Opinion Dynamics
an E Source Company

NON-RESIDENTIAL GOGREEN FINANCE PROGRAM EVALUATION

FINAL REPORT

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I. EXECUTIVE SUMMARY

This report presents key findings and recommendations from our evaluation of the GoGreen Financing (GGF) program. GGF is implemented by the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) on behalf of the California Public Utilities Commission (CPUC). In 2020, CAEATFA launched two programs: GoGreen Business (GGB), targeting small businesses and market-rate multifamily properties, and GoGreen Multifamily (GGMF), targeting affordable multifamily properties. As of November 2025, these programs have been consolidated into a single program, which we refer to in this report as GGF. GGF provides a credit enhancement in the form of a loan loss reserve (LLR) for participating lenders, which is a pool of funds set aside for each loan. These funds reduce lender risk in the event of default. LLRs theoretically encourage lenders to offer lower interest rates, larger loans, or longer repayment terms, and to serve a broader base of borrowers, including those with credit challenges (e.g., small businesses with limited operating histories).

The evaluation covered program activities from July 2019 through July 2025 (the first six years of program activity and focused on the following areas: evidence of scalability and participation growth, the program's ability to leverage private capital and engage lenders, reach among underserved customers, estimated energy savings and greenhouse gas reductions, ability to address market gaps, and how well GGF matches customers plans to complete energy upgrades and their financing preferences. We used a mixed-methods approach, including exploratory interviews with CAEATFA staff, review of program tracking data,[1] analysis of energy savings and emissions reductions, a survey of businesses and multifamily properties that did not participate in the program (non-participants), and interviews with several groups: finance leads at investor-owned utilities (IOU), third-party program administrators (PA), participating and non-participating lenders, and program participants.

I.I ASSESSMENT OF PROGRAM PERFORMANCE

Over its first six years, GGF has supported 297 energy efficiency (EE) measures and three clean energy measures across 111 non-residential projects,[2] leveraged $10.2 million in private capital, and deployed approximately $1.2 million in LLR funds, representing about 12% credit enhancement relative to total loan volume. These loans financed energy improvements across hotels, retail, healthcare, industrial, agricultural, and multifamily properties, resulting in at least 1,800 MWh of electric savings, 92,000 Therms of gas savings, and 876 metric tons of CO_2 emissions reductions. Average loans exceeded $90,000, with terms averaging just over 4 years (50 months) and interest rates averaging 10.2% before interest rate buy-downs (IRBDs). IRBDs are program payments that help lower a borrower's interest rate so the loan is cheaper and easier to afford. IRBDs averaged $6,575 per loan.

We assessed program performance across three key areas:

Participation and Engagement: Program uptake has improved, but it is not growing in a direction that supports scalability, sustainable growth, or a diversified lender and customer base. GGF has demonstrated that it can generate participation and close loans, closing over 100 loans (out of a total of 111) since the last evaluation. However, this growth has been highly dependent on IRBDs to make interest rates attractive compared to other products, and nearly 70% of all lending activity has been driven by one lender. Participation has been heavily skewed towards small

[1] CAEATFA maintains data describing what occurred with each energy efficiency and clean energy project GGF loans have funded, including information about the participant, what was installed, and the characteristics of the GGF loan.

[2] "Measures" refers to an equipment installation, structural building improvement, system or controls optimization, or other action that reduces building energy usage or emissions.

businesses (100 out of 111 loans), and all multifamily projects financed to date have been market-rate rather than affordable housing properties.

Value in the Marketplace: There is a misalignment between where GGF is most active and where it can potentially provide the greatest value. There is evidence of potential free ridership (i.e., high likelihood to take similar action without the program) among the small business participants we interviewed: 5 of 7 reported that they would have completed their projects using cash or alternative financing even in the absence of GGF. While anecdotal based on sample size, this finding suggests that the program may be supporting projects that would have occurred anyway, limiting its ability to address a true market gap in this segment. In contrast, affordable multifamily properties consistently emerged as the strongest unmet market need. These properties report the highest upgrade needs, fewer viable financing alternatives, and the greatest likelihood of using GGF if financing is required. Yet despite strong alignment with the program's value proposition, GGF has not served any affordable multifamily properties to date, largely due to structural barriers rather than lack of interest or awareness. We provide more information on the key differences between customer segments in Section 1.2.

