

# BayREN

## Multifamily Program Evaluation - FINAL



Photo source: <https://www.bayren.org/multifamily-property-owners/building-improvements>

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# Overview

BayREN’s multifamily program (Bay Area Multifamily Building Enhancement, BAMBE) is an equity segment program that is open to all multifamily properties but focuses on areas that are often underresourced. The EM&V team completed a process evaluation of the Multifamily program at the end of 2024 that described the program theory, used program tracking data to assess the results within the areas of focus (i.e., small buildings, equity, and burdened homes), determined if there was an indication that the new incentive adders were bringing about change, and highlighted potential non-energy benefits.<sup>1</sup>

In 2025, the evaluation team built on this research through primary data collection from four different sources. We conducted a participating building owner/manager survey to understand what processes are working and what could be improved from the participating building owner/manager perspective. We also conducted a survey with non-participating multifamily owners/property managers to understand their needs. We collected data from residents within participating buildings and explored potential disruption from installations, and operation of installed equipment and whether non-energy benefits are accruing to residents. Lastly, we conducted a handful of interviews with participating contractors who had delivered at least 1 project with a “small” multifamily property (that is, a property with under 50 units). (Table 1)

**Table 1. Overview of Data Collected**

Data Collected from...	Data collection details
<b>Participating Building Owners</b>	Grounded Research gathered information from 27 (of 71) participating building owners or property managers.
<b>Non-Participating Building Owners</b>	Grounded Research gathered information via an online survey from 18 multifamily owners/property managers (from a convenience sample) who had not participated in the BayREN program.
<b>Residents in Participating Buildings</b>	Grounded Research gathered information from 17 residents within 4 participating complexes – 17 through an online survey and 4 through in-depth interviews (where these four also completed the online survey and provided additional information via the interview).
<b>Contractors (with past BAMBE projects in properties &lt;50 units)</b>	Grounded Research conducted in-depth interviews with five contractors (5 of 16) who had worked on projects in multifamily properties with <50 units.

This report pulls together these four data collection activities to provide findings that could inform program changes as BayREN considers the next few years as well as the next business plan (that begins in 2028).

In the **Integrated Findings section** below, we first restate the program theory and provide evidence that supports both the program barriers and that the program is having the intended effect of overcoming these barriers. We then provide a brief set of integrated findings related to six areas: (1) adjusting financial incentives, (2) supporting electrification, (3) adding remediation services, (4) finding contractors, (5) enhancing communications and (6) quantifying non-energy benefits.

Finally, in the **Task-by-Task findings section**, we provide a brief summary table of findings for each of the four data collection tasks. Note that in addition to these four tasks, we draw on information from the 2024 process evaluation or other secondary information, when relevant.

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<sup>1</sup> The 2024 process report is here ([https://www.calmac.org/publications/Final\\_BayREN\\_MF\\_Report\\_2025\\_02\\_04.pdf](https://www.calmac.org/publications/Final_BayREN_MF_Report_2025_02_04.pdf)).

# BAMBE Integrated Findings

Grounded Research’s findings from the evaluation efforts in 2025 supplemented our 2024 work and provided evidence that BAMBE’s program theory is supported. This section first describes general findings related to the program theory followed by key findings that can inform future program design.

**The current program design is overcoming the known market barriers.** BayREN’s BAMBE program conducts program activities to overcome five barriers that have historically existed for multifamily building owners, specifically: a lack of awareness and knowledge about what to do, a lack of time to do the work, insufficient operating budgets, split incentive barriers, and challenges with existing electrical panels.

**The 2025 survey of non-participating owners supports the existence of three of the five barriers noted in the program theory.** (The survey did not seek to determine barriers but used other responses to infer a barrier.)<sup>2</sup> The non-participating multifamily owners / property managers expressed:

- A moderate desire for technical assessment and contractor management - related to the *lack of time and resources* barrier
- A strong desire for system/appliance rebates - related to *operating budgets* as a barriers, specifically the inability to support upgrades
- A strong acknowledgement of the need for electrical panel upgrades in the next few years - related to *electrical panel upgrades* barriers

In addition, half of non-participants indicated further barriers affecting their building improvement decisions such as insurance requirements, financing availability or permitting issues.

These barriers, and the program theory to overcome these barriers, are captured in Table 2. (The additional barriers noted by the non-participants are not captured in the table as the table describes findings from participants.)

**The 2025 survey of participants demonstrates that the program activities are helping participants to overcome the barriers.** The far right column in the table below describes the findings from the participant survey that demonstrate that the program is having the intended effect.

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<sup>2</sup> The survey did not collect any information that could determine barriers from 1) lack of *awareness and knowledge* about what programs could help with upgrades or what measures could provide savings and/or increased comfort through upgrades or 2) The *benefits are split* between the property owner and the residents (split-incentives) and owners are hesitant to invest in upgrades that deliver utility bill savings for the resident rather than the owner themselves.

**Table 2. Program Theory and Associated Program Activities**

<b>Multifamily Barriers*</b> <i>(that tend to prevent the adoption of both energy efficiency and electrification measures)</i>	<b>BAMBE Program Theory and Activities</b> <i>(for overcoming the barrier)</i>	<b>Evaluation Findings</b> (participant survey only)
A lack of <i>awareness and knowledge</i> about what programs could help with upgrades or what measures could provide savings and/or increased comfort through upgrades.	BAMBE’s energy survey reports specific to a property increase the awareness of opportunities and co-benefits and motivate owners to take a holistic approach to energy efficiency planning.	<b>BAMBE helps owners understand upgrades or what measures could provide savings and/or increased comfort through upgrades.</b> Participating owners / property managers tend to be extremely satisfied with the discussions around potential projects scopes and determining final upgrades. However, a few found the site-specific energy reports to be “too long”, “too technical”, or “hard to follow”. (The program has indicated they hope to determine changes to the energy reports by early 2026.)
Owners of smaller properties <i>lack time and resources</i> to work through activities needed to perform upgrades.	BAMBE’s extensive support by technical advisors throughout all phases of a project will keep projects moving to completion.	<b>BAMBE supports owners during activities needed to perform upgrades – reducing the time and resources required by owners – although there is room to make improvements.</b> While there were high levels of satisfaction with finding a contractor and finalizing paperwork, these two areas were noted by a few owners as having difficulties. The owners provided several suggestions that would be helpful for them such as facilitating the purchasing of parts, helping with the permitting process (a comment supported by a contractor), or providing a list of contractors who do the work (as the BayREN recommended contractors did not call the owner back).
MF property <i>operating budgets</i> cannot fully support energy efficiency or electrification efforts.	BAMBE’s base level incentives as well as higher incentives specific to electrification measures and burden zones. (along with information specific to their property) persuade the owner to installation actions.	<b>BAMBE helps owners implement energy efficiency and electrification.</b> Owners indicated that the high incentives were influential in their choice to participate and contractors indicated a low likelihood of small properties (the focus of BAMBE) in making upgrades absent “robust financial incentives”.
The <i>benefits are split</i> between the property owner and the residents (split-incentives) and owners are hesitant to invest in upgrades that deliver utility bill savings for the resident rather than the owner themselves.	BAMBE’s adder incentives are specific to installation of resident measures resident installations.	<b>BAMBE adders address split incentives.</b> Our previous research indicated that the program was providing incentives that helped the program reach the intended targets of smaller buildings that needed help. Additionally, that the split incentive barrier was reduced as more residents were receiving higher cost measures such as heat pumps in 2024 than in the previous two years.
Electrification measures can require <i>costly changes to the electrical panel</i>	BAMBE’s incentives to help owners pay for panel upgrades (and “heat pump readiness”) will move a customer to make needed changes.	<b>BAMBE helps owners prepare for electrification.</b> The program provided incentives for “heat pump readiness” in common areas and for in-unit areas. The incentives helped to pay for electrical panel needs when additional electrical load is needed for electric equipment. Program tracking indicated that the technical advisors recommended heat pump readiness to about a third of participating sites. Of those sites, the owners did the recommended updates close to three-quarters of the time.

\*Barriers and theory based on discussions with BAMBE staff in 2024. Program activities from implementation plan.

In the sections below, we call out findings from the multiple data sources that support possible changes in program design. This integrated analysis identifies cross-cutting themes that emerge when viewing findings holistically rather than in isolation. We note that not every theme includes data from all sources.

## Adjusting Financial Incentives

BAMBE provides different avenues for the building owner to obtain rebates and includes special rebates to drive specific installations. There are the base rebates that occur only if the building includes 2 or more energy upgrades designed to reduce energy usage by at least 10%. For project scopes including in-unit envelope measures (e.g., exterior wall insulation or windows), the savings threshold is reduced to 5%. The program pays rebates based on the number of residential units. The program also includes specific rebates for electrification measures and buildings in specific census tracts. Additionally, BAMBE “stacks” (co-leverages) incentives where applicable, meaning that participants can use incentives from multiple organizations to reduce their costs.<sup>3</sup>

**Key Findings:** We found mixed information about the optimal level of incentives. Many nonparticipants expressed being interested in a program where the incentive covered 35% of project costs, but contractors recommended double this (at an incentive of 70+%). Notably, however, in 2024, higher incentives (i.e., adders), were influential in the program seeing more installations in residential units. Moreover, we note that within the current program, stacking (co-leveraging) of incentives is occurring and is noted to be important.

### Evidence Across Data Sources:

- **Participants:** Incentives were critical for participants. When participants did not install recommended equipment, about half (13 of 27) indicated that *“the incentives did not cover enough of the project costs”*. Eight respondents took advantage of the program’s higher incentives with six of the eight indicating the adders were highly influential, one indicating the adders were influential and one stating the adders were not influential.<sup>4</sup> Even with the influence of those adders, six of the eight indicated that the incentives did not cover enough of the project costs.
- **Non-Participants:** Non-participant data seemed to indicate that covering 35% of upfront costs could be enough to attract properties, a value lower than the average incentive in 2024.<sup>5</sup> Most (61% or 11 of 18) expressed interest in a program that covered at least 35% of project cost. However, the other 39% indicated they would be interested in a program that covered a range of project costs that was both lower than and higher than the 35% (from 30% - 50%+). We found no correlation between the percentage that would cover upfront costs and size of properties owned/managed (but we note the small sample size of 16 small and 2 large respondents).
- **Contractors:** All five contractors emphasized that incentive levels of 35-40% are insufficient for small multifamily properties. They recommended 70%+ project cost coverage when fund stacking (i.e., rebates from multiple programs applied to the same project) is not available. They also recommended a streamlined payment process (direct payment to contractors).
- **2024 Process Evaluation:** The addition of adders had the intended effect of increasing the installation of measures in resident units. Prior to the inclusion of adders, half of the projects included measures for residents and those residents received mainly low cost measures. After the adders were included, 94% of projects included resident measures and the rate of low cost installations dropped substantially while the rate of higher cost measure installations increased threefold or more. Additionally, BAMBE technical advisors (TAs) noted that, while challenging to implement, co-leveraging is very influential in moving forward with a project and views co-leveraging as a vital component of their work that significantly enhances the likelihood of project and program success

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<sup>3</sup> As described in the 2024 Process Evaluation, through Q3 2024, BAMBE provided \$7 million in incentives and stacked another \$4.2 million.

