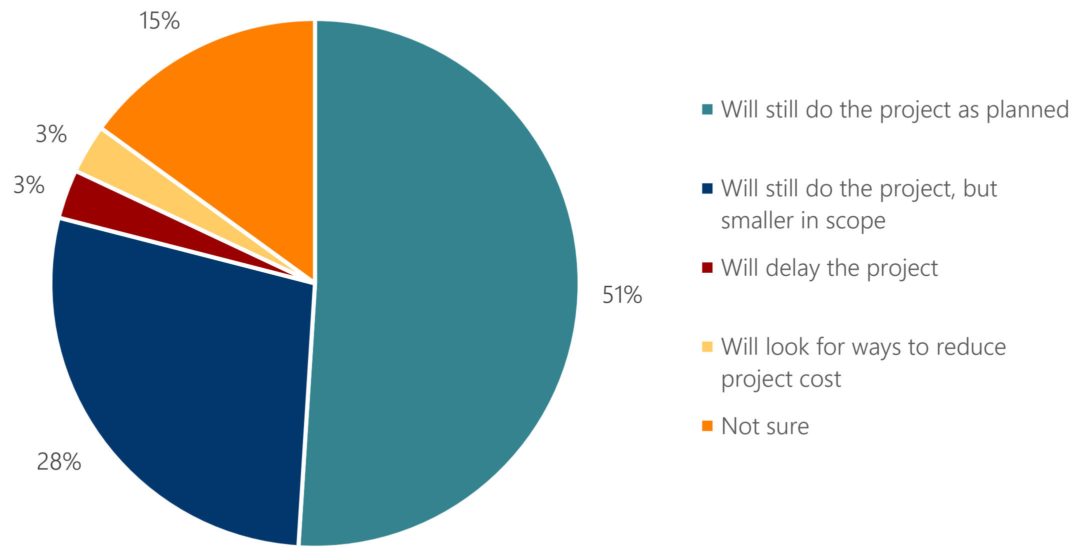


Figure note: Respondents indicated that the "something else" financing option is typically some form of internal or self-financing.

If, ultimately, financing is not available for future projects, about half of respondents (51%) say they will still complete the project as planned, while another 28% say they would still do the project, just with a smaller scope (see Figure 7).

This means that nearly 80% say they will still do a planned project (in some form), even if financing is not available. A commitment to project execution even in the absence of financing suggests that many of these projects are "required," in the sense that the managers/owners do not see postponing the project as a workable option. It is possible that the population of projects being surveyed here excludes projects that building managers might like to pursue under better circumstances, or financing conditions, than they believe exist today.

Figure 7. Likely Outcome If Financing Is Not Available for Next Planned Renovation Project



Future Renovation Projects with Energy Efficiency Budgets Less than $100,000

Analyzing the data from respondents who have planned projects with a total renovation budget of less than $500,000 including an energy upgrade budget of less than $100,000, we find that:

- A little over a half say they are "very likely" to pursue financing.
- Of those that will pursue financing, all are very or somewhat confident they will be able to obtain financing.
- A little over a half say they will continue the project as planned if they are unable to obtain financing; the remainder will continue the project but with a smaller scope or over a longer time period.
- Slightly less than half have decided not to proceed with a project in the past that included energy improvements because they could not obtain financing.

Interest in a Future BayREN Program

Key finding: 75% of respondents say they would be very likely or extremely likely to consider a low- or no-interest financing product from BayREN for energy efficiency projects with total costs less than $100,000.

The research also addressed the question of how building owners and managers would respond to a new BayREN financing option if they were aware that such an option existed when their next renovation project comes up.

Figure 8 shows that if low-cost or no-cost financing was made available through BayREN for energy efficiency projects with total costs less than $100,000, a significant majority of all multifamily property owners and managers (75%) say they would be very likely or extremely likely to explore that option.

Figure 8. Level of Interest in Low- or No-Cost Financing from BayREN

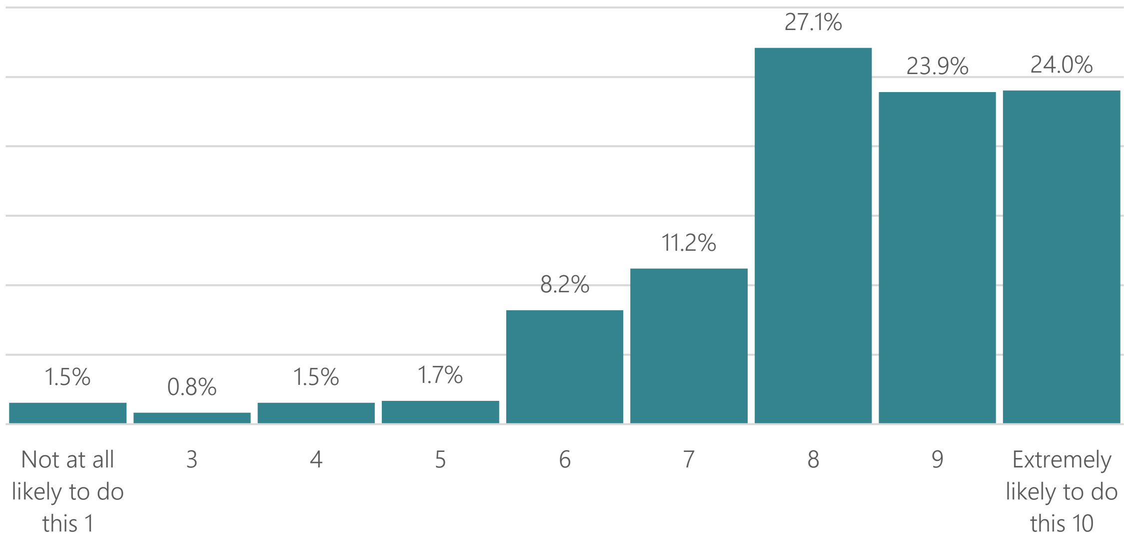


Figure note: Data is for all respondents. The question asked: "Please assume that BayREN offered a program that provided low or no interest financing for multifamily property energy efficiency projects with total costs less than $100,000. How likely do you think your organization would you be to at least explore a BayREN-sponsored financing option for one or more appropriate projects?"

Similarly two-thirds of respondents who say they currently have planned projects with a total renovation budget of less than $500,000 including an energy upgrade budget of less than $100,000 say they would be very likely (giving a rating of 8 or higher on a 10-point scale) to explore a low- or no-interest financing option if it was offered by BayREN.

4 BARRIERS TO IMPLEMENTING ENERGY EFFICIENCY PROJECTS

Findings on Barriers from the Survey

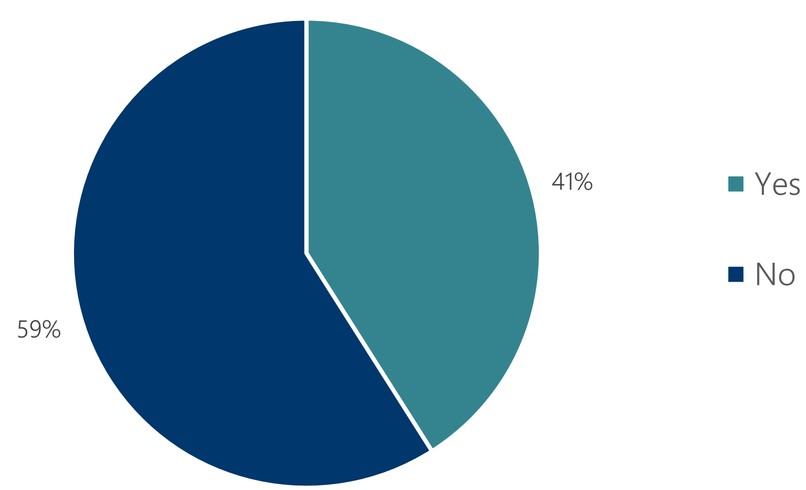
Key findings: Respondents indicated their top barriers to energy improvements are:

- **Low/no-interest financing is not available**
- **Terms of loan are unattractive**
- **Energy savings claims are deemed unreliable**
- **Lack of information about rebates and incentives**
- **Lack of information about which energy upgrade investments to pursue**
- **Ownership structure makes it challenging to invest**

While the survey data revealed that a large number of multifamily building renovation projects occur each year in the BayREN region, we also considered the possibility that some projects that might have value to building owners and residents do not occur for one reason or another.

Our survey showed that one of the most common barriers to renovation projects cited by respondents is, indeed, their inability to obtain financing. Figure 9 indicates that just over 4 in 10 building owners and managers say that at least one energy efficiency renovation project has not occurred due to financing availability issues. This hints that there may be a pool of latent upgrade projects that are not currently planned or considered because of the respondent's understanding of the financing landscape.

Figure 9. Has the Inability to Obtain Financing Ever Stopped Respondents from Proceeding with an Energy Upgrade Project?



Respondents who said they had at least one renovation project that included energy efficiency cancelled due to inability to obtain financing were asked an open-ended question about why that happened. They provided a variety of responses, including that:

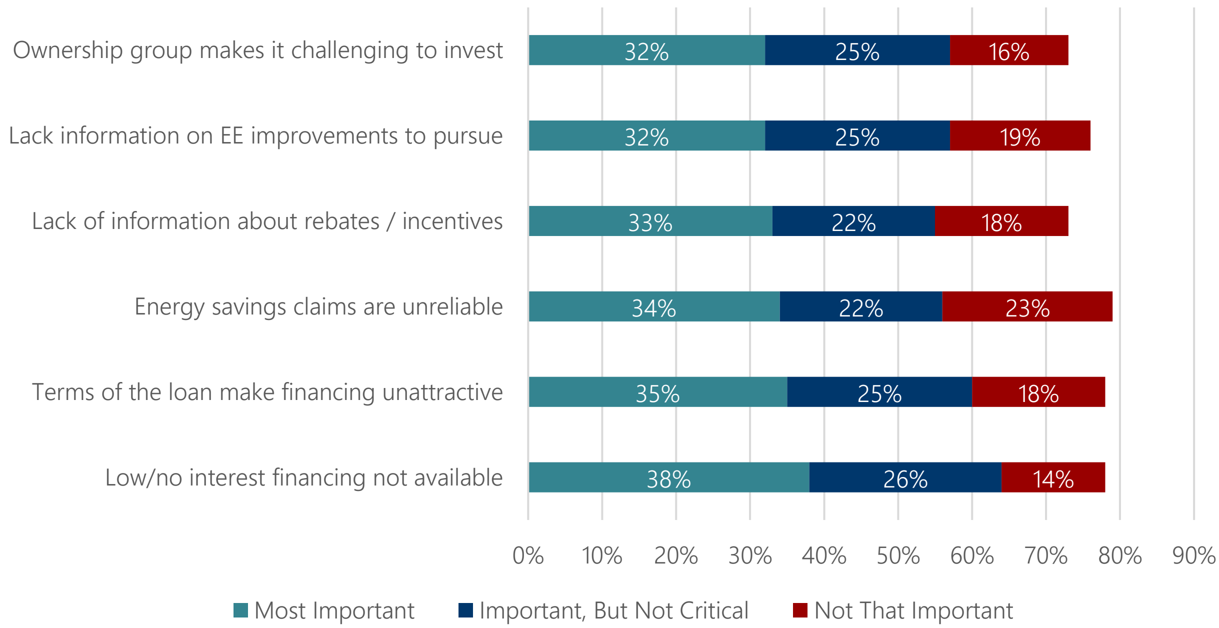
- Loans were too expensive or had onerous conditions.
- They were not qualified as borrowers because of bad credit, past bankruptcies, other existing loans, insufficient cash flow or assets, or other issues.
- The time frame for the loan did not work out due to issues such as maintenance conditions that had to be addressed, bad economic cycle, low profits, or family issues.
- Their project did not qualify for lending because it was too small, the owner did not have enough cash upfront to proceed, or they were not able to obtain building permits.