Program Design: GGF has not significantly shifted lender behavior or expanded access to credit as intended. Overall loan performance under GGF has been strong and comparable to national benchmarks (GGF's delinquency rate was 2.73% compared to the benchmark of 2.75%). However, this masks important underlying risks in the program's design that has deterred lenders. While data was unavailable to determine the exact write-off amount, the three defaults to date represent a large share of LLR funds, particularly for lenders with low loan volume (we estimate up to 17% of the entire LLR, but up to 60% of the LLR for two low-volume lenders). This volatility discourages broader lender participation and disproportionately affects mission-driven lenders who would be ideal for serving affordable multifamily, such as community development financial institutions (CDFI). Participating and non-participating lenders we interviewed consistently report that the current LLR structure does not meaningfully de-risk individual loans, especially early in participation, limiting their willingness to join the program, expand activity, or serve borrowers with greater credit challenges. Continued reliance on IRBDs further underscores the absence of a clear pathway toward market transformation or eventual program exit, raising the risk that GGF becomes a permanent subsidy rather than a targeted, transitional intervention.

Table 1 provides key data points supporting our assessment of GGF performance. More detail is available in Appendix B.

Table 1. Summary of GGF Program Performance

Performance Category	Key Takeaway
Performing well	▪ GGF is delivering measurable energy savings and emissions reductions, including 1,800 MWh, 92,000 Therms, and 876 metric tons of CO_2 reductions from 111 financed projects. ▪ Overall loan performance is stable, with a 2.73% delinquency rate that is comparable to national commercial lending benchmarks. ▪ GGF has shown it can generate participation, adding 102 loans since the last evaluation. ▪ Market signals are encouraging: 86% of surveyed non-participants are inclined toward energy-efficient options, and financing appears to be a meaningful lever for the rest. Among respondents who were neutral or unlikely to choose efficient options, 83% said financing would make them more likely to do so.
Some improvement needed	▪ Participation is heavily skewed towards small businesses, with just 11 multifamily loans out of 111 total loans. ▪ Participant interview results raise concerns about whether GGF is reaching those who need the most support: 6 of 10 participants interviewed reported they would have proceeded without GGF, and among small business participants, 5 of 7 said they could have relied on cash or other financing.

Performance Category	Key Takeaway
Significant improvement needed	▪ The lender network is not diversified enough: 69% of all loans came from one lender, and interviewed lenders said the current LLR structure has discouraged broader participation because it does not provide enough early-stage loss protection to justify joining the program. ▪ IRBD use coincided with the sharp increase in participation, suggesting GGF's growth is dependent on IRBD (i.e., subsidy) support, rather than the underlying strength of its core program design. ▪ The program has not yet reached the segment where it may offer the greatest public value: affordable multifamily housing.

1.2 CUSTOMER SEGMENT INSIGHTS

We surveyed nonparticipating small businesses and multifamily properties throughout California to assess program alignment across customer segments. The survey examined customer awareness of GGF, recent or planned energy upgrades, interest in financing, financing preferences, and attractiveness of GGF program features. Additional customer segment insights were gathered through interviews with program participants.

Across customer segments, energy upgrade needs, project scale and complexity, and reliance on financing differ in ways that have important implications for GGF's potential value. Taken together, these patterns suggest that **while GGF has broad appeal across customer types, its greatest potential for incremental impact lies in serving affordable multifamily housing, where financing barriers are most acute, project needs are greatest, and program features are most closely aligned with customer needs.**

- **Small businesses** tend to have more moderate and targeted upgrade needs, often focused on single end uses such as lighting or HVAC, and driven by immediate operational issues like equipment failure. Their projects are typically smaller and incremental, and while interest in EE options is generally high, adoption is heavily influenced by upfront cost. Financing can accelerate these upgrades, but it is often not essential: most small business participants we interviewed (5 of 7) report they would have proceeded without GGF support, indicating a higher risk of free-ridership and a strong sensitivity to interest rates and monthly payments. As a result, GGF is often viewed as helpful but non-essential for this segment and must rely on interest rate incentives to remain competitive.
- **Multifamily properties**, by contrast, exhibit higher and more comprehensive upgrade needs across all categories, including lighting, HVAC, water heating, building envelope improvements, and clean energy. Projects at these properties are more likely to be large, property-wide efforts that require coordinated financing and greater technical assistance to assemble funding and manage complexity. While interest in EE options is similarly high compared to small businesses, financing plays a more enabling role, particularly in helping owners complete the full scope of work. Multifamily customers place somewhat less emphasis on interest rates alone and place greater value on flexible qualification criteria, streamlined application processes, and alternative financing structures such as secured loans, leases, and contractor-arranged financing. At the same time, they are more likely than small businesses to be discouraged by program requirements and administrative burdens, underscoring the need for hands-on technical support to scope projects that optimize the use of cash reserves, rebates, and financing.
- **Affordable multifamily properties** stand out as the segment with the strongest alignment with GGF's intended value proposition. These properties consistently report the highest upgrade needs (70%+ need across most upgrade categories) and the most constrained access to financing, with fewer viable alternatives outside specialized programs. Financing is often necessary—not merely helpful—to enable upgrades, and interest in using GGF is highest in this group. However, participation also requires flexible qualification criteria and additional technical