<sup>4</sup> Since 2023, the program has offered significantly higher rebates for properties in census tracts experiencing disproportionate heat, air quality and housing cost burdens. Multifamily properties in these areas can qualify for higher incentives if they install measures that aim to alleviate these burdens. Nineteen of the 27 respondents participated in 2023 or later.

<sup>5</sup> A quick analysis of past paid projects (from 2023 and 2024) indicated that the program incentives averaged ~45% of project costs with a range from 4% to 99%.

## Program Considerations:

- The data collected in 2025 does not support a clear statement of an optimal level of incentives.
- However, to obtain a high percentage of participants and installation of measures that have characteristics valued by BAMBE, the program may want to continue to set different incentive levels (such as the current adders) for more desired property attributes (e.g., size, location, measures) as there is evidence that additional incentives are influential in what is installed.

## Supporting Electrification

Currently, BAMBE provides additional incentives when gas-using equipment is replaced with electric-using equipment. Additionally, the program has incentives for electrical subpanel upgrades.

**Key Findings:** All data revealed barriers to electrification. Continued financial support to help with high upfront costs for equipment and upgrading of electrical panels could help to move multifamily properties toward electrification. Additionally, operational issues (e.g., understanding how to optimize heat pump use, understanding how a heat pump water heater works) existed for both participating owners/property managers and residents.

## Evidence Across Data Sources:

- **Participants:** Building owners / property managers heard from residents that they had operational issues with heat pumps (both space and water heater heat pumps) and close to 25% indicated operational issues with common area heat pump water heaters.
- **Non-Participants:** Electrical panel upgrades represent a major barrier to electrification with 44% (8 of 18) describing a need to upgrade their electrical panel and another 17% (3 of 18) listing it as a top priority.<sup>6</sup> Two non-participants provided strong statements about why electrification is difficult. Specifically, that “...*tangible benefits of going electric are barely noticeable to the owner or tenant*” and “*It is frustrating to have to tear open recently renovated properties to make retroactive changes*” (see summary of findings later in the report for the full comments).
- **Residents:** Residents needed support understanding how to operate heat pump space heaters and HPWH: 3 of 17 residents mentioned issues with two comments on heat/cooling system not working or making loud noises and one other indicating that the water heater was poorly made and the water was not as hot. Some didn't understand how to use heat pump heaters (i.e., landlord had to walk them through). Residents expressed concerns about the water heater, including: large size, blows out cold air, and that the equipment takes up significant space.
- **Contractors:** Contractors mentioned that the high upfront costs, increased utility bills (2-3x higher), and building complexities and engineering requirements make small or medium owners reluctant to do electrification without heavy subsidies. One specifically stated that “*old buildings are not designed for AC*”. Contractors also mentioned that their clients are often surprised by increased electricity bills after electrification. One contractor indicated that the availability of tools like EcoSizer for preliminary system sizing and recommendations may be beneficial for helping contractors get systems installed.<sup>7</sup>

## Program Considerations:

- To support fuel substitution measure installation, continue to provide incentives specific for fuel substitution.
- To help with use of fuel substitution measure after installation, develop leave behind materials that provide residents and facility managers with one of two things, a location on the BayREN website (or other relevant location on the internet) to download information on how to operate equipment or hardcopy of the same information that could be left at the site.

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<sup>6</sup> Two non-participants indicated no improvements or renovations were needed in the next few years.

<sup>7</sup> A free tool for sizing central water heating systems based on commercial heat pump water heaters in multifamily and commercial buildings is located here: <https://ecosizer.ecotope.com/sizer/>

## Adding Remediation Services

Program leads expressed that they were considering adding a remediation service in the future. Given this, the non-participating survey and contractor guides included questions that allowed the evaluation team to explore this topic.

**Key Findings:** Comments about remediation were mixed. Most non-participants did not call out mold reduction as a need and most contractors did not mention remediation as an issue or thought it wasn't an issue in MF properties. However, one contractor with multiple small projects had encountered issues such as mold or mildew. Because of building size, remediation costs within a multifamily buildings may exceed the maximum payments allowed through the California Energy Savings Assistance (low-income) program.

### Evidence Across Data Sources:

- **Non-participants:** Mold reduction was a low level need by most respondents (only 11% or 2 of 18) described this as a need. Non-participants described other areas such as roofing repairs and balcony inspections as more important non-equipment related needs.
- **Contractors:** Not all contractors spoke to “remediation”, but the contractor with the most experience with smaller properties said that he has encountered small multifamily buildings with issues like mold, mildew, and deferred maintenance, often due to owners not investing in repairs. He believes that providing funding for remediation—such as fixing plumbing issues or addressing mildew—would significantly improve tenant quality of life. He also noted that his company is capable of handling this type of work, including both the repairs and the underlying causes, if such services were incentivized or supported. The other contractors did mention “deferred maintenance” but not related to mold, mildew or pests; the comments were about old equipment that hadn't been replaced. Notably, one contractor indicated that while he sees remediation issues in single family, the multifamily buildings really have to stay on top of that on their own or they won't get tenants (so it's not relevant to his work).
- **Secondary Research:** The California Energy Savings Assistance (ESA) Program Policy and Procedures Manual indicates that the program supports minor home repairs required to enable installation of eligible program measures, to reduce infiltration, or to mitigate a hazardous condition. The maximum allowed cost for an individual home is \$2,500<sup>8</sup>.

### Program Considerations:

- To test whether remediation is a useful service that the program budget could support, consider a small-scale pilot effort to see if there is uptake. This could include creating a small budget to pilot building remediation activities with funds tied to specific measure installations (as past information has shown that targeted funds can drive installations). Market the budget as funds that will be first-come-first serve so that potential customers are aware that they may or may not be able to receive this type of funding. Determine a maximum cost per site that is acceptable for the budget. The ESA program maximum of \$2,500 may be low as that is a cost for a single household and not reflective of a larger multifamily building with many households.

## Finding Contractors

BAMBE provides guidance to participants to help the owner/manager obtain a contractor for installation, but the customer hires and generally oversees the contractor. Through Q3 2024, participants used 13 different contractors for the 20 paid projects.<sup>9</sup>

**Key Findings:** A key aspect of the program implementation is the availability of contractors who can perform the work needed by the program. However, current contractors may not be a good fit for a future program that focuses on properties with <50 units. Owners and non-participating property managers also described expected challenges with finding and managing contractors.

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<sup>8</sup> <https://www.cpuc.ca.gov/-/media/cpuc-website/consumer-support/documents/20250418-statewide-esa-program-pp-manualv14.pdf>

<sup>9</sup> This data is from the previous process evaluation as the evaluation team did not request program tracking data for analysis in 2025. The data shown only goes through Q3 2024 as that was the data available at the time of the reporting.

## Evidence Across Data Sources:

- **Participants:** A few noted contractor availability as a difficulty. Only two (2) of 27 respondents were dissatisfied with finding a contractor to install measures. However, one noted that no contractor would call them back and another respondent noted a “lack of good contractors”.
- **Non-Participants:** The majority of non-participating owners (61% or 11 of 18) anticipate challenges finding and managing contractors. This group raised concerns including reliability, cost, bid delays, and time constraints.
- **Contractors:** Four of the 5 contractors seemed to have very little work with small projects - completing between 1 and 3 BayREN projects with small properties in 2024-2025. Notably, the responding contractors (4 of 5) also had unique characteristics (e.g., proactively selling these types of jobs to properties rather than responding to client inquiries) indicating that they may not be a typical contractor that works with smaller properties. One did not typically serve small or medium properties but rather focused on owners with larger portfolios of properties, some of which *happened* to be smaller properties. Another contractor (who stated that 90% of their work is single family) participated through AEA<sup>10</sup>, indicating that AEA did the majority of the program-related interactions and later stated that if BayREN had a program available for multifamily properties they would use it. That is, their comments indicated that they were not fully aware of the existing program.

## Program Considerations:

- To attract contractors who work with smaller properties, consider creating a vetted list of contractors and provide a small “spiff” to new contractors who install measures through the program. Consider making the spiff dependent on providing services to a certain number of smaller projects and within a calendar year. For example, the contractor can obtain \$X if they are involved with installations at Y projects in a year. Provide program implementation team with a budget specific to managing contractors.

## Enhancing Communication

Program communication occurs at several stages. BayREN maintains a website with information for prospective participants.<sup>11</sup> As an organization moves through the participation process, communication occurs between the technical advisor and the participant through ongoing discussions and a formal energy report that describes energy savings opportunities at the site. Additionally, the program includes additional budget to support participants if operational issues with measures are found.

**Key Findings:** Additional program communication opportunities occur at every stage: pre-program (clarify cost/timeline information, awareness of upcoming regulatory changes), during installation (describe potential energy upgrades to owner, help residents understand changes), and post-installation (reduce utility bill surprises).

## Evidence Across Data Sources:

- **Participants:** There is a desire for clearer information about costs and timelines on the website and a preference for email and on-demand webinars over in-person events. However, respondents indicated a willingness to spend only 15-30 minutes learning about programs. Most respondents (16 of 24) found the energy report to include all the information they were looking for, although five (5) described the report being either “too long”, “too technical”, or “hard to follow”.
- **Non-Participants:** An education gap exists regarding upcoming gas appliance ban regulations as 44% (8 of 18) were unaware of regulations.
- **Residents:** There was confusion about how to use new equipment and why utility bills increased rather than decreased. Interview respondents (and comments in survey) indicated that some did not understand how to use the heat pump space heater (the landlord had to walk them through how to use it) and that the HPWH is large and blows out cold air.
- **Contractors:** The contractors defined “small” properties as those that ranged from 4-15 units. Smaller properties may have floating managers or less formal management structures – so are more difficult to reach. Contractors

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<sup>10</sup> AEA is an implementer of the BAMBE program

<sup>11</sup> <https://www.bayren.org/programs-rebates/multifamily-property-owners>

indicated that tailored outreach strategies are needed to engage these properties effectively. Additionally, according to contractors, there is varying awareness of regulatory gas appliance bans among property owners; some proactively upgrading while others plan to stockpile gas equipment. Not all contractors are aware of program specifics.

#### Program Considerations:

- To help potential customers understand the program, add specific language (and maybe graphics) to the website regarding the timing of the key steps in the participation process, with clear indication of when the rebate is paid.<sup>12</sup>
- To reduce confusion in residents, implement the consideration about leave behinds noted above under “Supporting Electrification”. Additionally, this information could include billing expectations.
- To better communicate the target audience to contractors (i.e., properties with less than 50 units), consider describing the target as “small and medium” properties or by the number of units (rather than using the term “small” on its own).

### Quantifying Non-Energy Benefits (NEBs)

BAMBE includes adders for certain measures installed in specific geographic areas. These measure are expected to obtain NEBs such as reduction in burdens associated with health, heat, or housing.<sup>13</sup>

**Key Findings:** Non-energy benefits that apply to building owners and property managers may be occurring (and are valued) but many residents may not be able to describe the expected NEBs.