Financing issues are not the only barriers that can make it difficult for multifamily building owners to complete energy efficiency-related renovation projects. To explore these barriers more fully, the team identified a set of 17 conceptual barriers that might affect the ability of owners to implement these projects. Survey respondents were asked to rate the importance of each of these barriers in terms of impact on their ability to implement new, energy efficiency-related building improvement projects at one or more of their properties.

Because the research team knew that if survey respondents are simply asked to individually rate the importance of barriers, they tend to rate them all as important, the team used an alternative questioning approach in which respondents were forced to rate only certain numbers of barriers as “the most important things that limit us,” “things that are important, but not critical,” or “things that are not that important.” In this survey, each respondent assigned five barriers to the “most important” category, four barriers to the “important” category, and three barriers to the “not very important” category.

Of the 17 barriers tested, six are rated most frequently as “most important,” as shown in Figure 10. The barriers include financing concerns (either that financing is not available or not available at attractive terms). They also include issues around understanding energy efficiency and related rebates (concerns that energy efficiency claims are unreliable and that they lack information about energy efficiency options and rebates). Another barrier related to internal challenges associated with being able to get their ownership group to make effective decisions.

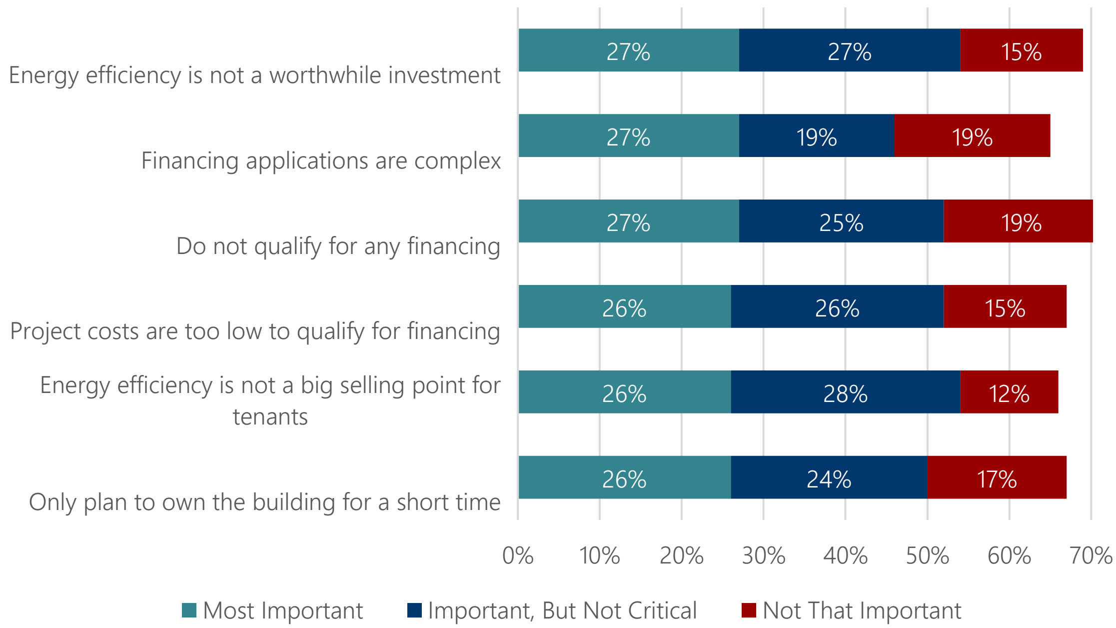
Figure 10. Reasons Cited as Most Important Barriers to Implementing Energy Efficiency Improvement Projects[2]



While all six statements in Figure 10 are rated as very important barriers, Figure 11 shows the six statements that received the lowest importance ratings. These reasons cover a good deal of ground, including other concerns about financing (e.g., that applications are complex, or issues with qualification), but also including issues associated building ownership (that they will not own it long enough to make investments worthwhile), or concerns about energy efficiency (e.g., that it is not a worthwhile investment or not a big selling point for tenants).

[2] Note that the values in the table do not sum to 100%. This is because respondents did not assign all of the barriers to one of the three rating groups (Most important, Important but not critical, and Not that important). This was intentional.

Figure 11. Reasons Cited as Least Important Barriers
to Implementing Energy Efficiency Improvement Projects



Five other barriers received middling importance ratings:

- Do not have the capital to undertake energy efficiency projects
- Not willing to invest in energy efficiency because tenants are responsible for their own energy costs
- Our buildings are already energy efficient
- Investing in energy efficiency is too risky
- Do not have the time or expertise to evaluate project financing options

Findings on Barriers from the Customers Who Inquired About BayREN Programs

The themes that appeared in the survey responses were also reflected in the in-depth interviews conducted with customers who applied to participate in the BayREN rebate program (but did not qualify), and were observed in the data collected by the StopWaste LRS program interest tracking system. The in-depth interviews certainly highlighted concerns about financing, but go beyond financing issues as well. For example, investment returns from renovations focused on efficiency (such as increases in property value or lower operating costs) were often viewed as inadequate given total investment costs. Several interviewees also noted that their properties operate under rent control, making it more difficult to recover investments by charging tenants more. And some tenants are also paying for their own energy use, bringing up the often-present barrier of split incentives.

Here are some notable comments about barriers from the interviews:

- "What happened was, I was listening to this, and thinking to myself, 'This is really terrific!' and there's a certain amount of public altruism and all kinds of good stuff, right? And then when I look in the mirror, I say to myself, I'm in a building in a city with the most stringent rent controls in the world, for one. Two, I've got tenants paying their own energy bills. I could never pencil this out! As much as I want to change the world in a positive way, we're going to have to say no." *–Owner of 8-unit property in San Francisco County*

- "The apartments are essentially low-income apartments, so you're just not making that much money on it. ...This building has a lot of windows; a little $750 thing isn't gonna cut it." *–Owner of 12-unit property in Alameda County*
- "The savings are not enough to justify the cost." *–Owner of 28-unit property in Alameda County*

Summary of Findings on Barriers

Key finding: In one form or another, 35 to 40% of respondents say that financing-related issues represent a critical barrier to their ability to implement renovation plans.

The survey findings indicate that financing availability is the single most commonly cited barrier to multifamily building owners being able to implement more energy efficiency improvements. In one form or another, 35 to 40% of respondents say that financing-related issues represent a critical barrier to their ability to implement renovation plans.

In a similar vein, more respondents say that financing is an important barrier (35 to 40%) than say that they are not confident that they will get external financing (17%). This suggest that, even though some respondents believe they will ultimately receive external financing, they view the process as challenging and without a certain outcome.

Beyond financing, it is also important to note that a variety of other barriers are regarded as "critical" by at least a quarter of respondents. These other concerns include issues around the knowledge that respondents have about energy efficiency-related issues and programs.

5 INSIGHTS FROM QUALITATIVE INTERVIEWS WITH LENDERS

Key finding: Major barriers to lending for multifamily energy efficiency projects include owners' and lenders' lack of knowledge about the investment value of energy efficiency and restrictions on second deeds of trust.

The research team also wished to include the perspectives of lenders on the issue addressed in this report. In order to capture these perspectives, the team first leveraged AEG's team to conduct an in-depth telephone interview with a multifamily loan manager for a large regional bank. The bank associated with this respondent originates multifamily financing, typically for purchasing multifamily properties, and as a result, they consider loans for renovation projects, including energy efficiency improvements, to be "value-added" financing. The minimum loan amount offered by this bank in the multifamily sector is $1 million.

This initial interview yielded the following insights:

- Developers are viewed as only wanting to put money into properties for upgrades like finishes and countertops.
- Energy efficiency is viewed as a growing business and lenders are behind the times in not promoting financing for energy upgrades. The financing industry has not caught up to the fact that energy efficiency can be a good investment for both multifamily owners and lenders.
- In addition to the finance industry not fully understanding the return on investment from energy upgrades, another barrier is that many lenders do not allow a second deed of trust against a property. For this reason, the only time for multifamily owners to obtain value-added financing is when they refinance, which typically occurs only on a five-year cycle.

This lender also noted that the second deed issue is especially problematic for loans of less than $100,000; and that working with credit unions is typically a better option in these cases.

In addition to the lender interview conducted by AEG, the research team also contracted with a separate organization to conduct telephone interviews with six additional lenders who finance multifamily buildings in the Bay Area. The six lenders do not currently participate in BayREN's programs and included national mortgage lenders, an equipment finance company, a regional bank, and a local/community bank. Some lenders served the multifamily sector almost exclusively, while for others, multifamily financing represented a small share of their total portfolio.

Trends Observed Across the Additional Lender Interviews

The six additional lender interviews suggested the following trends in their activities in relevant areas of lending:

- Five of the six respondents already offer some form of energy efficiency or 'green' financing product.
- Most of the financing products that are currently offered are types of first-position mortgages.
- Lenders tend to say that energy and water related expenses have a relatively small impact on overall net operating income (NOI) for a building.
- Lenders were typically not aware of possible correlations between building energy use and loan performance.