assistance to navigate program requirements, compliance obligations, and complex financing stacks – more so than market-rate properties.

The combination of high need, administrative complexity, and preference for flexibility among affordable multifamily properties closely aligns with the core mission of CDFIs. CDFIs are mission-driven lenders specifically designed to serve borrowers that conventional lenders often struggle to accommodate, including affordable housing providers. In addition to deploying capital, CDFIs typically provide technical assistance to plan project financing and help borrowers navigate documentation and approval processes, and take a more relationship-based approach to underwriting. These capabilities position CDFIs as a natural fit for delivering the kind of financing services affordable multifamily properties actually need if GGF is to generate meaningful incremental impact in this segment.

1.3 CONCLUSIONS AND RECOMMENDATIONS

CAEATFA has made significant design changes to enhance customer experience by reducing financing costs, simplifying repayment processes, expanding eligibility for smaller loans, and streamlining administration, while also working on further improvements and partnerships with new lenders and organizations, though it's too early to assess their effectiveness. We support and see potential in CAEATFA's current strategic efforts to better meet customer needs and recruit specialized lenders. However, without more significant changes, continued investment in GGF risks supporting projects that would have proceeded without the program's support and commits the CPUC to a long-term market intervention strategy without a clear goal. A more targeted approach would better align program resources with CPUC policy goals and improve the likelihood that GGF delivers meaningful value to customers with the greatest financing needs. Based on the results of the study, we make the following recommendations:

- **Refocus the program on affordable multifamily housing as the primary target market.** To maximize public value, GGF should shift emphasis to affordable multifamily housing, where the evaluation found the strongest alignment between financing need and program objectives. This may require deprioritizing or phasing out broad participation from small businesses and market-rate multifamily properties so that limited program resources are not spread thin across segments with lower incremental impact. The overall market size for this segment is small compared to the current program's target market; as such, participation expectations should be calibrated accordingly. However, the potential for meaningful impact is high.
- **Recruit CDFIs by meaningfully increasing LLR contributions for affordable multifamily loans.** GGF should prioritize recruiting CDFIs as partner lenders for affordable multifamily housing and adjust the LLR structure accordingly to make their participation viable. This would involve returning to a targeted approach in which only affordable multifamily properties receive enhanced LLR support. To sufficiently de-risk the program for CDFIs, particularly during early or low volume phases of participation, LLR contributions may need to be significantly more accelerated than under the current structure—for example, exceeding 30% of the first $200,000 of loan value—or provide greater overall coverage than the existing strategy of covering 10% of the first $1 million. By providing additional funding upfront, GGF can protect lenders from losses, especially when they are just starting out and have only made a few loans, making participation less risky and reducing barriers to entry. CAEATFA should work directly with prospective CDFI partners to identify contribution levels that meaningfully change participation decisions.
- **Pursue market transformation by expanding administrative support for CDFIs.** In addition to enhancing credit support, GGF should pursue market transformation by expanding administrative support for CDFIs serving affordable multifamily housing. Interviews indicate that a key barrier to breaking into the affordable multifamily space is the cost and complexity of originating and servicing loans for EE and clean energy projects. GGF could help address this barrier by using ratepayer funds or other funding sources to offset a portion of lenders' administrative costs, including underwriting, origination, servicing, and technical assistance, as well as coordination with multifamily program administrators. This support would allow CDFIs to build internal capacity, gain experience in energy lending, and develop more standardized, cost-effective processes. Over time, this approach can reduce

per-loan transaction costs, increase lender confidence, and make this type of lending more routine and scalable, supporting an eventual pathway toward reduced program intervention.