#### Evidence Across Data Sources:

- **Participants:** Many respondents noted non-energy benefits such as reduced energy bills (16 of 27 respondents), increased property value (14), lower maintenance costs (12) and increased safety (8). Some participants heard about positive NEBs from their residents, e.g., “*the rooms are cooler than before in the summer*”, “*new fridge is nice and looks good*”, and “*heating is more efficient, lighting is better, less plumbing issues*”.
- **Non-participants:** Owners value tenant comfort, marketability, and health benefits.
- **Residents:** Data on health and comfort benefits from the residential upgrades was mixed. Three survey respondents (out of 17) gave comments related to NEBs: Comfort: ‘*new heater more [comfortable] than wall heater*’ (but others contradicted this); Safety: ‘*lights are bright and help see better in some places*’; and Health: ‘*much cleaner without old gas wall heater*’. However, three out of four residents interviewed said their homes felt about the same or even worse than before the changes. One respondent who was knowledgeable about energy-related issues and who was home during the repairs, however, was able to describe multiple non-energy benefits including the improvements in indoor air quality and health since she witnessed the older dirty equipment being removed from her home.

#### Program Considerations:

- To track NEBs, consider continuing to use program data (and secondary research) to quantify NEBs rather than surveys; however, any future building owner surveys should continue to ask about and collect information.

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<sup>12</sup> The program has a created a video that they expect to address this issue. (<https://www.bayren.org/programs-rebates/bambe-program>)

<sup>13</sup> For example, installation of windows are expected to reduce both health and heat issues while installation of insulation is expected to reduce issues associated with heat.

# Task-by-Task Findings

This section provides a brief summary of findings (in table format) for each of the four data collection efforts: (1) participating building owners/managers, (2) non-participating building owners/managers, (3) residents, and (4) contractors. Additional details were provided to the program team through informal memos. We capture the key information in a short form below.

## Participating Building Owner / Property Manager Survey Findings

**Introduction to Survey:** In May and June, 2025, the evaluation team conducted an online survey of all building owners/property managers who participated in BAMBE (i.e., had a completed project) over an approximately 3.5 year period (from January 2022 through March 2025).

**Who was Surveyed:** Grounded Research gathered information from 27 participating building owners or property managers. In total, 71 were sent an invitation to complete the survey and 27 owners/property managers completed the survey for a response rate of 38%. Respondents were paid \$75 for completing the survey.

**Summary:** While overall satisfaction was high with all respondents willing to recommend the program, key findings revealed concerns about rebate payment delays, time-consuming processes, and contractor availability; a desire for clearer information about costs and timelines on the website; operational issues with installed equipment (particularly water heaters being undersized or too loud); and a strong preference for receiving program information via email or on-demand webinars rather than in-person events, with most owners willing to spend only 15-30 minutes learning about energy programs despite recognizing benefits like reduced energy bills and increased property values.

**Table 3. BAMBE Owners Data Collection - Key Findings at a Glance**

Topic	Finding	Supporting Evidence
<b>Program Experience</b>		
<b>Overall Satisfaction</b>	High	<ul style="list-style-type: none"> <li>24 of 27 satisfied with program overall</li> <li>Highest satisfaction: discussions with technical advisors</li> <li>Pain points: delays, lengthy processes, contractor availability</li> </ul>
<b>Website Experience</b>	Positive	<ul style="list-style-type: none"> <li>Most found navigation easy (17 of 22 who used it)</li> <li>¼ wanted more information about the complete participation process</li> <li>Top request: Clear timeline showing when rebates are paid</li> </ul>
<b>Energy Reports</b>	Useful but could improve	<ul style="list-style-type: none"> <li>16 of 24 found reports contained all needed information</li> <li>8 shared reports with their contractors</li> <li>~20% said reports were too long, too technical, or hard to follow</li> </ul>
<b>Equipment Performance</b>	Mixed results	<ul style="list-style-type: none"> <li>Most measures installed 75-90% of the time when recommended (top 4 measures installed: water heaters, HVAC, showerheads, aerators)</li> <li>~25% reported problems with installed equipment</li> <li>Heat pump water heaters were most problematic: undersized, loud, or insufficient hot water</li> </ul>
<b>Non-Energy Benefits Perceived</b>	Four benefits most noted	<ul style="list-style-type: none"> <li>Reduced energy bills: 16 respondents</li> <li>Increased property value: 14 respondents</li> <li>Lower maintenance costs: 12 respondents</li> <li>Increased safety: 8 respondents</li> </ul>
<b>Options for Future Program Services</b>		
<b>Marketing Preferences</b>	Self-Serve & Quick	<p>Preferred information channels:</p> <ul style="list-style-type: none"> <li>Email, newsletters, internet searches (21 ranked top 2)</li> <li>On-demand webinars (19 ranked top 2)</li> <li>NOT in-person events (9 ranked bottom 2; 5 unwilling to attend any)</li> </ul> <p>Time commitment:</p> <ul style="list-style-type: none"> <li>Most willing to spend only 15-30 minutes learning about energy programs</li> <li>Low travel willingness: 20 of 22 only willing to go less than 20 mile</li> </ul>

Topic	Finding	Supporting Evidence
What Owners Want Most	Top 3	<ul style="list-style-type: none"> <li>Information for residents on how to use new equipment (16 respondents)</li> <li>Hands-on training for facility managers (15 respondents)</li> <li>Tips for saving energy and lowering utility bills (15 respondents)</li> </ul>
What Owners Suggested for Improvements	Top 3	<ul style="list-style-type: none"> <li>Clearer equipment specifications and costs</li> <li>Better communication throughout process</li> <li>More timely rebate payments</li> </ul>

Source: BAMBE Participant Building Owner Survey

**In their own words:** The participating building owners / property managers provided the team with nuances around several areas. Below are a few areas we chose to highlight:

- Program dissatisfaction came from different aspects of the program
  - *Delays from the initial application caused me to almost miss the window. There were also long delays in getting the rebate payment.*
  - *Perhaps have a list of contractors who do the work. No one would call me back - and those were contractors recommended by BayREN.*
- Responses to the individualized energy report varied
  - *I do not recall getting this*
  - *Most of it was boilerplate. Perhaps have 2 reports. 1 with only custom info and a 2nd with the boilerplate*
  - *The Consultant who walked us through the process was very knowledgeable and helpful so he did most of the heavy lifting and made us understand what made sense for us.*
- Participants heard both positive and negative comments from their tenants
  - *They are thrilled to have the new windows and newer appliances*
  - *Tenants appreciate the improvements to the property, especially the mini split AC, insulation, dual pane windows. The heat pump water heaters don't matter to the tenants, as long as there's hot water. I can now compete with new construction buildings and have had very low turnover.*
  - *Increase in electricity bill was greater than the decrease in their gas bill caused by replacing a gas water heater with a HPWH. Overall their bills are higher.*
- The participants described issues with in-unit measures
  - *tenant complain about the low flow rate of fixtures*
  - *Heat pump issues requiring site visits.*
- The participants described issues with common area measures
  - *Just extremely loud and exhaust improvements had to be made*
  - *Initial insufficient hot water*
  - *Bills higher than expected. Heat pumps were shutting down until the Caleffi air valves were installed*
- BAMBE could consider several ways to improve the program
  - *Be as specific as possible about costs and benefits*
  - *It'll be good for the program to include solar panels installation along with power backup batteries*
  - *Referred contractors and recommended appliances that fit program requirements. Information on how to maintain them (I wasted \$ on several service calls because myself nor the tenant knew about cleaning filters, routine maintenance etc. and the contractor never provided any info or said anything about that)*
  - *Rather than events where owners and property managers are invited, be proactive and go visit property managers who can then introduce to owners. Managers need to be educated, especially in nine Bay Area counties related to pending Air District requirements.*
  - *Facilitate permitting process with city*

## Non-participating Multifamily Owners/Manager Survey Findings

**Introduction to Survey:** In November 2025, the evaluation team conducted a survey with multi-family owners and property managers who had not participated in the BAMBE program. In conjunction with the BAMBE team, we designed the survey to be short<sup>14</sup> and make it easy for the respondent (i.e., few open-ended questions). The survey consisted of close ended questions (many with the ability to specify something other than the given list) and four (4) open ended questions. As such, there is limited ability to derive nuances from the open-ended responses in the survey.

**Who was Surveyed:** Eighteen (18) valid non-participants from a convenience sample completed the survey (as well as 1 additional respondent who was removed).<sup>15</sup> They each received a \$35 gift card for their time. The one respondent who was dropped was answering the survey only for their condominium. Since the program does not target condominium owners, we removed this person's responses from the analysis. Additionally, one respondent was potentially a BayREN BAMBE participant (i.e., an open end indicated discussions with the BayREN rep) but we kept this person in the analysis.

- **Geographic Coverage:** All BayREN counties have at least one respondent.
- **Properties in Portfolio:** Most respondents own or manage a single property: 56% (10 of 18) own/manage 1 property; 39% (7 of 18) own/manage 2-15 properties; one owns/manages 50+ properties. Most properties have less than 50 residential units; 89% (16 of 18) have 49 units or less and 11% (2 of 18) have 50 units or more.<sup>16</sup>
- **Type of Properties in Portfolio:** These respondents may not fully represent BayREN's target market of properties with affordable rent. While many own or manage a single property, half of all respondents (50% or 9 of 18) focus on market-rate properties (and six of those are single property owners/managers). The other half focus on a mixture of market rate and affordable (22% or 4 of 18), affordable only (22%) or below market rate rents (6% or 1 of 18).<sup>17</sup>
- **Experience Level:** There is a mix of experienced owners and newer entrants, providing diverse perspectives. For example, 39% (7 of 18) have >10 years' experience while 22% (4 of 18) have 1-2 years' experience.

**Summary:** This survey of 18 Bay Area multifamily property owners reveals a market segment that seems ready to invest in building improvements but faces significant barriers related to contractor management, electrical infrastructure, and project costs. The strong prioritization of tenant satisfaction over direct financial returns (an unexpected result), combined with high interest in cooling solutions, creates a favorable environment for the BAMBE program to emphasize comfort and health benefits.

Respondents desire a comprehensive program design that goes beyond simple rebates to include technical assistance, contractor support, and targeted education, areas that BAMBE already includes. Most may be interested in rebates covering at least 35% of the project cost to help with any actions, but five (5) wanted higher rebates (40%-80%).<sup>18</sup> Two (2) respondents noted mold reduction as a need (a noted possible addition to the program) and only one of these two placed mold reduction in their top two priorities.

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<sup>14</sup> Respondents could start a survey and leave it open for significant time before returning to answer questions. The average survey length was 10 minutes for the 13 respondents that appeared to respond to the survey questions in one sitting (i.e., the duration was less than 25 minutes).

<sup>15</sup> County staff reached out to known small multifamily owners / property owners and asked them to take the survey. This resulted in 12 completed surveys. Additionally, the program sent out an invite to a large list of potential non-participants (~700). We received an additional 6 completed surveys from this list.