- Shifting norms in the Bay Area multifamily housing market may be establishing higher expectations for energy efficiency among prospective tenants.
- Several lenders associated energy efficiency financing with PACE and held negative views of PACE.
- One lender, in explaining his decision to not participate in the interview, highlighted a sentiment shared by several lenders: the program should focus on property owners and/or enhanced regulatory requirements, rather than lenders, because lenders do not have a role in influencing borrower scopes of work.
- Lenders tended to have minimal, if any, awareness of programs offered by BayREN or PG&E.
- Lenders tended to perceive green mortgage borrowers as seeking to install a scope of work that meets the minimum savings threshold for the product at the lowest expense possible.

Key Takeaways From the Lender Interviews

Given the trends just noted, lenders suggested several insights that might affect the way that a new loan program for this population should be structured:

- Appraisers play a key role in the financing process. The approach that the appraiser takes in incorporating energy use into an estimate of NOI for the property can influence the valuation of the property and therefore the terms of the financing. Lenders tend to see appraisers as using general assumptions regarding a building's energy costs, rather than using energy use data for the building.
- While not universal, it seemed that most lenders viewed appliances, solar panels, and lighting upgrades as the primary ways of improving energy use in a building. It is possible that many properties are meeting the Green Rewards/Green Advantage energy and water saving goals by installing lighting upgrades, programmable thermostats, aerators, and low-flow devices.
- When financings include funds for property renovations, lenders say they evaluate the impact of the proposed improvements on estimated NOI for the property. The lender's view this evaluation as an important part of their role in making decisions on loan requests. While lenders will make approval decisions based on their evaluation of the effects of the proposed improvements, they say they generally avoid seeking to influence the scope of work, but instead follow a 'hands-off' approach to the scope of work.
- No lenders expressed confidence that their institutions could meaningfully evaluate energy use in buildings. Those lenders who work with the Fannie Mae Green Rewards and/or Freddie Mac Green Advantage mortgages were content to rely upon the energy analysis completed by the approved third-party consultants for those programs.
- Two of the six lenders had developed market-rate financing products that focused on energy efficiency or sustainability.
- When energy is used in the loan process, it is generally viewed as a tie breaker, rather than as a primary decision factor.
- Of the options provided for BayREN to support lenders, respondents expressed the most interest in additional research on the performance of energy efficiency loans; credit enhancements; and access to customer leads

- Secondary market requirements heavily influence lending processes and standards for multifamily loans.

6 INSIGHTS FROM BAMBE'S LENDER REFERRAL SERVICE

The research team recognized that data from multifamily owner / managers and lenders is certainly useful in understanding the future opportunity for new loan programs focused on these owners. In addition to these insights, however, the team also determined that it would be useful to augment the customer-side data and analysis from the primary market research with insights that could be drawn from existing BayREN programs.

In order to do this, the team conducted informal discussions with the implementer of BayREN's Lender Referral Service. The goal of these discussions was, to capture their insights and perspectives on multifamily financing challenges and program design opportunities The research team certainly recognize that input from program implementers must be understood for what it is. Program implementers have the advantage of being the "feet on the street," interacting with customers in "real life" on program-related issues. Having said this, the research team also recognizes that program implementers often have their own interests in making programs easier for them to implement. Findings from the LRS program implementer, then, are viewed as providing added additional perspective, beyond that provided by customers directly, that may be useful in thinking about future BayREN programs.

When a multifamily property owner or manager engages with the BAMBE program, they are connected with the Lender Referral Service. The LRS consultant provides the owner with a customized list of financing options to help fund their energy upgrade. The service typically offers multiple lender options and financing products, matching customers with appropriate lenders, competitive rates and terms, and support with the application and closing process.

Through the Lender Referral Service, qualifying property owners can access assistance to bring down the interest rate from their lender to finance an energy upgrade. The Bay Area Multifamily Capital Advance Program (BAMCAP) provides loan capital at 0% interest to the lender, which means the property owner only pays interest on the loan capital supplied by the lender.

Insights into the Owners' Perspective

Feedback provided by the LRS program implementer suggested that, on their own, attractive financing options are typically not sufficient to motivate multifamily property owners and managers in the LRS pipeline to expand their current scope of work for energy upgrades. Concerns conveyed by owners to the LRS program implementer include:

- Reluctance to add debt. In general, the owners and managers who engage with the Lender Referral Service and are evaluating financing options are hesitant to increase their property's debt. If they decide that adding debt is necessary, or in their best interest, they focus primarily on the financing product's interest rate and security requirements. In part due to this focus on interest rates, the presence of incentivized financing, such as BAMCAP and PG&E's on-bill financing, may make market-rate financing less attractive.
- Split-incentive barriers. Owners in the LRS pipeline are generally focused on opportunities to save money and/or access rebates for energy upgrades. Focusing on direct cost savings may limit their interest in measures that only save energy for tenants. Low vacancy rates, and possibly a perception that tenants do not value energy upgrades, compound this split-incentive problem. If energy upgrades do not pay off for the owner in terms of direct cost savings, reduced turnover, lower vacancy, or more on-time rent payments, they tend to have limited appeal.

- Skepticism about the return on energy efficiency investments. When considering whether to expand a project scope for deeper energy renovations, the owner must determine whether spending more on energy saving measures will yield a greater return than making other improvements to the property. Increasing uptake of financing options to carry out deeper energy efficiency renovations may depend in part on increasing owner confidence in anticipated energy savings and on making a stronger case for the role of energy efficiency in improving a building's net operating income and appraised value.

Insights into the Lenders' Perspective

The LRS program implementer also had several thoughts about the way that lenders appear to "play" in this market space.

- New markets. When lenders are considering a new market or market channel, the opportunity for loan volume in that market is a primary consideration.
- Financing evaluation criteria. When evaluating financing viability, market-based lenders typically focus on the property's past and anticipated net operating income, as well as on the lien position to be secured, the property's and owner's existing debt load, and the credit quality of the property owners or guarantors.
- Lien positions. Multifamily properties are frequently financed with mortgage products backed by Fannie Mae, Freddie Mac, or a state or local government program. These products may preclude additional financing liens on the property. There appears to be demand for financing tools structured in ways that do not interfere with first lien position financing.

Program Design Considerations Across Different Lenders

There are four categories of lenders relevant to potential new BayREN multifamily financing programs, and the existing LRS program implementer believes that different lenders may require different key program design features:

- BAMCAP lenders are already engaged with the BAMBE program and understand the business benefits of financing energy efficient improvements to multifamily properties. Some of these lenders may be interested in partnering with BayREN to develop additional financing tools or other market development projects for multifamily energy efficiency lending.
- Green mortgage lenders currently offer the Fannie Mae Green Rewards and/or Freddie Mac Green Advantage financing products, which include energy and water savings requirements. These lenders focus on purchases and refinances of multifamily properties. Initial inquiries suggest that these lenders may focus primarily on mid-sized and large properties; however, the products can also work for smaller properties. Feedback from lenders also indicates that there is currently minimal coordination between the lenders and utility-based programs.
- Equipment finance companies generally offer non-mortgage based products and focus on providing financing (often through a contractor network) for equipment such as HVAC and lighting. They offer market-level interest rates and may be able to provide rapid loan processing services. Equipment finance companies may work with multifamily properties; however, the types of equipment that they finance do not include all of the types of measures recommended through BAMBE.

- PG&E's on-bill financing offers a zero percent interest rate, allows for project as small as $5,000, has repayment terms of up to 10 years, and is non-mortgage security. While the terms are attractive, this product is only offered to properties on certain rates, and switching to a different rate isn't an easy decision for owners. A bill neutrality requirement and a separate approval process have also created barriers to participation for some BAMBE participants.

The lack of uptake of existing program financing options by BAMBE participants suggests that there may be a gap between the current options and the objectives of the property owners. The current LRS program implementer believes that the primary gap appears to be for incentivized financing with non-first lien position security requirements that can be viable for projects that are below the loan thresholds for BAMCAP lenders.

Certain key features of financing products were viewed by this source as likely to be particularly effective for accelerating deeper energy efficiency renovations:

- Low minimum loan amount. Owners tend to enter the BAMBE program seeking to identify the lowest-cost scope of work that will achieve the energy savings required to receive the BAMBE rebates. One result of this orientation is that the owner may arrive at a scope of work with a net cost that is below the minimum considered by the participating BAMCAP lenders. If increasing that scope is not a viable option for the owner, the owner may decide not to pursue other financing options. BayREN may have more success keeping owners engaged by offering a product that supports a lower minimum loan amount.
- Adapted security requirements. To address barriers that owners face in adding lien-based financing to their property, BayREN might consider alternative, non lien-based, security requirements for the product.
- Graduated terms. Rebates through BAMBE are based on achieving certain savings thresholds and do not offer additional incentives for deeper savings. BayREN may wish to consider a financing structure that offers improved terms, such as lower interest rates and/or longer repayment terms, for projects that achieve deeper savings.
- BAMBE alignment. The current alignment of project requirements between BAMBE and BAMCAP appears to be appealing to owners. In developing a new product, BayREN may wish to continue to pursue alignment with BAMBE requirements as a means of streamlining a potential loan process.
- Non-debt financing structure: General reluctance by property owners to add debt to a property, as well as debt service coverage requirements of existing financing, can create barriers for use of many financing products. BayREN might consider financing structures that a property owner would not need to consider as debt. Some Energy Services Agreements (ESAs) are structured so that payments are expenses for the owner, but are not classified as debt.
- Connecting with existing market lenders: Currently, customers appear to develop actual building improvement/development plans at approximately the same time that they pursue financing options. Given this fact, it may be useful to focus more energy on developing financing-based market channels, since catching customers while they are still starting their financing efforts likely also means that they have not yet finalized their plans for the scope of work that they will ultimately install, and will therefore give them more flexibility in the structure of their final improvement project. A closer relationship with the San Francisco Housing Accelerator Fund, or with green mortgage lenders, for example, may help to access greater opportunity across these, and other, financing institutions.

7 CONCLUSION

Key Findings and Conclusions With Regard to Project Financing

There are a number of different objectives that MF owner / managers are attempting to achieve through their building renovation efforts. In some cases, they are simply trying to fix clear and obvious problems that need to be addressed in the near term. In other cases, they are trying to improve their properties in significant ways. Regardless of the goal and scale of these renovations, however, finding external financing for those renovations appears to both critical for most properties, and also appears to almost always be a significant challenge.

Not surprisingly then, the thinking of MF building owners / managers on this issue is not simple. On the one hand, many say they are confident that they will ultimately find some form of financing to fund these building improvements. On the other hand, most appear to see this as a very challenging process that may not yield funding at the level, or on terms, that they seek, meaning that projects may be cancelled, delayed, shortchanged, or reduced in scope.