2. INTRODUCTION

This report provides the results of Opinion Dynamics' evaluation of the GoGreen Financing (GGF) program from small businesses and multifamily properties.[3] The study covers the first six years of program activity, from the first loan in July 2019 through July 2025.

This study aimed to assess whether the GGF program is scalable and provides a needed solution in the marketplace for owners and managers of small businesses and multifamily properties (henceforth, referred to as "customers"), both now and beyond 2027. The last evaluation, completed in February 2023, covered program activities from inception through July 2021, and identified significant barriers to attracting target customers to the program, particularly the availability of IOU On-Bill Financing (OBF) with 0% interest rates.[4] This raised questions about the program's viability, but the study recommended allowing more time to determine if GGF could fill a market gap by reaching underserved segments that could not otherwise qualify for affordable financing for energy efficiency and clean energy upgrades, thereby supporting the State of California's ambitious decarbonization goals.

Since the last evaluation, the California Public Utilities Commission (CPUC) and the GGF Administrator, California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA), have adopted modifications to GGF program design and partner lender recruitment priorities to increase participation. This study examined customer demand for energy upgrades, the modifications made to the GGF program, and compared GGF to customer financing preferences and other market products and programs. It ultimately assessed whether the GGF is progressing in a direction that justifies continued funding of the program beyond 2027.

2.1 RESEARCH OBJECTIVES

Table 2 lists the research objectives and specific research questions of this study.

Table 2. Research Objectives and Questions

Research Objective	Research Questions
Determine what gaps the programs address in the current marketplace	▪ What changes has CAEATFA made to GGF since the 2023 evaluation to drive more participation? How does CAEATFA position the program compared to other programs and products? ▪ How has the market landscape changed since the 2016 baseline study? What are the implications for GGF growth potential? What programs and sources of state/federal funding are competing with GGF for participation? ▪ What gaps in the market is CAEATFA targeting? What is the importance of those gaps in the market? Are there other opportunities to fill an important market gap? How could the program be modified to do so?
Assess target customer motivators and barriers to participation	▪ Are nonparticipating customers aware of GGF? Are they interested in GGF? What motivations do they have to participate, and what participation barriers do they perceive? ▪ What are the common energy upgrade needs of small businesses and multifamily properties? ▪ What are customers' preferences around financing such upgrades? ▪ What motivated participants to secure financing? What benefits did they receive? What was the influence of financing on their decision to complete their project?
Assess scalability and growth	▪ How many projects were financed in the evaluation period? ▪ Is there any evidence of significant progress in driving more participation? ▪ What are the CPUC, CAEATFA, IOUs, program implementers, and lenders' perspectives on program performance and future potential?

[3] These were formally separate programs that have now been combined into one program. We refer to these programs as GGF throughout the report, but note there is a residential program, GoGreen Homes (GGH), that is not included in this study.
[4] https://pda.energydataweb.com/api/view/2773/CPUC%20Group%20B%20FIN20%20SB%20%20AMF%20Finance%20Pilot%20Evaluation%20FINAL_2023-02-09.pdf

Research Objective	Research Questions
Assess leverage of private capital	▪ What were the sizes of the projects financed (i.e., financed amount)? What was the mix of financing options (e.g., loans, leases, energy service agreements)? What were the interest rates and other key loan terms? ▪ How are lenders receiving and promoting the program? Has this changed since the inclusion of clean energy technologies? ▪ Are some financing mechanisms easier/more difficult to sell to customers than others? ▪ Why are some lenders more active in the program than others?
Gauge reach of underserved Californians	▪ How do CPUC and CAEATFA define underserved in the context of small business and multifamily programs? How many participants meet that definition? ▪ Could the definition of underserved small businesses and multifamily properties be refined without becoming too limiting? ▪ How many participants are in disadvantaged communities (DAC)? How well-positioned are lenders and contractors to reach DACs?
Verify energy savings and fuel substitution impacts	▪ What are the energy savings and greenhouse gas emission reductions attributed to the program?

2.2 PROGRAM DESCRIPTION AND REGULATORY BACKGROUND

In 2012, the CPUC directed the state's investor-owned utilities (IOUs) to allocate $75.2 million to test innovative energy efficiency financing pilots through June 30, 2022. With these funds, CAEATFA launched the California Hub for Energy Efficiency Financing (CHEEF) to administer financing pilots across multiple customer segments.