<sup>16</sup> 28% (5 of 18) have 4 or fewer units; 50% (9 of 18) have 5-24 units; 11% (2 of 18) have 25-49 units

<sup>17</sup> We analyzed several questions by the number of properties owned/managed or whether the respondent focused on market-rate or not and found no correlations.

<sup>18</sup> There were no clear indication of a desired rebate level based on the number of properties owned or managed or the type of properties upon which they focused. Interestingly, of the 10 respondents who owned or managed a single property, seven (7) were interested in a program that covered 35% of the project costs, two (2) were OK with a 30% coverage, and only one (1) wanted at least 50% coverage (with that one owning/managing a market rate building).

**Table 4. Non-participating MF Owners/Property Managers Data Collection - Key Findings at a Glance**

Topic	Finding	Supporting Evidence
<b>Options for Future Program Support Services (what they want or need)</b>		
<b>Desired Program Support</b>	Strong demand for rebates, but also significant interest in technical assistance and contractor management	83% (15 of 18) want rebates; 44% (8 of 18) want technical assistance; 39% (7 of 18) want contractor management
<b>Contractor Management</b>	Majority of owners anticipate challenges finding and managing contractors	61% (11 of 18) expect challenges; concerns include reliability, cost, bid delays, and time constraints
<b>Top Property Priorities</b>	Air conditioning is the most needed improvement and highest priority for Bay Area property owners	56% (10 of 18) identified AC as needed; 31% (5 of 16) listed it as a top 2 priority for property improvements. Mold reduction efforts (an area of interest to BayREN) was mentioned only by 11% (2 of 18) of respondents.
<b>Incentives Structure</b>		
<b>Incentive Requirements</b>	Strong interest in 35% cost coverage, but higher levels (40-50%) may be needed to trigger action	61% (11 of 18) interested in a program that covered 35% of project costs; 33% (6) were maybe interested in a 35% cost coverage while 6% (1) wanted 50%. Of the six who maybe were interested in 35% rebates, respondents indicate 30-80% coverage would incentivize participation (3 of 6 said 50% or higher)
<b>Barriers</b>		
<b>Electrical Infrastructure</b>	Electrical panel upgrades represent a major barrier to electrification	44% (8 of 18) described needing electrical panel upgrades; 17% (3 of 18) listed it as a top priority
<b>Equipment Planning</b>	Most properties lack planned equipment replacement schedules, indicating reactive approach	Only 17% (2 of 12*) have planned replacement schedules; while not on a schedule, 90% (9 of 10*) plan to implement their top property improvement priorities in next few years
<b>External Pressures</b>	Insurance requirements, financing availability and permitting are top concerns affecting decisions	53% (9 of 17**) cited insurance requirements; 53% (9 of 17) cited financing availability; 47% (8 of 17) cited permitting issues
<b>Regulatory Awareness (as a driver)</b>		
<b>Regulatory Awareness</b>	Significant education gap exists regarding upcoming gas appliance ban regulations	56% (10 of 18) aware of regulations; 44% (8 of 18) unaware

Source: Non-participating MF Owner/Manager Survey

\* The survey included skips such that not all respondents were asked these questions

\*\*One respondent did not answer this question

Additionally, most respondents (67% or 12 of 18) described tenant satisfaction as an important factor when considering building upgrades vs. 44% (8 of 18) for owner cost savings (respondents could choose multiple areas of importance). Beyond cost savings, owners value tenant comfort, marketability, and health benefits.<sup>19</sup> Despite valuing health benefits, this group has limited knowledge about tenant asthma.<sup>20</sup>

**In their own words:** Three respondents provided thoughtful comments within an open end. Two remarked on electrification while the third brought out cost-sharing.

- Difficulty with electrification
  - *The law is the law. However, energy efficiency (the primary selling point for electrification), when the tangible benefits of going electric are barely noticeable to the owner or tenant, combined with the fact that the cooling benefits of heat pumps are of little value in SF, does not provide sufficient incentive for small landlords to shell out a huge chunk of money to convert their building(s).*

<sup>19</sup> 61% value tenant comfort (11 of 18); 61% value marketability (11 of 18); 50% value health (9 of 18)

<sup>20</sup> 50% (9 of 18) don't know if tenants have asthma; 17% (3 of 18) confirmed tenants have asthma.

- *Although I'm a believer in electrifying to reducing greenhouse gasses, there is a cost. It is frustrating to have to tear open recently renovated properties to make retroactive changes (normally required code upgrades are only required when the owner initiates doing a substantial renovation, and the cost of repairing finishes are already budgeted). I believe the challenges of electrifying come down to 2 categories:*
  - *Building Power. Does the building have sufficient power to transition from gas to electric heating appliances? The process to upgrade the building power is long and expensive, so if this could be avoided, it will help with adoption (for all building owners).*
  - *Power in the Right Place. Access to sufficient electricity in the location where it makes sense to install the heat pump (or where the existing heating appliance is located). If the new appliance is distant from the apartment unit electrical panel, it triggers work and expense to extend wiring (demolition, electrician, drywall, painting). If the work is done during a substantial renovation, then it is more limited to the electrician's cost of adding a circuit and outlet, and the purchase and installation of the heat pump unit (assuming that the drywall, painting, etc. is already included in the separate renovation budget).*
- *Cost sharing is useful*
  - *My answers are based on my prior ownership of a 12 unit building in Sunnyvale. But I think my answers would apply to most individual (but maybe not corporate) owners out there today. I found the cost sharing program of the previous program was a great incentive to install new energy efficient windows in all the units. It was a nice upgrade for the tenants and benefitted me as an owner.*

## Resident Survey Findings

**Introduction to Survey:** The BAMBE program works directly with building owners and managers. The program does not have contact information for residents. The evaluation team tested one avenue for collecting data from residents.

**Who was Surveyed/Interviewed:** The evaluation team determined unit-level addresses from a paid service (apartmentlist.net) and sent postcards to 120 residents within six complexes that had participated in the program. Residents were paid \$25 for a completed survey. The survey was fielded in English and Spanish. Out of a mailing to 120 units, 10 were invalid addresses with 17 completed surveys (a simple response rate of 15%).<sup>21</sup> Additionally, the evaluation team followed up via phone with in-depth interviews with four residents who had also completed a survey (to obtain additional insights as possible).

**Summary:** Most residents experienced smooth installations with minimal disruption. However, about 1 in 5 indicated that they had equipment that wasn't working properly, mainly water heaters and heating systems. Many residents were confused about how to use their new equipment and didn't understand why their bills went up instead of down.

Interestingly, while the evaluation team hoped to find health and comfort benefits from the upgrades, three out of four residents interviewed said their homes felt about the same or even worse than before the changes. From the interviews it was clear that because many residents weren't home during the day, they didn't fully understand the change and were less likely to really understand the benefits. One energy savvy resident who was home and saw the equipment being changed out was able to both see and comment on the soot that had accumulated from the old gas-powered heater.

**Table 5. BAMBE Resident Data Collection - Key Findings at a Glance**

Topic	Finding	Supporting Evidence
<b>Target Audience</b>	Serves Lower Income	<ul style="list-style-type: none"> <li>More than half (11 of 17) of the residents have been on CARE or are making less than CARE amount, three of the four properties were deed restricted affordable housing</li> </ul>
<b>Program Experience</b>		
<b>Awareness of Measures</b>	High Awareness	<ul style="list-style-type: none"> <li>Most responding residents were aware measures had been installed</li> <li>Few exceptions: not always aware of common area measures; one unsure about aerators/low-flow showerheads</li> </ul>
<b>Installation Disruption</b>	Mostly Minimal <i>(but it may depend on whether residents are home during the day)</i>	<ul style="list-style-type: none"> <li>Of 16 residents who moved in before installation, the level of disruption varied: 3 - No disruption 7 - Minimal disruption 4 - Some disruption 2 - Significant disruption</li> <li>Installations were described as professional in in-depth interviews (unprompted)</li> <li>Interviews indicated that the level of disruption may depend on whether the resident is home during the day</li> </ul>
<b>Equipment Performance</b>	Mostly Working with Some Issues	<ul style="list-style-type: none"> <li>Most measures installed and working</li> <li>3 of 17 residents mentioned issues:               <ul style="list-style-type: none"> <li>- Heat/cooling system not working or making loud noises (2 comments)</li> <li>- Water heater poorly made, water not as hot (1 comment)</li> </ul> </li> </ul>
<b>Perceived Energy Savings</b>	Mixed Perceptions	<ul style="list-style-type: none"> <li>Just under half perceived energy savings for them 8 respondents - Yes (saving money) 5 respondents - No (including 1 'no because bill is fixed')</li> </ul>

<sup>21</sup> 15 of the 17 were completed in English and 2 of the 17 were completed in Spanish.

Topic	Finding	Supporting Evidence
		<ul style="list-style-type: none"> <li>4 respondents - Unsure</li> <li>Several mentioned bills increased</li> <li>In-depth interviews confirmed PG&amp;E bills increased because of switch from gas to electric heat</li> </ul>
<b>Non-Energy Benefits</b>	Some Positive Feedback	<ul style="list-style-type: none"> <li>Three survey comments related to NEBs: <ul style="list-style-type: none"> <li>- Comfort: 'new heater more than wall heater' (but others contradicted this)</li> <li>- Safety: 'lights are bright and help see better in some places'</li> <li>- Health: 'much cleaner without old gas wall heater'</li> </ul> </li> <li>Three of four in-depth interviews showed no NEBs (measures same or worse in comfort)</li> </ul>
<b>Options for Future Program Services</b>		
<b>Communication Gaps</b>	Need for Improved Communication	<ul style="list-style-type: none"> <li>Residents didn't receive notification of the change</li> <li>Residents are not always clear about why changes are occurring</li> <li>Residents not told they needed to call PG&amp;E to shut off gas account; found out about a week later by word-of-mouth</li> <li>Resident's don't understand why it isn't helping them save on bills (later clarified solar is reducing bills)</li> </ul>
<b>Equipment Understanding &amp; Concerns</b>	Need for Education About Equipment	<ul style="list-style-type: none"> <li>Some didn't understand how to use heaters (landlord had to walk them through)</li> <li>Concerns about water heater: large size, blows out cold air</li> <li>Safety concerns for children/pets (e.g., exposed hoses)</li> <li>Equipment takes up significant space</li> <li>Suggestion: screening may be helpful</li> </ul>

Source: MF Residential Survey (residents in participating buildings)

**In their own words:** The residents of participating buildings provided the team with nuances around several areas. Below are a few we chose to highlight certain areas.