The following key points from the quantitative data indicate there may be a market for a BayREN financing program focusing on energy efficiency projects with budgets under $100,000:

- There are an estimated 3,500 eligible multifamily renovation projects planned each year for the next two to three years.
- Forty percent of respondents say they did not implement at least one energy efficiency project due to lack of financing. This proportion is slightly higher (45%) for owners/managers who have a planned project with an energy upgrade budget of less than $100,000.
- A third of respondents describe financing-related issues as a “critical” barrier for future projects.
- Two-thirds of respondents who have a planned project with energy upgrade costs less than $100,000 say they would pursue a low-cost or no-cost financing option through BayREN.

However, the majority of owners/managers believe that it is possible (though not easy) to find financing to support their anticipated projects:

- Eighty-five percent of respondents are confident they will seek and obtain financing for their planned projects and expect to do so from traditional sources.
- All respondents who have a planned project with energy efficiency costs of less than $100,000 and who plan to pursue financing say they are very or somewhat confident they will be able to obtain financing.
- Even so, it is not evident that the financing they anticipate getting will fully meet their needs for all of the renovations they might like to make to their properties, nor that getting that financing will be an easy process. While financing is often available, it appears that multifamily owners/managers do not think that either the loan application process or their own internal requirements make obtaining those loans a simple process.

And note that “financing” challenges do not simply revolve around finding an available lender offering acceptable terms. In addition:

- Owners / managers of smaller MF properties also encounter barriers that originate in the fact that they are not energy experts. Many owners / managers, for example, doubt their ability to accurately estimate the long-term economic benefit of EE-related improvements, and doubt that they know enough about EE issues to know how best to access resources specifically devoted to this area.

- Technical issues having to do with debt structure, or having to do with "split incentives," also present challenges in finding appropriate financing.
- Mapping a desired scope of work with the right financing opportunity can be very difficult, since (for example), finding loans that allow owners / managers to implement projects along their preferred timeline (which is often extended so that they can complete in-unit renovations between leases), rather than needing to complete all of the upgrading work at one time is not easy.

The net result here seems to be that resolving loan issues is necessary in order for most building improvement projects to go forward, but it is also something that these respondents view as complicated, which always implies an uncertain outcome.

Recommendations

Given both the quantitative data, and the data reviewed from other sources, AEG believes that if BayREN were to explore offering a financing program focusing on energy efficiency projects with budgets under $100,000, these are important considerations:

- Building vintage. Consider targeting multifamily properties built in the 1990s and 2000s as many of those will have HVAC systems and water heaters approaching their end of life. Most buildings built prior to 1990 will have likely already upgraded these systems, but some older multifamily buildings could be due for another round of HVAC and water heater upgrades. Older multifamily buildings may also be due for boiler replacements. Hot water boilers are primarily found in larger multifamily buildings where they provide water heating or space heating. Hot water boilers usually have a service life of 20 to 30 years.
- Communicating business benefits. Make outreach and education a strong component of the program, focusing not just on program features, but also on providing information on how energy efficiency investments can lower long-term building costs. Survey respondents consistently cite a lack of information about energy efficiency-related issues (meaning that they do not feel confident in estimating the impact of energy efficiency improvements) as a critical barrier to additional investments in this sector. Also, be available to attend homeowner association (HOA) meetings to discuss the benefits of the project. If a multifamily building needs approval for renovations, the HOA board may have questions that are difficult for an owner or manager to answer.
- Incremental renovations. Be willing to market the program toward properties that are upgrading a few units each year during renter turnover. This is the only time some owners/managers are willing to upgrade rental units.
- Financing guarantees. Guarantee financing on project specifications so customers are assured they have the capital available before they begin the project. Many owners/managers are concerned they will commit to making an investment and then the financing or rebate won't come through.
- Low minimum loan amount. Owners tend to enter the existing BAMBE program seeking to identify the lowest-cost scope of work that will achieve the energy savings required to receive the BAMBE rebates. One result of this orientation is that the owner may arrive at a scope of work with a net cost that is below the minimum considered by the participating BAMCAP

lenders. If OBF is not a viable option for the owner, the owner may decide not to pursue other financing options. BayREN may have more success keep owners engaged by offering a product that supports a low minimum loan amount.

- Graduated terms. Rebates through BAMBE are based on achieving certain savings thresholds and do not offer additional incentives for deeper savings. BayREN may wish to consider a financing structure that offers improved terms, such as lower interest rates and/or longer repayment terms, for projects that achieve deeper savings.
- BAMBE alignment. The current alignment of project requirements between BAMBE and BAMCAP appears to be appealing to owners. In developing a new product, BayREN may wish to continue to pursue alignment with BAMBE requirements as a means of streamlining a potential loan process.
- Non-debt financing structure: General reluctance by property owners to add debt to a property, as well as debt service coverage requirements of existing financing, can create barriers for use of many financing products. BayREN might consider financing structures that a property owner would not need to consider as debt. Some Energy Services Agreements (ESAs) are structured so that payments are expenses for the owner, but are not classified as debt.
- Marketing in cooperation with lenders. Since building owners / managers appear to focus on making building improvements/development plans around the same times that they pursue project financing suggests that if BayREN were able to develop financing-based market channels, this may provide opportunities for the program to engage owners at times when they are establishing improvement plans for a property, and when financing discussions are already in-process

Appendix A. METHODOLOGY

The primary market research that was conducted to support the analysis reported in this document included several separate activities: a quantitative survey conducted among qualifying multifamily property owners and managers, qualitative interviews conducted with property owners and managers who applied for rebates from BayREN, qualitative interviews conducted with lenders operating in this market space, and insight from a qualitative assessment of relevant issues from a current BayREN financing program implementer in the Bay Area.

Quantitative Research

AEG designed and conducted an online survey of multifamily property owners and managers in Northern California. Potential survey respondents were screened to ensure that they:

- Own or manage one or more multifamily properties with at least five dwelling units in one or more of the nine counties served by BayREN programs.
- Are at least somewhat knowledgeable about upgrade or renovation decisions that have taken place recently, or might take place soon, at one or more of their multifamily properties located in the Bay Area.

Potential survey respondents were recruited from an online sample source that aggregated a total of more than a million small- and medium-sized business owners, including owners and managers of multifamily properties. These survey sources invite business owners and managers to participate in a survey panel and offer rewards for participating in surveys. During the panel recruitment process, respondent responsibilities are identified, and once potential expert respondents (in this case multifamily building owners and managers) are identified, they are than sent a qualifying survey to make sure they can actually answer relevant questions about the industry. Panel respondents who have been initially identified as Property Managers/Owners, and who had properties in the relevant geography, were used as the basis for the initial sample for this survey.

AEG then used a questionnaire to screen these potential survey respondents in order to be certain they met project requirements. Ultimately, a total of 250 qualified multifamily owners/managers completed surveys during February 2019. This sample size implies a 90% confidence interval for the full set of survey responses of +/- 5.2%. This means that if we were to repeat the survey with a similar sample of respondents 90% of the results reported would be within a range of plus or minus 5.2 percentage points.

Qualitative Research

The qualitative research completed as part of this project included in-depth telephone interviews with two populations: prior program applicants and lenders.

Multifamily Owner/Manager Interviews

Eighteen interviews were conducted during February and March 2019 with multifamily owners/managers who had considered participating in an existing BayREN rebate program. The team recognized that these customers were not directly on point for the currently enquiry (since they did not apply for financing directly), but they were the only sample source available, and the fact that they applied for a rebate, at least implied that they also considered financing issues and, therefore, could discuss financing related issues. The goal of these interviews was to understand:

- How multifamily property owners/managers think about energy efficiency-related renovations and the challenges they face in finding appropriate financing mechanisms for these projects.
- How multifamily owners/managers understood and reacted to the BayREN program information and application process as they proceeded through that process.
- What type of program BayREN might offer that would be more effective in meeting target market needs.
- Whether there are gaps in financing coverage that BayREN could fill, and if yes, what types of programs might address those gaps.

Lender Interviews

AEG conducted a single interview during March 2019 with a representative of a lender who serves this market (i.e., multifamily building owners and managers seeking financing for building renovations in the nine-county San Francisco Bay Area). The team had originally hoped to conduct more lender interviews, but AEG encountered difficulty in getting lenders to agree to interviews. The team's contacts in this market did not prove helpful, and cold calls to banks to identify managers who handled multifamily loans turned out to be a time-consuming and unproductive process. In order to address this gap, BayREN contracted separately with Slipstream to leverage their contacts to conduct six qualifying lender interviews with representatives of organizations that finance multifamily buildings in the Bay Area between June 24 and July 10, 2019,

Appendix B. RESEARCH INSTRUMENTS

Quantitative Survey Questionnaire

BayREN

Multi-family Financing Program

[PROGRAMMER: DO NOT INCLUDE HEADER / FOOTER TEXT IN ONLINE VERSION]

Welcome!

This survey is sponsored by BayREN – The Bay Area Regional Energy Network.

Thank you for taking the time to complete this survey.

BayREN operates under the direction of several Bay Area county governments and is funded by utility ratepayers. The network supports residents and businesses in the region who wish to become more energy-efficient. The goal of this survey is to help BayREN design and offer new programs that would help multi-family building owners and managers save money and reduce the amount of energy they consume by using more efficient alternatives.

The survey will ask for descriptive information about your multi-family properties and the ways that you both manage energy and finance energy efficiency improvements, but it will not ask for any personally identifying information. Survey results will be analyzed and summarized by the market research team at Applied Energy Group (AEG) located in Oakland, California.

Should you have any questions about why the survey is being conducted, or the validity of this effort, please feel free to contact a BayREN representative. If you have any questions about the survey itself, please access the help support contact provided in the survey.

You will first be asked a few questions to make sure you and your business qualify for participation. If you do qualify, then you will be asked to complete the full survey.

Please click the "Continue" button below to start the survey.

S1. For the purposes of this survey, when we refer to a "multi-family" property we will mean a residential building, such as an apartment building, a condominium or townhouse building, or another type of building that includes at least two separate residential housing units.

Do you, or does the organization for which you work, own or manage any multi-family properties in California?

1. **Yes, I / we** <u>own one or more</u> **multi-family properties in California**
2. **Yes, I / we** <u>manage one or more</u> **multi-family properties for other owners in California**
3. **Yes, I / we** <u>both own and manage</u> **multi-family properties in California**
4. No, we neither own nor manage any multi-family properties in California.