In 2020, CHEEF launched two programs: GoGreen Business (GGB), targeting small businesses and market-rate multifamily properties, and GoGreen Multifamily (GGMF), targeting affordable multifamily properties. Both programs provided a credit enhancement in the form of a loan loss reserve (LLR) for participating lenders, which is a pool of funds set aside for each loan, reducing lender risk in the event of default. LLRs theoretically encourage lenders to offer lower interest rates, larger loans, or longer repayment terms, and to serve a broader base of borrowers, including those with credit challenges (e.g., small businesses with limited operating histories). In October 2021, CAEATFA and the IOUs requested additional funding for CHEEF programs from July 2022 through June 2027. These incremental funds were approved by CPUC via Decision 21-08-006 via Rulemaking 20-08-022 in August 2021. Opinion Dynamics conducted the first evaluation of GGB and GGMF in early 2023. CPUC and CAEATFA will begin discussions in early 2026 on the future of energy financing beyond June 2027, and this evaluation is a critical input into that decision.

LLR STRUCTURE

GGF has two LLR contribution structures, depending on the customer type:

- **Small Businesses**: For each eligible small business loan, GGF contributes 20% of the first $50,000 of the financed amount and then 5% of any remaining financed amount up to $1 million. This provides a maximum reserve contribution of $57,500 per loan (i.e., for a $1 million loan).
- **Multifamily Properties**: For each eligible multifamily loan, GGF contributes 10% of the financed amount up to the first $1 million of loan value, providing a maximum reserve contribution of $100,000 per loan.

While small business loans initially have a higher contribution rate, the rate is designed to change after just a few loans. In contrast, the consistent LLR contribution rate for multifamily properties is designed to provide accelerated loss coverage for lenders' early participation: multifamily properties receive more coverage of the first $200,000 than small businesses. Multifamily properties also receive more overall loss coverage for the first $1 million.

Each lender has one or more GGF LLRs. In the event of a default, the LLR pays 90% of the eligible charge-off (i.e., lost) if sufficient funds remain in the lender's LLR. GGF includes a "retroactive claim" feature where subsequent claims may be made against the same default after more LLR funds are available.

KEY DESIGN CHANGES

The program has undergone several important design changes over time:

- In May 2020, CAEATFA added an interest rate buy-down (IRBD) option. IRBD is a financing mechanism in which program funds are provided to participating lenders to reduce interest rates to below-market-rate levels. CAEATFA employs a customized approach to IRBDs, calculating the contribution amount on a case-by-case basis. IRBDs have a variable impact on interest rates, depending on the value of the IRBD compared to the total loan value.
- In July 2021, new regulations introduced two additional features: allowing on-bill repayment (OBR), which enables customers to repay their loan via their utility bills, and a streamlined pathway for microloans of $10,000 or less.
- In 2023, CPUC Decision 23-08-026 authorized CAEATFA to expand its support beyond energy efficiency and demand response to include distributed energy resources such as solar + battery storage and electric vehicle (EV) chargers.
- Through 2025, CAEATFA pursued and largely completed integration with IOU OBR systems.
- Historically, GoGreen Business (GGB) and GoGreen Multifamily (GGMF) have operated as separate financing programs with distinct eligibility criteria and administrative requirements. In November 2025, CAEATFA merged the two programs into a single program to streamline administration, simplify eligibility, and reduce confusion among lenders, PAs, and customers. This consolidation aimed to broaden participation among multifamily properties by creating a more unified financing pathway and enhancing the efficiency and consistency of program outreach and implementation.
- A key component of this redesign strategy was a modification to the LLR structure. Previously, only affordable multifamily loans could receive accelerated LLR contributions (30% of the first $200,000 and 5% of the next $800,000, for a total of 10% of the first $1 million). As described earlier, the new LLR structure provides all multifamily properties with the same accelerated LLR coverage. This coverage still totals 10% of the first $1 million but offers less accelerated early contributions.[5]
- As of early 2026, CAEATFA has continued to pursue other design changes, including targeting new types of lenders, alternative sources of funding, and enhanced technical assistance, some of which are ongoing. We discuss these changes and their implications in more detail in Section 3.3.