- Energy Bills went up and down
  - Lowered electric bill
  - Once installed and insulation added to outside water heater and attic - Definitely, lower overall energy bill. Also, much cleaner without old gas wall heater. Additionally, new double pane windows have made a big difference in retaining heat as well as keeping excessive heat and cold out.
  - The new changes have extremely elevated my energy bill twice as much.
  - PG&E Bill went up after installation
- Heat Pump Space Heating was positive for some but not all
  - We are warm, all the way to the bedrooms!!
  - The heat and or cooling from the mini-split unit in the living room doesn't really address temps to the bedrooms in the back of the unit. Thank goodness the new double pane window and slider have helped with heating and cooling otherwise one mini-split isn't particularly effective in moderating temperatures in bedrooms.
  - The heater is too close to window so I can't hang a curtain...should of been placed higher.
- Heat Pump Water Heater was positive for some but not all
  - The new water heater is better than the old one...I can take a longer shower now... the A/C in the summer is REALLY nice now !! I'm happy with the changes!
  - My water heater is functioning fine but the only problem I have is that it blows out cold AC Air.
  - Only thing is it takes a bit longer for hot water to be produced when using at any outlet.
  - New water heater is poorly made and the water isn't as hot anymore. This doesn't save me money or give me my money's worth for the rent we pay. Give us AC units it's really hot here in the summer. (Note that this complex did not receive heating/cooling systems.)

## Contractor Findings

**Introduction to Survey:** In October 2025, the evaluation team conducted interviews with participating contractors who had worked on small multifamily properties (less than 50 units) that would be targeted by a future BayREN program.

**Who was Interviewed:** The evaluation team gathered information from 5 contractors from a list of 16 contractors who had targeted smaller properties identified by BayREN. Respondents were offered a \$75 gift card for their time.

- Contractor 1: Primarily works with large property management firm (getting ~30% revenue from multifamily), occasional small property referrals; specializes in heat pump water heaters and mini-splits; 2 small BAMBE projects
- Contractor 2: Work involves a proactive sales model where the company identifies properties and presents solutions; specializes in water/energy retrofits for multifamily using incentive programs (especially affordable housing); minimum threshold 15+ units or \$10K+ projects; 2 small BAMBE projects
- Contractor 3: Works with small properties; accountant-turned-property owner who became contractor after job loss; offered perspective as both former owner and contractor; 8+ small BAMBE projects
- Contractor 4: Work specializes in heating, air conditioning, and water heaters with some electrical work; primarily single-family homes but ~10% multifamily; partners with organizations like AEA for rebate process management; 1 BAMBE project
- Contractor 5: Works primarily on energy efficiency upgrades (attic insulation, HVAC) in smaller properties; noted that customers prefer starting with affordable insulation; 3 BAMBE projects

**Summary:** Contractors emphasized that current incentive levels (35-40% coverage) are insufficient for small multifamily properties to proceed with electrification projects. All contractors stressed the critical importance of stacking multiple funding sources and significantly increasing incentive amounts (potentially 70%+ of the project cost if stacking is not possible). They also described that small property owners (i.e., less than 50 units) face unique barriers including high upfront costs, increased utility bills post-electrification, complex paperwork, and cash flow constraints. Contractors recommend streamlined payment processes (direct payment to contractors), robust non-financial technical support (design assistance, engineering guidance, permit coordination). Addressing deferred maintenance issues was not mentioned as a key issue (from the contractor perspective) but one contractor did suggest that his company could partner to address these issues. Awareness of regulatory gas appliance bans varies, with some owners proactively upgrading while others plan to stockpile gas equipment or wait until failure.

**Table 6. BAMBE Contractor Interviews - Key Findings at a Glance**

Topic	Finding	Supporting Evidence
<b>Program Language (for Contractors)</b>		
<b>Definition of Small Multifamily</b>	Varies by Contractor; Small is smaller than BayREN target of 50 or less units; Small can affect contractor job choices	<ul style="list-style-type: none"> <li>• Contractor responses included:               <ul style="list-style-type: none"> <li>○ Small = 4-8 units</li> <li>○ Small = less than 5</li> <li>○ Small = 12 units or less (medium = 12-40 units, large = 40+ units)</li> </ul> </li> <li>• Size matters: One contractor avoids projects under \$10K or &lt;15 units due to travel costs; costs don't scale linearly for small properties.</li> </ul>
<b>Incentives Structure</b>		
<b>Incentive Stacking</b>	Essential for Project Viability	<ul style="list-style-type: none"> <li>• All contractors emphasized single incentives covering 35-40% are insufficient</li> <li>• Projects won't proceed without multiple funding sources (unless high incentive levels)</li> <li>• Quote: "Market-rate properties may proceed with lower incentive coverage if ROI is favorable but small or small and medium will not"</li> </ul>
<b>Incentive Levels</b>	Significantly Increase BayREN Incentives	<ul style="list-style-type: none"> <li>• May need to cover 70%+ to compensate for lack of stacking</li> </ul>

Topic	Finding	Supporting Evidence
		<ul style="list-style-type: none"> <li>Contractor preference (one contractor): bring back incentives for insulation as affordable starting point</li> </ul>
<b>Barriers</b>		
<b>Outreach and Communication</b>	Reaching Small Property Decision-Makers is Challenging	<ul style="list-style-type: none"> <li>Smaller properties may have floating managers or less formal management structures – so more difficult to reach</li> <li>Tailored outreach strategies needed to engage these properties effectively</li> <li>Direct inquiries about rebate programs from property owners are rare</li> <li>Most multifamily jobs come through project management company relationships</li> </ul>
<b>Electrification Barriers</b>	High Upfront Costs and Increased Utility Bills	<ul style="list-style-type: none"> <li>High upfront costs deter owners from electrification without heavy subsidies</li> <li>Electricity bills often increase 2-3x after electrification, creating barrier for small properties with limited budgets</li> <li>Engineering requirements add complexity and cost</li> <li>One contractor noted heat pump HVAC complexity: "Old buildings were not designed for A/C at the beginning"</li> <li>Split incentive problem: owners not paying utility bills lack motivation ("they are not paying for bill, it is tenant burden")</li> </ul>
<b>Options for Future Program Support Services</b>		
<b>Payment Process</b>	Streamline Payments via Direct Payment to Contractors	<ul style="list-style-type: none"> <li>Small contractors and owners can't handle complex paperwork or long reimbursement delays</li> <li>To reduce risk and burden of upfront payments and reimbursement delays, contractors suggested: <ul style="list-style-type: none"> <li>Adopting best practices from other programs (like TECH) with more streamlined payment and support</li> <li>Exploring direct payment to contractors or escrow accounts to manage cash flow</li> </ul> </li> </ul>
<b>Non-Financial Technical Support</b>	Critical for Bringing Down Project Costs	<p>Contractors suggested providing services not already included by the program such as upfront design assistance, engineering guidance, permit coordination:</p> <ul style="list-style-type: none"> <li>Tools like EcoSize for preliminary system sizing and recommendations</li> <li>Coordinate with permitting offices to streamline heat pump installations (e.g., in some areas like Oakland, permitting is unpredictable, demanding documentation, which can delay projects for months)</li> <li>Support temporary hot water solutions during heat pump water heater replacements (e.g., temporary trailer system costs ~\$15K capital, billed at \$400/day for 4-day installations)</li> </ul>
<b>Staff Support Needs</b>	Limited On-Site Management Requires Extra Support from the Program	<p>Contractors suggested providing project management (especially critical since small properties lack staff):</p> <ul style="list-style-type: none"> <li>Smaller properties usually have limited or no on-site management which makes it harder to coordinate projects and communicate about upgrades</li> <li>Smaller properties also often require more education and program support due to limited staff and resources</li> <li>Assistance with project management and communication is especially valuable</li> </ul>
<b>Remediation Services</b>	Not All Identified this as an Issue	<ul style="list-style-type: none"> <li>The contractor with the most small property experience encountered issues like mold, mildew, and deferred maintenance; often due to owners not investing in repairs. The contractor felt providing funding for remediation (fixing plumbing, addressing mildew) would significantly improve tenant quality of life and that he could sub-contract to provide services</li> </ul>

Topic	Finding	Supporting Evidence
		<ul style="list-style-type: none"> <li>A different contractor felt that combining energy efficiency upgrades with pest/mold remediation is less relevant for multifamily (vs. single-family) as owners maintain better control. <i>“That’s a little bit out of our realm. ...generally the multifamily properties have to stay on top of that, because won’t get people to move in if you don’t.”</i></li> <li>Other contractors mentioned deferred maintenance related to old equipment not being replaced (but not remediation)</li> </ul>
<b>Regulatory Awareness (as a driver)</b>		
<b>Awareness of Gas Appliance Bans</b>	Mixed Awareness and Varied Responses	<ul style="list-style-type: none"> <li>One contractor: the upcoming ban is driving some to make changes now; awareness higher among larger property management companies <ul style="list-style-type: none"> <li>Some proactively replacing gas equipment with high-efficiency gas units before ban takes effect</li> <li>Some seeking to “future-proof” properties by upgrading now while incentives available</li> </ul> </li> <li>Three other contractors mentioned: <ul style="list-style-type: none"> <li>Confusion about details and timing; not significantly influencing decisions yet</li> <li>Many plan to keep using gas equipment until it fails; some would stockpile gas equipment before ban</li> <li>Property owners tend not to pay much attention to regulations or air quality rules unless strongly incentivized</li> </ul> </li> </ul>

**In their own words:** The participating contractors provided the team with nuances around several areas. Below are a few we chose to highlight certain areas.

- Incentives are essential
  - “If there’s no incentive, nobody’s going to do it. Why? Because hot water is hot water, right? Your tenant doesn’t care whether it’s made using gas or electric or heat pump. It’s just hot water. And now to replace the old gas or water heater with a new gas? It’s maybe a couple 1000 bucks, right? But if you want to replace it with a heat pump. It’s going to be like in the \$40,000-\$60,000, depending on how big the building, ... So if BAMBE and all these guys, they don’t give rebate for the HPWH, I can say 100% like nobody’s gonna do it.”*
  - “To answer your question [about 35% incentive], for market rate, yes. For affordable housing, probably not. I don’t know. It just depends, these properties really don’t have a lot of budget. And I, you know, in my personal experience, we’re pursuing a program right now for a lot of our clients where the incentives were, well, in most cases, they cover 90% to 100% of the cost. I have a project right now that I’m working on, and the client was like, I don’t have \$1 to spend. So, you know, we have to reduce our profit margins to make the project move forward. So that’s what I did. But, you know, it’s, it’s just these, these clients just don’t really have the capability to spend on those types of upgrades unless they’re necessary, or they get some type of, you know, re syndication or large tax credit.”*
- Smaller properties are different and need help
  - “I will say the smaller sites do require a little bit more involvement, because there’s just usually limited staff, and it’s just the property. I guess it’s just a little bit more intimate, as opposed to a large scale, 100 unit property... when we’re approaching a property that is very small, it requires a lot more education, we provide both on the front end, the back end. So I work on the front end, of course, in the sales department, but on the back in operationally, we brought a lot of education to the site team, in some cases, to the residents, but usually just the site team on the systems that we’re providing. So whereas, like a large scale project, we still provide, I would say, a similar level of education, but there’s just more staff on site, and upper management is well informed the project. So it’s just, it’s just different, I guess, you know, for a smaller scale project to a bigger scale project, on the level of need that is required.”*

## Appendix A. Resident Online Survey

Purpose: Test various data collection approaches (e.g., fielding methods and incentives) and pre-test tenant survey questions by creating and piloting a survey to tenants in participating apartment complexes. We fielded a brief online survey using a postcard to reach out to tenants. The online survey also recruited for phone interviews so that we can determine if tenants understand the questions and/or if we should be asking different questions.