[PROGRAMMER: IF S1=4, TERMINATE [*SHOW TERMINATE LANGUAGE AT END OF THIS SECTION FOR ALL TERMINATING RESPONDENTS*], OTHERWISE, CONTINUE]

S2. And do you or your organization own or manage any multi-family properties that are located in any of the following Northern California counties? (*Please check all of relevant counties*)

[PROGRAMMER: OPTION 10 SHOULD BE EXCLUSIVE]

1. San Francisco County

2. San Mateo County
3. Santa Clara County
4. Alameda County
5. Contra Costa County
6. Solano County
7. Napa County
8. Sonoma County
9. Marin County
10. No, We do not own/manage a multi-family property in any of these counties

[PROGRAMMER: IF S2=10, TERMINATE, OTHERWISE, CONTINUE]

S3. How many different multi-family properties – in total – do you, or does your organization, currently own, operate, or manage in these counties?

_________ [PROGRAMMER: ALLOW 1-500]

S4. How knowledgeable are you about upgrade or renovation decisions that have taken place recently, or might take place in the near future, at one or more of these multi-family properties located in the Bay Area?

1. Very knowledgeable about this
2. Somewhat knowledgeable about this
3. Not very knowledgeable about this
4. Not at all knowledgeable about this

[IF S4 EQ 3 OR 4, TERMINATE, OTHERWISE CONTINUE TO INVITATION]

[TERMINATE LANGUAGE: Thank you for your answers. Unfortunately, we need to have responses from respondents with different characteristics than yours. Thanks for your time.]

[INVITATION TEXT FOR QUALIFYING RESPONDENTS] Thank you for your answers so far! You qualify for the survey which should take about 20 minutes of your time to complete. Your responses are important to us, so please press "Continue" to begin answering the survey questions.

Recent Renovation Projects

All of our questions in this survey will be about the multi-family property or properties that you or your organization own or manage in the Bay Area. You indicated that there are [PIPE IN RESPONSE TO S3] of these.

[IF S3 EQ 1, CONTINUE, OTHERWISE SKIP TO Q9]
[SINGLE BUILDING YIELDING NUMBER OF EE-RELATED PROJECTS]

Q1. Do you – either alone or as part of a group – <u>own</u> this property, or do you <u>manage</u> this property for someone else?

1. I / we own the property
2. I manage the property for someone else
3. Something else (Please specify ______________________)

Q2. How many apartments or units are there in this building in total?

_____ Apartments / Units

Q3. About when was this building constructed?

1. Before 1980
2. 1980-1989
3. 1990-1999
4. 2000-2009
5. 2010-2018

For the next several questions, we will be asking about any significant building renovation or upgrade projects that you might have implemented or plan to be implementing at this building. By a "significant building renovation or upgrade project" we mean investing in making changes to the property that go beyond normal maintenance and repair, but which are intended to actually improve the way the building functions, or improve the amenities that are provided to residents. For most properties, a "significant" investment would have a total cost of at least $25,000, although it might take several months, or even years to fully implement a project.

Q4. How many separate significant renovation or upgrade projects have you started, completed, or have had ongoing, at your multi-family property in the Bay Area within the last 2 years?

_____ Number of separate renovation / upgrade projects started / completed / had ongoing within the last two years

[IF Q4 EQ 0, SKIP TO INSTRUCTION BEFORE Q31]
[IF Q4 EQ 1, CONTINUE, OTHERWISE SKIP TO Q7]

Q5. What sort of work was involved in this project? *Please select all that apply.*

1. Upgrade / renovate building exterior
2. Upgrade / renovate building insulation or air infiltration
3. Upgrade / renovate building operating systems (e.g., space cooling, water heating)
4. Upgrade / renovate building common areas
5. Upgrade / renovate exterior spaces
6. Upgrade / renovate tenant spaces
7. Other (Please specify _________________________)

Q6. Did / does this renovation or upgrade project include any components that were specifically directed toward improving the energy efficiency level of the property?
Energy efficiency improvements could include things like:
- Upgrading the heating or cooling systems, the water heater(s), or other appliances to more energy efficient equipment
- Upgrading to LEDs or other more efficient lighting
- Weatherization improvements
- Installing new energy efficient windows or doors
- Installing programmable or smart thermostats
- Or making any other improvements that are intended to cause the building to use energy more efficiently.

1. Yes
2. No

[IF Q4 EQ 2 OR MORE, CONTINUE, OTHERWISE, SKIP TO Q17]
Q7. What sort of work has been involved in these projects? [DISPLAY THE FOLLOWING TEXT IF Q4 RESPONSE GT 3: For this question, please focus on the three largest recent renovation projects.]

Work involved	Project #1	Project #2	Project #3 [DISPLAY IF Q4 EQ 3 OR MORE]
A. Upgrade/ renovate building exterior	○	○	○
B. Upgrade / renovate building insulation or air infiltration	○	○	○
C. Upgrade /renovate building operation systems (e.g., space cooling, water heating)	○	○	○
D. Upgrade /renovate building common areas	○	○	○
E. Upgrade /renovate exterior spaces	○	○	○
F. Upgrade /renovate tenant spaces	○	○	○
G. Something else (specify)	○	○	○

Q8. How many of these recent or ongoing projects have included any components that were specifically directed toward improving the overall energy efficiency level of the property involved?

Energy efficiency improvements could include things like:
- Upgrading the heating or cooling systems, the water heater(s), or other appliances to more energy efficient equipment
- Upgrading to LEDs or other more efficient lighting
- Weatherization improvements
- Installing new energy efficient windows or doors
- Installing programmable or smart thermostats
- Or making any other improvements that are intended to cause the building to use energy more efficiently.

_____ Number of recent / current renovation projects that include energy efficiency improvements

[DEFINE NRECENTEE [N OF RECENT / CURRENT EE-RELATED RENOVATION PROJECTS] AS “1” IF Q6 EQ 1 OR “0” IF Q6 EQ 2, OR Q8 RESPONSE] [THIS GIVES US NRECENTEE FOR THOSE WITH MORE THAN ONE PROPERTY]

[IF S3 EQ 2 OR MORE, CONTINUE, OTHERWISE SKIP TO INSTRUCTION BEFORE Q31]
[MULTIPLE PROPERTIES YIELDING NUMBER OF EE-RELATED PROJECTS]

Q9. How many of these properties do you own (either alone or as part of a group) or do you <u>manage</u> for someone else?

_________ Number of properties owned

_________ Number of properties managed for someone else

Q10. How many of your properties fall into each of the size categories below? [PROGRAMMER: ADD 0 VALUES AS DEFAULT FOR EACH CATEGORY; TOTAL FOR Q10 RESPONSES MUST EQUAL Q9 TOTAL]

_____ Number of properties with 2-4 units
_____ Number of properties with 5-9 units
_____ Number of properties with 10-24 units
_____ Number of properties with 25-49 units
_____ Number of properties with 50-99 units
_____ Number of properties with 100-249 units
_____ Number of properties with 250 or more units

Q11. How many of your properties were originally built during each of the time periods below? [PROGRAMMER: ADD 0 VALUES AS DEFAULT FOR EACH CATEGORY]

_____ Number of properties built before 1980
_____ Number of properties with built from 1980-1989
_____ Number of properties built from 1990-1999
_____ Number of properties built from 2000-2009
_____ Number of properties built from 2010 to the present
_____ Number of properties with 100-249 units

For the next several questions, we will be asking about any significant building renovation or upgrade projects that you might have implemented or be implementing at any of your properties. By a “significant building renovation or upgrade project” we mean investing in making changes to a property that go beyond normal maintenance and repair, but which are intended to actually improve the way the building functions, or the amenities that are provided to residents. For most properties, a “significant” investment would have a total cost of at least $25,000, although it might take several months, or even years to fully implement a project.

Q12. How many separate significant renovation or upgrade projects have you started, completed, or have had ongoing, at any of your multi-family properties in the Bay Area within the last 2 years?

_____ Number of separate renovation / upgrade projects started / completed / had ongoing within the last two years

[IF Q12 EQ 1, CONTINUE, OTHERWISE SKIP TO Q15]

Q13. What sort of work was involved in this project? *Please select all that apply*.

1. Upgrade / renovate building exterior
2. Upgrade / renovate building insulation or air infiltration
3. Upgrade / renovate building operating systems (e.g., space cooling, water heating)
4. Upgrade / renovate building common areas
5. Upgrade / renovate exterior spaces
6. Upgrade / renovate tenant spaces
7. Something else (please specify ____________________)

Q14. Did / does this renovation or upgrade project include at least some components that were specifically directed toward improving the energy efficiency level of the property?

Energy efficiency improvements could include things like:

- Upgrading the heating or cooling systems, the water heater(s), or other appliances to more energy efficient equipment
- Upgrading to LEDs or other more efficient lighting
- Weatherization improvements
- Installing new energy efficient windows or doors
- Installing programmable or smart thermostats
- Or making any other improvements that are intended to cause the building to use energy more efficiently.

1. Yes
2. No

[IF Q12 EQ 2 OR MORE, CONTINUE, OTHERWISE, SKIP TO INSTRUCTION BEFORE Q17]

Q15. What sort of work has been involved in these projects? [DISPLAY THE FOLLOWING TEXT IF Q12 RESPONSE IS GT 3: For this question, please focus on the three largest recent renovation projects.]

Work involved	Project #1	Project #2	Project #3 [DISPLAY IF Q12 EQ 3 OR MORE]
A. Upgrade/ renovate building exterior	○	○	○
B. Upgrade / renovate building insulation or air infiltration	○	○	○
C. Upgrade /renovate building operation systems (e.g., space cooling, water heating)	○	○	○
D. Upgrade /renovate building common areas	○	○	○
E. Upgrade /renovate exterior spaces	○	○	○
F. Upgrade /renovate tenant spaces	○	○	○
G. Something else (specify)	○	○	○

Q16. How many of these recent or ongoing projects have included at least some components that were specifically directed toward improving the overall energy efficiency level of the property involved?

Energy efficiency improvements could include things like:

- Upgrading the heating or cooling systems, the water heater(s), or other appliances to more energy efficient equipment
- Upgrading to LEDs or other more efficient lighting
- Weatherization improvements
- Installing new energy efficient windows or doors
- Installing programmable or smart thermostats
- Or making any other improvements that are intended to cause the building to use energy more efficiently.

______ Number of recent / current renovation projects that include energy efficiency improvements

[DEFINE NRECENTEE [N OF RECENT / CURRENT EE-RELATED RENOVATION PROJECTS] AS "1" IF Q14 EQ 1 OR "0" IF Q14 EQ 2, OR Q16 RESPONSE] [THIS GIVES US AN NRECENTEE VALUE FOR THOSE WITH ONE PROPERTY]

[IF NRECENTEE = 0, SKIP TO PLANNED RENOVATION PROJECTS SECTION, OTHERWISE CONTINUE]
[TOTAL PROJECT VALUE FOR NRECENTEE PROJECTS]

Q17. What was the approximate <u>total cost</u> associated with all aspects of your recent upgrade / renovation project that included at least some energy efficiency improvements?

1. Less than $25,000
2. $25,000 -- $99,999
3. $100,000 - $249,999
4. $250,000 - $499,999
5. $500,000 - $999,999
6. $1 million - $4.999 million
7. $5 million - $9.999 million
8. $10 million or more

Q18. And about what proportion of that total project cost was allocated specifically to energy efficiency improvements?

____ % [RECORD PERCENTAGE 1-100%] of total project cost allocated specifically to energy efficiency improvements

Q18b. Did this project use any external financing (money that was borrowed from a bank or some other external source)?

1 Yes
2 No

[IF Q18b EQ 1, CONTINUE, OTHERWISE CALCULATE TOTEXFIN EQ 0 AND SKIP TO Q26]
[IF Q18b EQ 1 CALCULATE TOTEXFIN EQ 1]

Q18c. Did this project receive any type of <u>special</u> financing specifically <u>because they included energy efficient improvements</u>?

1 Yes

2 No

[IF Q18c EQ 1; CALCULATE TOTSPECIALFIN EQ 1, THEN SKIP TO Q23]
[IF Q18c EQ 2; CALCULATE TOTSPECIALFIN EQ 0; THEN SKIP TO Q26]

[IF NRECENTEE GT 1, CONTINUE, OTHERWISE, SKIP TO NEXT SECTION]

Q19. You said that you have had [PIPE IN NRECENTEE VALUE] recent upgrade / renovation projects that included at least some energy efficiency improvements. [PROGRAMMER: INSERT DEFAULT ZEROS]

Please indicate in the table below how many of these projects had total costs that fall into each of the categories listed.

Project size	Total number of projects
A. Less than $25,000	
B. $25,000 -- $99,999	
C. $100,000 - $249,999	
D. $250,000 - $499,999	
E. $500,000 - $999,999	
F. $1 million - $4.999 million	
G. $5 million - $9.999 million	
H $10 million or more	

[PROGRAMMER: Q19 TOTAL MUST EQUAL NRECENTEE VALUE]

Q20. Our last question asked about the total cost for your recent renovation projects. In the table below please indicate about what proportion of the budget for each size of project was allocated to energy efficiency improvements?

Project size	Total number of projects [INSERT VALUE FROM Q19; ONLY DISPLAY ROWS WITH NON-ZERO VALUES]	% of Budget Allocated to Energy Efficiency Improvements
A. Less than $25,000		%
B. $25,000 -- $99,999		%
C. $100,000 - $249,999		%
D. $250,000 - $499,999		%
E. $500,000 - $999,999		%
F. $1 million - $4.999 million		%
G. $5 million - $9.999 million		%
H $10 million or more		%

Q21. How many of these projects used or use any external financing (money that was borrowed from a bank or some other external source)?

Project size	Total number of projects [INSERT VALUE FROM Q19; ONLY DISPLAY ROWS WITH NON-ZERO VALUES]	Number of these projects that use external financing?

A. Less than $25,000		[INSERT NUMBER LTE COLUMN 1]
B. $25,000 -- $99,999		[INSERT NUMBER LTE COLUMN 1]
C. $100,000 - $249,999		[INSERT NUMBER LTE COLUMN 1]
D. $250,000 - $499,999		[INSERT NUMBER LTE COLUMN 1]
E. $500,000 - $999,999		[INSERT NUMBER LTE COLUMN 1]
F. $1 million - $4.999 million		[INSERT NUMBER LTE COLUMN 1]
G. $5 million - $9.999 million		[INSERT NUMBER LTE COLUMN 1]
H $10 million or more		[INSERT NUMBER LTE COLUMN 1]
		[CALCULATE / DISPLAY TOTAL]

[CALCUALTE TOTEXFIN EQ SUM OF COLUMN 2]
[IF TOTEXFIN GTE 1, CONTINUE, OTHERWISE, SKIP TO NEXT SECTION]

Q22. Of the [DISPLAY TOTEXFIN VALUE] projects that leveraged external financing, how many received any type of special financing specifically because they included energy efficient improvements?

Project size	Number of these projects that use external financing [INSERT VALUE FROM Q19; ONLY DISPLAY ROWS WITH NON-ZERO VALUES]	Number of these projects that received special energy efficiency-related financing?	
A. Less than $25,000		[INSERT NUMBER LTE COLUMN 1]	
B. $25,000 -- $99,999		[INSERT NUMBER LTE COLUMN 1]	
C. $100,000 - $249,999		[INSERT NUMBER LTE COLUMN 1]	
D. $250,000 - $499,999		[INSERT NUMBER LTE COLUMN 1]	
E. $500,000 - $999,999		[INSERT NUMBER LTE COLUMN 1]	
F. $1 million - $4.999 million		[INSERT NUMBER LTE COLUMN 1]	
G. $5 million - $9.999 million		[INSERT NUMBER LTE COLUMN 1]	
H $10 million or more		[INSERT NUMBER LTE COLUMN 1]	
		[CALCULATE / DISPLAY TOTAL]	

[CALCUALTE TOTSPECIALFIN EQ SUM OF COLUMN 2]
[IF TOTSPECIALFIN GTE 1, CONTINUE, OTHERWISE, SKIP TO NEXT SECTION]

Q23. Which of the following types of special financing have you received for one or more of these projects? (Please select all that apply)

1 PG&E On- Bill Financing
2 BayREN Capital Advancement Financing
3 Fannie Mae Green Financing
4 Fannie MAC Green Up or Green Up Plus Financing
5 CMFA Financing
6 GoGreen Residential Energy Efficiency Loan (REEL)
7 Something else (Please specify: ___________)

[IF TOTSPECIALFIN EQ 1, CONTINUE, OTHERWISE, SKIP TO Q28]

Q24. Was the project budget increased, or did you decide to perform additional energy efficiency improvements, because special financing was available?

1 Yes
2 No

Q25. How important was financing for you to be able to move forward and complete the energy-efficiency related improvements? If financing had NOT been available would you have . . .?

1 Still completed the total project as planned
2 Reduced the scope and the cost of the project
3 Cancelled or delayed the project

Q26. Did this project include renovations to common areas, individual units, or both?

1. Common areas only
2. Individual units only
3. Both common areas and individual units

[IF Q26 EQ 2 OR 3, CONTINUE, OTHERWISE, SKIP TO NEXT SECTION]

Q27. How many total units received energy efficient upgrades in this project?

________Total Units

[IF TOTSPECIALFIN GTE 1, CONTINUE, OTHERWISE, SKIP TO NEXT SECTION]

Q28. We have a couple of follow-up questions about your projects that used special financing that was available because you were implementing energy efficiency improvements. We understand that you have, or have recently had, [DISPLAY TOTSPECIALFIN VALUE] of these projects.

Please provide a response for each of these projects in the table below. [IF TOTSPECIALFIN EQ 5 OR MORE, DISPLAY THE FOLLOWING TEXT: Please answer these questions only for the four largest of these projects.]

[ONLY DISPLAY NUMBER OF ROWS EQUAL TO TOTSPECIALFIN, UP TO 4]	Were the project costs increased, or did you decide to perform additional energy efficiency improvements, because special financing was available?	
The largest project	() Yes	() No
The next largest project	() Yes	() No
The next largest project	() Yes	() No
The next largest project	() Yes	() No

Q29. How important was financing for you to be able to move forward and complete the energy-efficiency related improvements for each of these projects?

[ONLY DISPLAY NUMBER OF ROWS EQUAL TO TOTSPECIALFIN, UP TO 4]	If financing had NOT been available would you have . . .?		
The largest project	() Completed the project as planned	() Reduced the scope and / or cost of the project	() Cancelled or delayed the project
The next largest project	() Completed the project as planned	() Reduced the scope and / or cost of the project	() Cancelled or delayed the project
The next largest project	() Completed the project as planned	() Reduced the scope and / or cost of the project	() Cancelled or delayed the project
The next largest project	() Completed the project as planned	() Reduced the scope and / or cost of the project	() Cancelled or delayed the project

Q30. Did each of these projects include improvements to common areas, individual tenant units, or both? [PROGRAMMER: REQUIRE A RESPONSE IN COLUMN C IF AN ONLY IF RESPONDENT SELECTS SECOND OR THIRD RESPONSE IN COLUMN B]

[ONLY DISPLAY NUMBER OF ROWS EQUAL TO TOTSPECIALFIN, UP TO 4]	Did the project include energy efficiency-related improvements to common areas only or to individual tenant units as well?	
The largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected

Future possible renovation projects

Next, we'd like to ask a few questions about any renovation projects that you may be considering for the future. Once again, please only answer for multi-family properties that you own or manage in the Bay Area.

Q31. How likely do you think it is that you will start at least one new significant renovation or upgrade project at [S3 EQ 1, DISPLAY: "your multi-family building" OR IF S3 GTE 2, DISPLAY: "one of your multi-family buildings"] in the Bay Area within the next two years?

1. Very likely
2. Somewhat likely
3. Not very likely
4. Not at all likely

Q32. [IF Q31 EQ 3 OR 4, CONTINUE, OTHERWISE, SKIP TO Q33] How likely do you think it is that you will start at least one new significant renovation or upgrade project at [S3 EQ 1, DISPLAY: "your multi-family building" OR IF S3 GTE 2, DISPLAY: "one of your multi-family buildings"] in the Bay Area within the next 3-5 years?

1. Very likely
2. Somewhat likely
3. Not very likely
4. Not at all likely

[IF Q31 OR Q32 EQ 1 OR 2, CONTINUE, OTHERWISE SKIP TO Q44]

Q33. We know this may be difficult to estimate, but about how many different renovation or upgrade projects do you think you are likely to start within the next [IF Q31 EQ 1 OR 2, DISPLAY, "two years," OR IF Q32 EQ 1 OR 2, DISPLAY, "3-5 years."] in total in your multi-family property or properties?

______ Total number of different renovation projects likely to start in the next few years

[IF Q33 EQ 0, SKIP TO Q44]

Q34. And of this number of total renovation projects, how many are likely to specifically include energy efficiency improvements (either by replacing equipment, appliances, or lighting with higher efficiency options, or by making other changes that would make the property more energy efficient)?

______ Total number of different renovation projects that are likely to start in the next few years AND that will specifically include energy efficiency improvements

[RESPONSE MUST BE LTE Q33 RESPONSE]

[IF Q34 EQ 1, CONTINUE, OTHERWISE SKIP TO Q37]

Q35. What is your best estimate of the total cost for the new property renovation project that will include energy efficiency equipment?