Brief Online Survey	Questions
Length of Occupancy	<ul style="list-style-type: none"> <li>• Whether tenant moved in before or after changes</li> <li>• Length of time in building</li> </ul>
Awareness of Changes	<ul style="list-style-type: none"> <li>• Awareness of water saving measures</li> <li>• Awareness of changes in common areas (if relevant for building)</li> <li>• Awareness of major in-unit changes (i.e., HVAC, appliances, lighting, windows)</li> </ul>
Disruption/Relocation	<ul style="list-style-type: none"> <li>• Whether the changes caused a disruption, level of disruption</li> </ul>
Operation (including concerns and benefits)	<ul style="list-style-type: none"> <li>• Whether the measures work properly (reliable and operating as intended)</li> <li>• Whether the respondent feels that the measures could help save on energy bills</li> <li>• Whether they have concerns about the measures (and if so, what concerns)</li> <li>• Whether they perceive benefits from the measures (and if so, what benefits)</li> </ul>
Demographic Question	<ul style="list-style-type: none"> <li>• Whether they meet HTR criteria (CARE/FERA/ESA programs, income, language)</li> </ul>

### Intro

Thank you for agreeing to participate in this survey about the energy saving changes made to your home. *No information will be shared with the landlord, building owner or property manager.* You will receive a \$25 e-gift card for completing this 5-minute survey. Please select your building

**Select your building: [SELECT BUILDING ADDRESS (Street Number) FROM DROP DOWN, e.g., 205 Main Street or 237 Main Street]**

**What is your unit apartment number or letter? *This survey is limited to only one respondent per unit.* [OPEN END]**

### Length of Occupancy

1. Did you move into the building before or after [READ IN DATE OF POST INSTALL SITE INSP QA APPROVED DATE FROM SAMPLE]? *A little before [READ IN DATE] your building installed energy saving equipment.*
  1. Before
  2. After
2. How long have you lived in your apartment?

1. Less than one year
2. 1-3 years
3. More than three years

**Awareness of Water Saving Measures** (only asked if site had received showerheads, aerators or toilets)

3. Your apartment received the following water saving measures. Are these installed and working properly?

*[Note to reviewer: the options below will only be read in if they were installed in the building]*

	Installed and working	Installed but not working properly	No longer installed	I don't know
Faucet aerators				
Low flow showerhead				
Toilet				

**Awareness of Change - Common Area Measures**

[ONLY IF BUILDING RECEIVED COMMON AREA MEASURES]

4. Some of the energy-saving changes were made in common areas in your building. Were you aware of any of these changes? [Yes/No]

*These changes were completed a little before [READ IN DATE]*

*[Note to reviewer: the options below will only be read in if they were installed in the building]*

- a. New indoor and/or hallway lighting
- b. New outdoor/garage lighting
- c. New clothes washers
- d. New clothes dryers
- e. Added insulation

**Awareness of Change - Major In-Unit Measures**

[ONLY IF BUILDING RECEIVED IN-UNIT MEASURES]

5. Some of the energy-saving changes were made in the individual units. Were you aware of any of the following change(s) in **your** apartment? [Yes/No]

*These changes were completed a little before [READ IN DATE]*

*[Note to reviewer: the options below will only be read in if they were installed in the building]*

- a. New heater / air conditioner
- b. New stove
- c. New refrigerator
- d. New apartment lighting
- e. New water heater

- f. New windows
- g. Thermostat
- h. New dishwasher
- i. New clothes washers
- j. New clothes dryers

**Disruption and Relocation**

[ONLY IF Q1='BEFORE']

6. How much disruption or inconvenience did you experience while these changes were being made?

*This may have included noise issues, access to parking or locations in the complex, inability to enter your unit or rooms in your apartment, etc.*

- 1. No disruption or inconvenience
- 2. Minimal disruption or inconvenience
- 3. Some disruption or inconvenience
- 4. Significant disruption or inconvenience
- 5. So much disruption that I had to temporarily move out of my apartment

**Operation (including concerns and benefits)**

[ASK ALL]

7. Please indicate if the following are working as expected .

*[Note to reviewer: the options below will only be read in if they were installed in the building]*

	Working	Not working as expected	I don't know/Not applicable
Heater / air conditioner			
Stove			
Refrigerator			
Lighting			
Water heater			
Windows			
Clothes washers			
Clothes dryers			
Dishwasher			
Thermostat			

8. On average over a year, do you think the upgraded item(s) are helping save money on your energy bill(s)?

- 1. Yes

2. No
3. No because my bill is fixed
4. Unsure

9. Please describe any additional problems or concerns with these changes.

Optional response. [OPEN END]

10. Please describe any benefits you have noticed from these changes.

Optional response. [OPEN END]

### **Demographic Questions**

11. Are you currently or have you ever been a participant in any of the following programs? [YES/NO/DK]

1. California Alternate Rates for Energy (CARE)
2. Family Electric Rate Assistance (FERA)
3. Energy Savings Assistance (ESA) Program

Please answer both of the following questions about Hispanic origin and race.

*Demographic information helps us assess what communities we are reaching and who we may need to work harder to reach.*

12. Are you of Hispanic, Latino, or Spanish origin?

1. No, not of Hispanic, Latino, or Spanish origin
2. Yes, Mexican, Mexican American, or Chicano
3. Yes, Puerto Rican
4. Yes, Cuban
5. Yes, another Hispanic, Latino, or Spanish origin

13. What is your race?

1. White
2. Black or African American
3. American Indian or Alaska Native
4. Chinese
5. Filipino
6. Vietnamese
7. Korean
8. Japanese
9. Native Hawaiian
10. Samoan

11. Chamorro
12. Other Pacific Islander (e.g., Tongan, Fijian, Marshallese, etc.)
13. Asian Indian
14. Other Asian (e.g., Pakistani, Cambodian, Hmong, etc.)
15. Some other race

14. What is the primary language spoken in your home?

1. English
2. Spanish
3. Mandarin
4. Cantonese
5. Vietnamese
6. Tagalog
7. Other (please specify)

15. Including yourself, how many people lived in your home last year? [1,2,3,4,5,6,7,8, 9, 10, >10]

16. In 2024, did your household earn more or less than [READ IN CARE 2024 VALUE BY HOUSHOLD #], before taxes? Your best guess is fine. *Please consider all income your household earned from employment, investments, and/or retirement accounts.*

1. More
2. Less
3. Don't know
4. Prefer not to say

CARE INCOME GUIDELINES 2024 (June 1, 2024 to May 31, 2025)	
# in HH	READ IN
1	\$40,880
2	\$40,880
3	\$51,640
4	\$62,400
5	\$73,160
6	\$83,920
7	\$94,680
8	\$105,440
9	\$116,200
10	\$126,960+

Thank you so much for your responses. Would you like your \$25 e-gift card sent to your email address or phone?

1. Email
2. Phone (text)

[IF EMAIL]

1. Please enter the email address that we should use to email your \$25 e-gift card. \_\_\_\_\_

[IF PHONE]

2. Please enter the phone number that we should use to text your \$25 e-gift card. \_\_\_\_\_

[FOR BOTH]

3. Could we contact you for more information? You would receive an additional \$50 gift card if contacted.
  1. Yes
  2. Maybe
  3. No

[IF YES]

Thank you for agreeing to be contacted. Please enter your name below: \_\_\_\_\_

## Appendix B. Participating Building Owner / Property Manager Survey

As described in the email, BayREN is hoping to improve their Multifamily program and we are reaching out to past participants in the program to get your feedback. This will take about 15 minutes of your time. As a token of our appreciation, we will send you a \$75 Amazon e-gift card when you complete the survey.

Q1 Overall, how satisfied were you with your program experience?

- Very Dissatisfied (1)
- Dissatisfied (2)
- Satisfied (3)
- Very Satisfied (4)

Q2 You may have had more than one property retrofit through the Multifamily program (also called BAMBE). We are asking you questions about the property at [\\${e://Field/Project%20Street%20Address}](#), [\\${e://Field/Project%20City}](#) that was retrofitted in [\\${e://Field/Incentive%20payment%20completion%20year}](#) with some of this type of equipment: [\\${e://Field/Project%20Scope}](#).

Q3 Related to the BayREN website, how easy was it to...

	Very Difficult (1)	Difficult (2)	Easy (3)	Very Easy (4)	Not applicable (5)
...find the BayREN Multifamily landing page (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...learn the basics of how to participate in the Multifamily program from the BayREN website (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...submit the Multifamily program interest form (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 How well did the information on the BayREN Multifamily website help you...

	Not enough information (1)	Level of information was OK (2)	Not applicable (3)
...understand the program requirements (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...know what would happen after you submitted the interest form (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...understand the entire process of participation (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display this question:

If Q4 = Not enough information

Q5 What else would have been nice to know before you submitted the interest form?

Q6 You went through several steps to participate in the program. What is your level of satisfaction with each of the steps listed below?

	Extremely dissatisfied (1)	Somewhat dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Extremely satisfied (5)
Initial phone intake to see if you qualify (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussing the initial possible project scope with the program technical advisor (before anyone came to your site) (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussing and finalizing the scope of energy efficiency upgrades with program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Extremely dissatisfied (1)	Somewhat dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Extremely satisfied (5)
technical advisor (3)					
Time it took before the program gave you the OK to install measures (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding a contractor to install your chosen energy efficiency measures (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Program support during construction (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finalizing the paperwork required to receive the rebate check (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Length of time to receive your rebate payment (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display this question:

*If Q6 = Extremely dissatisfied*

*Or Q6 = Somewhat dissatisfied*

Q7 You mentioned that you were dissatisfied with at least one area. How could this be improved?

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Q8 The program provided an individualized energy report that outlined incentive eligibility, program requirements, and recommended energy efficiency upgrades. What did you think of that report? *(Select all that apply)*

- I didn't read it (1)
- I don't remember it (2)
- It was hard to follow (3)
- It was too technical (4)
- It was too long (5)
- It had the information I was looking for (6)
- Some of it did not seem applicable for my site (7)
- I passed it along to my contractor (10)
- Other (specify) (9) \_\_\_\_\_

Display this question:

If INCT\_FLAG = 1

Q9 Our records indicate that you received adder incentives based on your project's location in a program-identified heat, health, and/or housing burden zone and have installed certain measures. Were you aware of these added incentives?

- Yes (1)
- No (2)
- Don't know (3)

Display this question:

If Q9 = Yes

Q10 How much influence did the added incentives have on your decision to install those measures?

- Not Influential (1)
- Influential (2)
- Highly Influential (3)
- Don't know (4)

Q11 The measures you installed at the property could provide multiple benefits. Do you think that these measures provide any of the benefits listed below? *(Select all that apply)*

- Reduced energy bills (1)
- Lower resident turnover (2)
- Better illumination (3)
- Lower maintenance costs (4)
- Fewer resident complaints (5)
- Increased property value (6)
- Increased net operating income (7)
- Increased safety (8)
- Other (specify) (9) \_\_\_\_\_
- No benefits (10)

Q12 What, if anything, have the residents mentioned to you about the measures you installed?