1. Less than $25,000
2. $25,000 -- $99,999
3. $100,000 - $249,999
4. $250,000 - $499,999
5. $500,000 - $999,999
6. $1 million - $4.999 million
7. $5 million - $9.999 million
8. $10 million or more

Q36. And about what proportion of that total project cost will probably be allocated specifically to energy efficiency improvements?

____ % [RECORD PERCENTAGE 1-100%] of total project cost allocated specifically to energy efficiency improvements

[IF Q34 GT 1, CONTINUE, OTHERWISE SKIP TO Q39]

Q37. Please indicate in the table below how many of your likely upcoming renovation projects that include energy efficiency improvements will have total costs that fall into each of the categories listed.

Project size	Total number of projects
A. Less than $25,000	
B. $25,000 -- $99,999	
C. $100,000 - $249,999	
D. $250,000 - $499,999	
E. $500,000 - $999,999	
F. $1 million - $4.999 million	
G. $5 million - $9.999 million	
H $10 million or more	

[PROGRAMMER: Q37 TOTAL MUST EQUAL Q34 VALUE]

Q38. And in the table below please indicate about what proportion of the budget for each size of project is likely to be allocated specifically to energy efficiency improvements?

Project size	Total number of projects [INSERT VALUE FROM Q37; ONLY DISPLAY ROWS WITH NON-ZERO VALUES]	% of Budget Allocated to Energy Efficiency Improvements
A. Less than $25,000		%
B. $25,000 -- $99,999		%
C. $100,000 - $249,999		%
D. $250,000 - $499,999		%
E. $500,000 - $999,999		%
F. $1 million - $4.999 million		%
G. $5 million - $9.999 million		%
H $10 million or more		%

Q39. Will these new projects you are considering include energy efficiency-related improvements to common areas, individual tenant units, or both? [PROGRAMMER: REQUIRE A RESPONSE IN COLUMN C IF AND ONLY IF RESPONDENT SELECTS SECOND OR THIRD RESPONSE IN COLUMN B]

[ONLY DISPLAY NUMBER OF ROWS EQUAL TO Q34, UP TO 4]	Will the new renovation projects you are considering include energy efficiency-related improvements to common areas only, or to individual tenant units as well?	
The largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected
The next largest project	() Common areas only () Individual units only () Both common areas and individual units	() Number of individual units affected

Q40. How likely is it that you will seek financing from a financial institution, or another external source in order to provide capital for one or more of these future projects that would include energy efficiency improvements?

1 Very likely
2 Somewhat likely
3 Not very likely
4 Not at all likely

[IF Q40 EQ 1 OR 2, CONTINUE, OTHERWISE SKIP TO Q44]

Q41. How confident are you that you will be able to secure the financing that you will seek?

1 Very confident
2 Somewhat confident
3 Not very confident
4 Not at all confident

Q42. What is the first place you will go for financing for this / these project(s)?

1 A traditional financial institution that you have used before
2 A traditional financial institution that you have NOT used before
3 A governmental agency
4 A not-for-profit organization
5 Something else – Please specify ________________________

Q43. Which of the following best describes what will happen if you are not able to get all of the financing you will seek?

1. You will still do the project as it is planned
2. You will still do the project, but with a smaller scope or over a longer time-period
3. You will delay the project
4. You will look for ways to reduce the total project cost
5. You will cancel the project in its entirety

BARRIERS TO EE PROJECTS

Q44. Have you ever decided not to proceed with a multi-family property renovation project that included energy efficiency improvements because you could not obtain financing for the project?

1 Yes

2 No

[IF Q44 = 1, CONTINUE, OTHERWISE, SKIP TO Q46]

Q45. Why were you unable to obtain financing?

[OPEN ENDED]

Q46. Below is a list of reasons why you might not want to undertake energy efficiency-related improvement projects for your multi-family property or properties. Please review the list and then evaluate them in terms of their importance to your you and your organization.

Please rate the importance of the reasons by clicking on each of the statements and dragging it into the appropriately labelled box.

Please drag FIVE of the reasons into the category labelled “The most important things that limit us”

Please drag FOUR of the reasons into the category labelled “Things that are important, but not critical to us”

Please drag THREE of the reasons into the category labelled “Things that are not very important to us”

[PROGRAMMER: CREATE DRAG AND DROP FOR ATTRIBUTES INTO THE THREE LABELLED BUCKETS. LIMIT NUMBER OF ITEMS THAT CAN GO INTO EACH BUCKET; RANDOMIZE INITIAL LIST OF ATTRIBUTES]

1. We do not have the capital budget to undertake energy efficiency projects.
2. Energy efficiency is not a big selling point for potential tenants.
3. We are not willing to invest in energy efficiency because our tenants are responsible for their own energy costs.
4. Our buildings are already energy efficient.
5. Low/no interest financing is not available for the projects we wish to pursue.
6. The terms of the loans make financing options unattractive.
7. We do not have good information on what energy efficiency improvements we should pursue.
8. We do not qualify for any of the financing options available for projects.
9. Energy savings claims for energy-efficient options are not reliable / trustworthy.
10. Investing in energy efficiency is too risky
11. We only plan on owning our multi-family building(s) for a short period of time and would not see the pay-off from an energy efficient investment
12. We lack information about incentives available for energy efficient projects.
13. We do not have the time or expertise to evaluate project financing options.
14. Energy efficiency is not a worthwhile investment for our buildings
15. Our total project costs are too low to qualify for financing.
16. It is just too complex to compile financing applications with their required documentation
17. Our internal ownership group makes it challenging to invest in new projects like these.

Q47. Please assume that BayREN offered a program that provided low or no interest financing for multi-family property energy efficiency projects with total costs less than $100,000. How likely do you think your organization would you be to at least explore a BayRen-sponsored financing option for one or more appropriate projects? Please use a 10-point scale where, '1' means you think your business would be <u>not at all likely to do this</u> and '10' means you think your business would be <u>extremely likely to do this.</u>

Not at all likely to do this									Extremely likely to do this
1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

That's all the questions we have for today. Thank you for your time!

Qualitative Interview Guide: Financing / Rebate Program Applicants

BayREN MF Financing-In-Depth Interview Guide

Background: The goal of these interviews is to understand how relevant MF property owners think about EE-related renovations and the challenges they face in finding appropriate financing mechanisms. Additionally, since respondents considered participating in an MF financing program through BayREN, goals include understanding what happened to them as they proceeded through that process. Note that we wish to consider all projects interested in financing that might have completed a BAMBE project with financing, completed a BAMBE project without financing, or dropped out of the program.

The three main objectives of this research are:

- Determine if financing is currently available for property managers/owners with EE projects with out of pocket costs less than $100k (under what circumstances or constraints does this meet MF owner needs?)
- Are there current gaps in financing coverage that BayREN could fill?
- If yes, what should BayREN offer?

Also review the complete list of objectives on the last page for more detail on this subject.

Inform respondent about recording / nothing they say will be linked to them individually. All we are looking for is their honest opinions / perspectives.

Introduction

Thank you again for taking the time to speak with me. I really appreciate it.

Our understanding is that you applied, or at least explored applying, for financing Bay Area Regional Energy Network, or BayREN upgrade project. The specific program in which we are interested is a program that would have offered to help finance energy efficiency-related improvements to a multifamily property in the Bay Area. Names that might have been used for the program are BAMBE (Bay Area Multi-Family Building Enhancement Program), BAMCAP (Bay Area Multifamily Capital Advancement Program), or AEA (Association for Energy Affordability).

My primary goals are to understand what led you to explore applying for financing for a multi-family upgrade project, whether through BayREN, or through another agency or organization, and what happened during the course of that process. Our hope is that what we hear from you, and from other people in similar situations, will make it possible for BayREN to improve their program to make it a better fit for a broader range of customers.

Do you have any questions before I start?

Interview

1. First, what was the nature of the renovation project that you were / are considering? [INTERVIEWER NOTE: THIS IS INTENDED TO PROVIDE CONTEXT ONLY]
    a. How large in terms of dollars invested (probe for out of pocket costs after available rebates)? What was involved?
    b. What was the role of EE in the project (was it an afterthought vs. the primary reason for doing it, etc.)?

c. Had you been thinking about it for a while? What brought it up as something to try and do now as opposed to putting it off?
d. What were the challenges in scoping the project and in getting it to the point of actually trying to implement it?

2. What was / is the role of financing in getting this project completed?
    a. Was it necessary or nice to have? How does / did the availability of financing affect the scale of the EE elements of the project that you have done or will do? If attractive financing was available, would you be inclined to do a bigger project (at least in EE terms)? Why?
    b. What do you (or your team) see as the risks, benefits, and / or complications associated with using external financing at all for projects like these? What do you do to try and optimize those outcomes for you?
    c. How are expected savings from EE investments calculated? What tools are used (where do the values come from)? What level of certainty is attached to these? [INTERVIEWER NOTE: BE RESPONSIVE TO RESPONDENT ENGAGEMENT WITH THIS ISSUE; MANY SMALLER MF OWNERS WILL NOT HAVE DETAILED PRACTICES HERE, SO JUST GET THE INFORMATION THAT RESPONDENTS CAN PROVIDE ON THIS]
        1. How does this link to financing?
        2. How much (why and where) do EE savings calculations matter?
        3. What tools do you use for this? How could these tools be better, or if you haven't used any external tools, what would be useful?

3. What is your assessment of the existing financing options that are available to you (as you understand them)?
    a. What are these options as you understand them, and why might they work for you (or not)?
        i. How did you hear about / learn about these options? What resources do you use to learn about these sorts of things?
        ii. At what point in the process did you learn about / seek information about these options? Why then? Would having information earlier be more helpful? Why? When? How would that information reach you?
    b. What are the important barriers, constraints, and / or challenges associated with getting financing <u>at all</u> for projects like these, and for getting financing that works for you and your project? [BE SURE TO INCLUDE PROJECT SPECIFIC KINDS OF ISSUES, E.G., PROJECT SIZE, EE FOCUS, ETC.]
    c. [Consider process issues, project size constraints, project type constraints, availability, etc.]
    d. What could be different about current financing program options (considering the issues noted above) that would make them a better fit for your specific project and situation?
4. Let's focus on the EE-related elements of this project
    a. How does (or did) the involvement of energy efficiency rebates affect your efforts to secure financing? Was it easier / more difficult? Why?

5. [INTERVIEWER NOTE: TREAT THIS AS A SECONDARY FOCUS – ONLY PURSUE IF TIME ALLOWS] What is your prior experience with financing smaller MF upgrade projects?
    a. Especially those projects that involve EE and / or EE-related rebates?
    b. How has this informed your perspectives about what "should" happen or what could happen, or how things should proceed?
6. [INTERVIEWER NOTE: TREAT THIS AS A SECONDARY FOCUS – ONLY PURUSE IF TIME ALLOWS] What led you to decide to explore financing your renovation project through BayREN / AEA (Association for Energy Affordability)?
    a. Was this your first choice, or a later choice? Why?
    b. What did you see as the possible advantages / disadvantages of BayREN / AEA as a source of financing?
7. What were the steps you went through when you involved BayREN in the project(s)? [PROBE TO DEFINE THE DIFFERENT STEPS IN THE PROCESS AND BE CLEAR ABOUT WHAT HAPPENED AT EACH STEP] How did each work?
    a. [IF THEY DIDN'T COMPLETE THE PROJECT THROUGH BAYREN] At what point did you decide not to follow through? Why?

    [INTERVIEWER NOTE: THE GOAL HERE IS NOT TO CONDUCT A FULL-ON PROCESS EVALUATION, BUT TO UNDERSTAND THE BIG ISSUES / FACTORS THAT AFFECTED THEIR DECISIONS]

    b. What problem or problems did you encounter? [PROBE FOR MULTIPLE ISSUES].
    c. What could BayREN (or the lender) have done differently in order to make their financing work for you?
    d. More generally, where does BayREN need to make improvements in order to make its program as attractive as possible to you and other owners like you?
    e. Are there any things about the BayREN program that you found particularly helpful or beneficial? And what would those be?

8. [IF THEY DIDN'T COMPLETE THE PROJECT THROUGH BAYREN] After you left the BayREN / AEA program, did you go elsewhere to explore financing?
    a. IF YES, where did you go?
        i. What worked for you or didn't work for you about that process, specifically in comparison with the BayREN process?
        ii. How did the actual financing program / financing offer differ and what was your response to that?
        iii. Did you finally succeed in getting the financing you needed? How? How was that offer different from the BayREN offer?
    b. IF NO, will you still do the project? Will you revise it?
        i. Specifically regarding the EE improvements – will these still happen? Over what time line?
        ii. What will need to be different in order to do this project? What would need to be different about a BayREN program in order for it to work for them?

9. Thinking back on your experience as a whole in attempting to get financing for EE-related projects for your property, what advice would you have for program planners in this area as a whole? If their goal is to be helpful in working with MF property owners to enhance EE through an EE upgrade financing program, what should they make sure to include / not include in that program? What should they do to make the process easier or more workable? What should the program cover or not cover? What is it reasonable to ask you for and what are unreasonable requests?

10. Is there anything you would like to add that would help me to understand how a financing program designed to support EE improvements could be designed that would more effectively meet your needs, and which would make it possible for you to implement more EE-related projects at this property (and potentially other properties)? [Besides having a lower financing rate]

THANK RESPONDENT

Qualitative Interview Guide: Lenders

BayREN MF Financing-Lender Interview Guide

Background: The goal of these interviews is to understand how lenders think about offering financing services to MF renovation projects that are EE-oriented. Do they have current (or planned) offerings that do serve, or could serve this market? Why or why not? Under what conditions would they consider participating in a BayREN program designed to help MF owners implement EE-related building improvements?

Inform respondent about recording / nothing they say will be linked to them individually. All we are looking for is their honest opinions / perspectives.

Introduction

Thank you for taking the time to speak with me. As background, I should explain that we are working with the Bay Area Regional Energy Network, or BayREN, and the Association for Energy Affordability (AEA) to support their efforts to provide financing for energy efficiency-related upgrade projects in multi-family properties in the Bay Area.

The BayREN programs that are most similar to our focus in this discussion are BAMBE (Bay Area Multi-Family Building Enhancement Program) and BAMCAP (Bay Area Multifamily Capital Advancement Program). BayREN's goals in offering these programs currently are to promote the adoption of more energy efficient technologies across a broad range of residential and commercial buildings in the Bay Area. Recently, these organizations have been exploring how to focus on a customer segment that can be very challenging – smaller multifamily properties. At this point, BayREN is considering a program that would help multifamily properties to receive financing support for smaller renovation projects (those with a total value of less than $100,000), as long as those projects involve a significant proportion of energy-efficiency upgrades. The primary goal of this discussion is to understand what if anything NAME OF INSTITUTION offers (or has offered) in this arena, as well as other thoughts you may have about how to make these sorts of financing programs more effective. Please be assured that we are not asking you to speak in an official capacity for your organization, but simply to provide your thinking about how these sorts of programs either work, or could work, more effectively. Nothing that you say will be linked specifically to your name or to the name of your financial institution.

Do you have any questions before I start?

Current product offerings

1. To begin, is this an arena in which NAME OF INSTITUTION offers financing products?
    a. [INTERVIEWER NOTE: We want to define "the arena" pretty broadly to start, but then to narrow down to the most relevant types of projects]
        i. Do they cover multifamily / smaller multifamily projects?
        ii. Do they cover renovation vs. new construction?
        iii. Do they cover smaller loans / projects? (e.g., $100K or less)
        iv. Do they cover EE-related renovation loan programs that are integrated with utility (or similar) EE rebate programs?
    b. [AT EACH LEVEL, ASK] Do they have loan programs that FOCUS on these areas or even any programs that CAN include these kinds of folks? If not, why not?

[IF YES – CONTINUE /IF NO – SKIP TO QUESTION 8]

2. Could you please describe the key features of the relevant product or products you offer?
    a. What are the INSTITUTION'S goals in offering (this product) (these products)?

   b. Do you actively market these programs? Why / not?
   c. Are the programs successful / popular? (Based on what criteria?)
   d. Is participation increasing / decreasing? Why / not?

3. What are the challenges associated with bringing this sort of product to the market, communicating it to customers, matching the right product to the right customer, getting the "right kind" of qualifying customer, coordinating with other players, getting necessary approvals, having satisfactory loan agreements in place, or anything else?
   a. What constrains qualifying customers from applying?
   b. What most often disqualifies customers?
   c. What other factors either limit the pool of eligible customers or causes customers to disqualify over the course of the application / qualification process?
   d. What could be different that would expand the pool of customers that would be eligible for this type of product?
   e. Is there a pool of customers for which there is a "gap" in access to financing (e.g., smaller multi-family)? Why? What do these customers do? What could be done to better serve these customers?
   f. What would need to be different in order to better meet the financial institution's goals?
   g. What could BayREN do to address these challenges?
   h. [Be sure to explore the different elements of "the arena," e.g., smaller multifamily, EE focused renovation, etc.]
4. (Is this product) (Are these products) linked to any government or utility <u>rebate</u> programs?

   If Yes (are linked to rebate program):
5. What program(s) are they linked to, and why? How did that happen and how does that work? How much does this linkage help your business's objectives in offering the program? What unique challenges does this create? When these sorts of linked financing programs work well, why is that? When they don't, why is that?

   If No (are not linked to rebate program):

   Could you please tell me why not? What are the barriers to offering financing programs that link to utility (or related government) programs? [**PROBE FOR LEVEL OF SERVICE TO SMALL MULTI-FAMILY / RENOVATION / EE RENOVATION SECTOR]**

[IF NO TO QUESTION 1: DO NOT OFFER FINANCING PRODUCTS IN THIS AREA]

8. Could you please tell me why not?
9. Is this an arena in which NAME OF INSTITUTION is actively considering / exploring offering (more or different) financing products?

   [YES – CONTINUE / NO – SKIP TO QUESTION 14]
10. Could you please describe the product or products you considering or exploring? Why does the program have the key features that it does? What about the program(s) would represent an improvement over other prior or competing programs?

11. (Would this product) (Would these products) be linked to any government or utility rebate programs?

[IF YES, WOULD BE LINKED TO A REBATE PROGRAM]

12. What program(s) would they be linked to, and why?

[IF NO, WOULD NOT BE LINKED TO A REBATE PROGRAM]

Could you please tell me why not?

[ASK ALL RESPONDENTS]

14. In general, how do you view the opportunities relative to this type of financing in the greater Bay Area? We understand that, in order to be successful, a financing program of this type needs to both make it possible for MF owners to install EE upgrades that they would otherwise not be able to install – AND be profitable for institutions like yours. Where is the best opportunity for such a program?
    a. What would it have to have or be?
    b. On whom would it need to focus? What would it need to do for your institution?
    c. How would it need to be different from existing programs?
    d. [IF NOT OTHERWISE ANSWERED ABOVE] Are there smaller MF properties that are not well served by current financing programs? [IS THERE A "FINANCING GAP?"] Why? What could plausibly be different? What is the opportunity with a new / different program?

15. What do you see as being the customer barriers to providing this type of financing in the Bay Area? What are the specific barriers that would constrain your institution from participating in this type of program?

16. Is there anything you would like to add? Are there questions I should have asked but didn't? (ASK AND OBTAIN ANSWERS)

THANK RESPONDENT

Appendix C. QUALITATIVE OWNER / MANAGER INTERVIEWS – ADDITIONAL TAKEAWAYS

There are a variety of findings that emerged from these interviews, only some of which were particularly relevant to the core issues that were the focus of this research (that is, financing issues), and this content is considered in the core section of this report. Other issues that arose in these interviews had more to do with the BayREN rebate program. Since those rebate related issues are less central to this report, those findings have been organized into this appendix

The following conclusions and / or recommendations were made in the qualitative owners/manager interviews and had primarily to do with the existing BayREN rebate program:

- Some of the MF owners/managers interviewed indicated that they dropped out of the BayREN rebate program due to what they felt were unreasonable program requirements. Some of the reasons for this included the fact that their standard process is to complete piecemeal renovations in MF properties when tenants move out and before new tenants move in. However, the BayREN Program required extensive building-wide renovations which would need to be done at the same time, and would be a significant inconvenience, with possible delays for new tenants, and delays to revenue streams. At least one respondent felt the current BayREN program also asked him to install additional measures he did not need.
- Develop a more streamlined process that tells a customer exactly what renovations are required to receive a rebate. Provide a list of acceptable appliances and equipment because MF owners/managers don't have time for a lot of research on their own.
- Provide examples of renovation costs and return. A simple "if you were paying this much, and you made these many renovations, you would see X return" might be very helpful in establishing a baseline. A schedule of typical costs might be useful for assessment of the program.
- Offer something more modular or direct 1-to-1 rebates for specific per-unit upgrades to naturally fit into the renovation cycle of individual tenants moving out and then making renovations before re-letting the unit
- Improve response time of support by BayREN staff
- Increase the $750-per-unit rebate – it is simply not enough to offset the costs that would be incurred by smaller or older MF structures to qualify for program