- Positive things (1)
- Nothing (2)
- Negative things (3)
- Both positive and negative things (4)

Display this question:  
If Q12 != Nothing

Q13 Can you share with us what you have heard?

Display this question:  
If INUNIT\_Flag != 0

Q14 Your property had the following equipment installed either in the residents' units or in areas where they use the equipment. Please indicate how this equipment is working.

	Working, no resident operational issues (1)	Working but resident operational issues (2)	Broken / Non-functional (3)	I don't know (4)
<p>Display this choice: If Resident HVAC != 0</p> <p>Space heater / air conditioner (1)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Display this choice: If Resident Cooktop != 0</p> <p>Stove (2)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Display this choice: If Resident Refrigerator != 0</p> <p>Refrigerator (3)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Display this choice: If Resident Dishwasher != 0</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Working, no resident operational issues (1)	Working but resident operational issues (2)	Broken / Non-functional (3)	I don't know (4)
Dishwashers (4)				
<i>Display this choice:</i> <i>If Resident lighting != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apartment hard-wired lighting (5)				
<i>Display this choice:</i> <i>If Resident Water Heater != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water heater (6)				
<i>Display this choice:</i> <i>If Resident Windows != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Windows (7)				
<i>Display this choice:</i> <i>If Central Washing Machines != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clothes washers (centrally located) (8)				
<i>Display this choice:</i> <i>If Resident Thermosat != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thermostat (9)				
<i>Display this choice:</i> <i>If Resident Toilet != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toilet (10)				
<i>Display this choice:</i> <i>If Resident Aerators != 0</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Working, no resident operational issues (1)	Working but resident operational issues (2)	Broken / Non-functional (3)	I don't know (4)
Faucet Aerators (bathroom or kitchen) (11)				
<i>Display this choice:</i> If Resident Showerhead != 0 Low-flow Showerheads (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Display this question:*  
 If Q14 = Broken / Non-functional  
 Or Q14 = Working but resident operational issues

Q15 Can you tell us what is not working or the operational issues that you are hearing about from your residents?

*Display this question:*  
 If INUNIT\_Flag != 0

Q16 Do you think electricity and gas costs **for your residents** have gone up, down, or remained about the same since the new equipment was installed?

- Energy costs have gone up (1)
- Energy costs have gone down (2)
- Energy costs are about the same (3)
- I don't know (4)

*Display this question:*  
 If COMMON Area\_FLAG != 0

Q17 Your property had the following equipment installed that serves the property (and residents do not interact with the equipment). Please indicate if the equipment is working as expected, if either of you or your facility manager have seen operational issues, or if the equipment is non-functional.

	Working, no operational issues (1)	Working but operational issues (2)	Broken / Non-functional (3)	I don't know (4)
<p><i>Display this choice:</i> If Central or Common Area HVAC != 0</p> <p>Central or common area space heater / air conditioner (1)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Central or Common Area Water Heater != 0</p> <p>Central or common area water heater (2)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Water Recirculation Pump != 0</p> <p>Water recirculation pump (3)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Common area, garage, exterior lighting fixtures/ controls != 0</p> <p>Common area garage, exterior lighting fixtures or controls (4)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Pool Heater or Pump != 0</p> <p>Pool heater or Pool pump (5)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Working, no operational issues (1)	Working but operational issues (2)	Broken / Non-functional (3)	I don't know (4)
<p><i>Display this choice:</i> If Water Boiler != 0</p> <p>Water heater boiler (6)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Radiator Valves != 0</p> <p>Radiator valves (7)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p><i>Display this choice:</i> If Common area bulbs != 0</p> <p>Common area bulbs (8)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Display this question:*  
If Q17 = Broken / Non-functional  
Or Q17 = Working but operational issues

Q18 Can you tell us what is not working or the operational issues that you are experiencing?

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*Display this question:*  
If COMMON Area\_FLAG != 0

Q19 Do you think **your** electricity and gas costs have gone up, down, or remained about the same since the new equipment was installed?

- Energy costs have gone up (1)
- Energy costs have gone down (2)
- Energy costs are about the same (3)
- I don't know (4)

Q20 You may have chosen not to install certain measures that the program had discussed with you. In general, why did you choose not to install them? *(Select all that apply)*

- Incentive did not cover enough of the project cost (1)
- Electrical panel upgrades were needed (2)
- It would have been too disruptive for the residents (3)
- The existing equipment was still relatively new (4)
- The existing equipment was still reliable (5)
- The eventual cost for the resident to pay for the electric utilities would have been too high (6)
- Space constraints for the heat pump water heater or heat pump for space conditioning (7)
- Other (specify) (8) \_\_\_\_\_
- None of the above – I installed everything suggested (9)

Q21 This next set of questions asks your opinion about how you like to receive energy-related information.

Q22 Please rank your preferred way to learn about useful opportunities for your property. (To rank them from 1 to 6, just choose an item and move it to where you want to rank it. A ranking of 1 is the top ranking.)

- \_\_\_\_\_ Through in-person events (e.g., a workshop) (1)
- \_\_\_\_\_ Live webinar (i.e., available at the schedule time only) (2)
- \_\_\_\_\_ An on-demand webinar (i.e., available whenever you want to watch it) (3)
- \_\_\_\_\_ Emails, newsletters, or internet searches (4)
- \_\_\_\_\_ Letter in the US Mail (5)
- \_\_\_\_\_ From peers or relevant property organizations (6)

Q23 What is the best time during the week for in-person events or live webinars?

- Weekdays (1)
- Weekends (2)

Q24 What is the best time of the day for an in-person event or live webinar?

- Morning (1)
- Afternoon (2)
- Evening (3)

Q25 For any in-person events, about how far are you willing to drive to attend an event in the Bay Area?

- Less than 20 miles (1)
- 21-50 miles (2)
- More than 50 miles (3)
- Not willing to attend any in-person events (4)

Q26 If program information were available online, about how long are you willing to spend learning about a Multifamily energy program?

- Less than 15 minutes (1)
- 15 to 30 minutes (2)
- 30 to 60 minutes (3)
- 1 to 2 hours (4)
- More than 2 hours (5)

Q27 What is the **first** thing you do when the equipment at your property is showing signs of needing to be replaced?

- Call someone who deals with that type of equipment (1)
- Talk to my in-house person who manages the site (2)
- Talk with people who have similar jobs (e.g., a group of other property owners or managers) (3)
- Search the internet (4)
- Other (specify) (5) \_\_\_\_\_

*Display this question:*

*If Q27 = Talk with people who have similar jobs (e.g., a group of other property owners or managers)*

Q28 What organizations or networks do you participate in to share information about things like energy use and equipment?

\_\_\_\_\_

Q29 Would you recommend this program to another property owner?

- Yes (1)
- No (2)
- Maybe (3)

Q30 How many properties do you own or manage in the Bay Area?

\_\_\_\_\_

---

Q31 What would you like to see the program offer that they didn't when you participated? *(Select all that apply)*

- Hands-on training for facility manager about maintenance of the new equipment (1)
- Manual for facility manager/owner about maintenance of the new equipment (2)
- Pamphlet for residents that help them understand how to use the new equipment (3)
- Webpage with information about the equipment (4)
- QR code with video that shows how to use the new equipment (5)
- Workshop for residents about how to use the new equipment (6)
- Document with tips for savings energy and lowering utility bills for residents (7)
- Other (specify) (8) \_\_\_\_\_

Q32 What could the program do to improve the experience for future participants?

---

---

*Display this question:*

*If RENTAL\_FLAG = 1*

*Or DEED RESTRICTED\_FLAG = 1*

*Or AFFORDABLE\_FLAG = 1*

Q33 We just have a few last questions.

*Display this question:*

*If RENTAL\_FLAG = 1*

Q34 Just for our records, is this property a rental or do owners occupy the units?

- Rental (1)
- Owner occupied (2)
- Don't know (3)

*Display this question:*

*If DEED RESTRICTED\_FLAG = 1*

Q35 Just for our records, is this a deed restricted affordable property?

- Yes (1)
- No (2)
- Don't know (3)

*Display this question:*

*If AFFORDABLE\_FLAG = 1*

Q36 Just for our records, does this property have a high percentage of residents who are low income?

- Yes (1)
- No (2)
- Don't know (3)

Q37 Thank you for your time! As a small token of our appreciation, we will send a \$75 Amazon e-gift card to you within a week.

- Thank you. Please send my gift card to this email address (1)
- I would prefer not to receive a gift card. Please do not send one to me. (2)
- I would prefer to have this gift card sent to a different email address (insert email below) (3)

---

## Appendix C. Non-participating Building Owner / Property Manager Survey

### BayREN NP MF Email

#### **OPTIONAL SUBJECT FOR COUNTIES TO USE:**

*Help BayREN improve our multifamily building enhancements program!*

#### **OPTIONAL EMAIL:**

[BayREN](#) (Bay Area Regional Energy Network) is gathering feedback from a select group of multifamily representatives to help us design a program that works for smaller multifamily properties in the Bay Area.

The survey should take less than 10 mins and you will receive a **\$35 Amazon e-gift card** as a thank you for your time.

Please click on this link to answer the survey:

<https://tinyurl.com/BayREN-Survey>

Your responses will be kept anonymous and will only be used for research purposes.

Thank you in advance for your time.

[BayREN County Rep]

## BayREN NP MF Owner Survey

[BayREN Logo Added To Landing Page](#)

---

Start of Block: Block 0

Q1 Thank you for your willingness to provide information about the needs and challenges of multifamily building owners in the Bay Area. This information will be used to help improve energy efficiency programs. Your responses will be kept anonymous and will only be used for research purposes.

End of Block: Block 0

---

Start of Block: Introduction and Background Information: Who Are the Owners

Q2 Which of the following best describes your role?

- Multifamily Building Owner (1)
  - Multifamily Property Manager (2)
  - Something Else (specify) (3) \_\_\_\_\_
- 

Q3 How long have you been in multifamily property ownership/management?

- <1 year (1)
  - 1-2 years (2)
  - 3-4 years (3)
  - 5-6 years (4)
  - 7-8 years (5)
  - 9-10 years (6)
  - >10 years (7)
- 

Q4 What types of properties do you focus on?

- Market Rate (1)
  - Affordable (2)
  - Mix of market rate and affordable (3)
  - Other (specify) (4) [comment box included]
  - Unsure (5)
- 

Page Break

Q5 How many multifamily properties do you own or manage in the San Francisco Bay Area?

- 1 (1)
  - 2-15 (2)
  - 16-49 (3)
  - 50+ (4)
- 

Q6 What is the ownership structure for your property (or properties)?

- LLC (without a corporate owner) (1)
  - For-Profit Company or LLC not managed by a non-profit (2)
  - Individual / Sole Ownership (3)
  - Community Land Trust or Limited Equity Housing Cooperative (4)
  - HOA or Co-op (5)
  - Non-profit (deed-restricted affordable) (6)
  - Other (specify) (7) \_\_\_\_\_
- 

Page Break

Display this question:

*If Q5 = 1*

Q7 How many tenant units does the property have?

- 4 or fewer units (1)
- 5-24 units (2)
- 25-49 units (3)
- 50 units or more (4)

---

Display this question:  
If Q5 != 1

Q8 How many tenant units do the properties have... (select all that apply)

- 4 or fewer units (1)
- 5-24 units (2)
- 25-49 units (3)
- 50 units or more (4)

End of Block: Introduction and Background Information: Who Are the Owners

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Start of Block: Building Improvement Needs and Challenges: What do Owners Need

Q9 What improvements or renovations might your property (or properties) need in the next few years? (select all that apply)

- Air Conditioning (i.e., space cooling) (1)
- Space Heating (2)
- Water Heating (3)
- Tenant Unit Appliances (4)
- Lighting (5)
- Ventilation (6)
- Building Envelope (e.g., insulation, air sealing) (7)
- Electrical Panel Upgrades (8)
- Windows (9)
- Lead Abatement (10)
- Pest Reduction (11)
- Mold Reduction (12)
- Other (specify) (13) \_\_\_\_\_
- None (14)

Skip To: Q12 If Q9 = 14

Page Break

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Q10 Of the items you just selected, which two are your top priorities? (select up to 2)

- Air Conditioning (i.e., space cooling) (1)
- Space Heating (2)
- Water Heating (3)
- Tenant Unit Appliances (4)
- Lighting (5)
- Ventilation (6)
- Building Envelope (e.g., insulation, air sealing) (7)
- Electrical Panel Upgrades (8)
- Windows (9)
- Lead Abatement (10)
- Pest Reduction (11)
- Mold Reduction (12)
- Other (specify) (13) \_\_\_\_\_
- None (14)

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Q11 Do you have a plan to make these top two building improvements or renovations to your property (or properties) in the next few years?

- Yes (1)
- No (3)
- Don't Know (4)

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Page Break

Q12 Do you have a planned replacement schedule for equipment in your building?

- Yes (1)
- No (2)
- Don't Know (3)

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Page Break

Q13 Do you feel that finding and managing a contractor to do any of this upgrade work would be a challenge?

- Definitely not (1)
- Probably not (2)
- Might or might not (3)
- Probably yes (4)
- Definitely yes (5)

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Q14 Why did you feel it would or would not be challenging?

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Page Break

Q15 What factors are most important when you are considering building upgrades? (select all that apply)

- Owner Cost Savings (1)
  - Renter Cost Savings (2)
  - Tenant Satisfaction / Reduced Turnover (3)
  - Property Value (4)
  - Maintenance Reduction (5)
  - Higher Rents (6)
  - Other (specify) (7) \_\_\_\_\_
- 

Q16 Beyond cost savings, what benefits do you value from building improvements? (select all that apply)

- Nothing (1)
- Sustainability (2)
- Health (3)
- Safety (4)
- Tenant Comfort (5)
- Marketability (6)
- Heat/Cold Mitigation (to reduce complaints about excessive heat/cold in apartments) (7)
- Other (specify) (8) \_\_\_\_\_

End of Block: Building Improvement Needs and Challenges: What do Owners Need

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Start of Block: External and Regulatory Pressure: Barriers

Q17 What pressures affect your building improvement decisions (related to upgrading energy-using equipment)? (select all that apply)

- Insurance Requirements (1)
- Local Ordinances (2)
- Permitting Issues (3)
- Financing Availability (4)
- Other (Specify) (5) \_\_\_\_\_
- None of the above (6)

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Page Break

Q18 Are you aware of upcoming Air Quality Management District or California Air Resources Board rules that will eventually ban gas space and water heating appliances and require electric appliances to be installed when the older units are replaced?

- Yes (1)
- No (2)

End of Block: External and Regulatory Pressure: Barriers

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Start of Block: Program Design Preferences

Q19 Have you participated in any rebate programs for building upgrades or appliances in the past?

- Yes (1)
- No (2)
- Don't Know (3)

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*Display this question:  
If Q19 = 1*

Q20 What was your experience? What worked well or didn't work well?

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Page Break

Q21 What kind of support from a public program might be helpful to making building upgrades possible? (select all that apply)

- Rebates for System/Appliance Upgrades (1)
- Technical Assistance (to identify what/how to install energy efficient equipment) (2)
- Contractor Management (3)
- Basic Building Repairs (specify) (4) \_\_\_\_\_
- Revolving Loan Fund or Other Financing (5)
- Operations and Maintenance Training for Building Manager (6)
- Information for Tenants on Equipment Operations (8)
- Other (specify) (9) \_\_\_\_\_

Page Break

Q22 Would you be interested in a program that covered 35% of the project cost for making upgrades that would help your building be energy efficient (e.g. insulation, high efficiency HVAC)?

- Yes (1)
- Maybe (2)
- No (3)

Display this question:  
If Q22 != 1

Q23 What % of project coverage might incentivize you to make these upgrades?

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End of Block: Program Design Preferences

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Start of Block: Other/Closing

Q24 Do your tenants struggle with asthma?

- Yes (1)
- No (2)
- Don't Know (3)

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Page Break

Q25 In which county is your property (or are your properties) located? (select all that apply)

- Alameda (1)
- Contra Costa (2)
- San Mateo (3)
- San Francisco (4)
- Napa (5)
- Marin (6)
- Sonoma (7)
- Solano (8)
- Santa Clara (9)
- Other (10)

Q26 Is there anything else that you'd like to share?

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Page Break

Q27 Please provide the email address (or phone number for a text) where you would like us to send the gift card.

Email: (1) \_\_\_\_\_

Phone: (2) \_\_\_\_\_

I would prefer not to receive a gift card (3)

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Q28 Would you be willing to provide additional information (by phone or in a focus group setting) at a later date for an additional incentive?

Yes (1)

Maybe (2)

No (3)

End of Block: Other/Closing

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*Thank you for your time spent taking this survey. Your response has been recorded. .*

# Appendix D.Contract In-depth Interview Guide

Multifamily Contractor Interview Guide

Final 09/22/25

Grounded Research will interview 3-5 contractors. The sample will include the pool of 16 participating contractors who have completed projects for multifamily properties with <50 units, i.e., those that would be targeted by the future program. The sample is attached at the end of this document. This document will be used to guide the discussion and all sections will be covered; however, the order and exact wording of the questions may change. Respondents would receive a \$75 gift card.

## Section 1. Introduction and Background Information (4-5 mins)

Thank you for taking the time to speak with me today. I'm conducting research to understand the multifamily market from contractors' perspectives to help improve BayREN's Multifamily energy efficiency program. The interview may take 30-40 minutes but we can keep it to 30 mins if your time is limited.

### Background Information

1. **Can you start out by talking about (1) the type of contracting services that you provide and (2) the percentage of your work that involves multifamily properties?**
  - What types of contracting services do you provide? (HVAC, electrical, general contracting, etc.)
  - What percentage of your work involves multifamily properties? What percentage of your work involves smaller multifamily properties versus larger ones (e.g., those with less than 50 units v. more than 50 units)? [Listen for other natural break points as described by the contractor]
2. **Do you currently participate in any energy efficiency rebate programs besides the BayREN program?**  
How about in any other types of non-energy efficiency government programs (like SGIP, lead abatement, mold or pest control)?
  - Probe: If they participate in programs, probe for details on what they like/don't like about these programs either here or throughout the discussion.

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## Section 2: Market Needs and Opportunities (5-6 mins)

3. **From your experience working on smaller multifamily properties (e.g., those with <50 units), what are the greatest needs you see (related to overall building improvements)?** What types of multifamily projects (energy or non-energy related) do you get called for most often?
  - Listen for maintenance issues; Emergency replacements vs. planned upgrades; individual unit work vs. building-wide projects. [Capture whether could be EE related or not]
4. **What basic energy efficiency upgrades do you feel are most needed in smaller properties, e.g., air sealing, window upgrades, insulation, mechanical ventilation, duct sealing, pipe insulation, faucet aerators/low flow showerheads, etc.?**
5. **Does this vary across building type (e.g., by size, age, ownership type or low-income v higher income)?**
  - Probe: How do small multifamily properties (under 50 units) differ from larger buildings in terms of the energy-related equipment (or building shell measures) that you install (e.g., budget constraints, decision-making process, technical requirements)?

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## Section 3: Electrification (5-6 mins)

6. [IF RELEVANT TO WHAT CONTRACTOR INSTALLS] **Do you anticipate that heat pumps will become a common upgrade in multifamily buildings? How quickly do you think that will happen?** [*Probe for whether water heating or space conditioning, common or in-unit*] What might keep it from happening? What is your perspective on the future trajectory and challenges of electrification in multifamily buildings?
    - *Probe: Technical challenges, cost barriers, customer readiness*
    - *Probe for: Are you aware of Air District rules and do you think the multifamily buildings you work on will be able to comply or have trouble?*
  7. **What are key drivers of cost of installation of EE vs electrification measures?**
  8. **Have you seen changes in customer demand for electric equipment over the past few years?**
    - *Probe: Customer-driven vs. incentive-driven demand*
- 

#### Section 4: Barriers and Selling Points (5-6 mins)

9. [IF NOT ALREADY COVERED] **What do you see as the biggest barriers preventing small multifamily owners from making upgrades?** (Or alternatively, you mentioned [INSERT] as barriers to multifamily owners making upgrades, are there other barriers for this group?)
    - *Listen to see if they bring up deferred maintenance*
  10. **Do you feel that deferred maintenance is a barrier to small properties making energy efficiency upgrades or participating in programs like the BayREN program?**
  11. **What would encourage more small multifamily owners to do comprehensive energy upgrades (i.e., upgrades of multiple measures at the same time)?**
  12. **What are effective selling points for energy upgrades?** Do you feel that small MF property owners are motivated by non-energy benefits, or are aware of what NEBs can be achieved with different upgrades?
    - *Probe: if so, what NEBs are strongest driver for owners? (i.e., IAQ/health, comfort, safety, resilience, etc.)*
- 

#### Section 5: Program Design Preferences (10 mins)

13. [CONTRACTOR/OWNER RELATIONSHIP] **Are there any pain points in the contractor-owner relationship that you think are unique to small multifamily properties? Is there any support role that a program could play that could make your work with property owners easier?**
  14. [TYPES OF MEASURES] **What upgrades would you like to see incentivized that currently aren't covered well?**
    - *Probe: Emerging technologies, infrastructure improvements, basic home remediation/repairs, mechanical ventilation, PV*
  15. [INCENTIVE LEVEL- wording will change based on contractor experience with stacking] **If stacking of incentives (i.e., co-leveraging) was not available because some of some programs are no longer available, do you think that using BayREN rebates to cover 40% of the project cost would incent small multifamily owners to install measures (like new HVAC)? How about 50%? Why or why not?**
    - *Probe: Specific measure categories that need higher incentives. Probe for higher and lower %s.*
-

**Closing (1-2 mins)**

- 16. Is there anything about the multifamily market that we haven't discussed that you'd like to share with BayREN as they consider program changes for the future?**

*Thank you for your time. Your insights will help inform program improvements that better serve both contractors and multifamily property owners. (Interviewer will confirm email address for gift card.)*