The latest detailed program regulations are available here on the CHEEF website.[6]

2.3 STUDY APPROACH

We used the research tasks in Table 3 to address the research objectives of this study.[7]

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[5] A redlined version of the program regulations showing the changes is available here: https://www.treasurer.ca.gov/caeatfa/cheef/sblp/regulations/2025/0825/regs-red-line-ver20250902.pdf.

[6] Current regulations are available here: https://www.treasurer.ca.gov/caeatfa/cheef/sblp/regulations/current.pdf. Please note that regulations may change in the future, in which case the link will not display the regulations effective as of November 6, 2025.

[7] We originally planned to conduct near-participant interviews to better understand what motivates customers to initiate participation, the project(s) they were seeking to finance, and what barriers prevented them from completing the process. However, near-participant data were not

Table 3. Research Methods

Research Task	Description
Staff Interviews	Two exploratory interviews with CAEATFA to understand recent and ongoing program design changes and clarify its approach to serving market gaps. The findings from these interviews also informed subsequent evaluation tasks.
Program Administrator Interviews	Six interviews with IOU finance leads and third-party PAs of small business and multifamily programs, where customers could or have leveraged GGF to participate. We aimed to understand their perspectives on the potential for cross-participation and coordination, key market gaps, and how well GGF is positioned to address those gaps. We interviewed finance leads at two IOUs: Pacific Gas and Electric Company and Southern California Gas Company; as well as four third-party PAs: TRC Companies, ICF, StopWaste/Slipstream, and Applied Energy Services Corporation.
Finance Market Review	Review of publicly available data from financial institutions, public programs, and industry research to assess financing options for small businesses and multifamily properties.
Finance Partner Interviews	In-depth interviews with five participating and four nonparticipating financial institutions to understand their perspectives on the current financing landscape, market gaps GGF could address, and their experiences and barriers related to program participation and promotion.
Participant Interviews	In-depth interviews with 10 program participants (seven small business owners and three multifamily property owners) to understand their experience with the programs, what motivated them to participate, whether they explored other financing options, and how those options compared with the GGF.
Non-participant Survey	Online survey of 134 small business owners and 103 multifamily property owners not enrolled in GGF, to assess their awareness of GGF, recent or planned energy upgrades, interest in financing, financing preferences, and attractiveness of GGF program features. We obtained a sample of non-participants from a third-party panel provider, achieving a 5% survey participation rate and 43% representation of DACs.
Impact Analysis	Estimated electric and gas energy savings and GHG reductions for projects. Reviewed and accepted custom savings calculations for two projects where total costs exceeded $350,000. For all other projects, leveraged the California electronic Technical Reference Manual (eTRM) and other TRMs to estimate savings. More details on our data sources and analysis approach are available in Appendix D.

2.4 KEY TERMS AND DEFINITIONS

Table 4 presents definitions of key terms used in this report.

Table 4. Key Terms and Definitions

Term	Definition
Loan Loss Reserve (LLR)	A pool of funds set aside by a PA to cover a portion of lender losses in the event of borrower default. LLRs reduce lender risk and enable more favorable loan terms, such as lower interest rates, longer repayment periods, or lending to higher-risk borrowers.
Multifamily Property Owners	Individuals or entities that own residential buildings with five or more housing units, including market-rate and affordable housing properties. This may also refer to staff who manage properties on behalf of owners.
Affordable Multifamily	Multifamily housing in which more than 50% of tenants receive housing assistance or more than 50% of units are deed-restricted to serve low- or moderate-income (LMI) households.

available as near-participant applications are not being tracked by CAEATFA and, according to CAEATFA, lenders are unlikely to provide this information because their loan applications contain sensitive financial data that customers did not consent to provide.

Term	Definition
Small Businesses	A business or non-profit entity (other than a public entity) meeting at least one of the following size requirements: ▪ 100 or fewer employees ▪ Annual revenue of less than $16 million ▪ Meets the U.S. Small Business Administration's size standards for a Small Business matched to the North American Industry Classification System found in Part 121.201 of Title 13 of the Code of Federal Regulations.
Disadvantaged Community (DAC)	A geographic area identified by the State of California as experiencing disproportionately high environmental, health, and socioeconomic burdens.[8]
Credit Unions	Member-owned, nonprofit financial cooperatives that provide banking and lending services. Credit unions typically offer lower interest rates and more flexible terms than commercial banks, but may have stricter underwriting requirements.
Non-bank Financial Institutions (NBFI)	Financial entities that provide lending or financial services but are not traditional banks, do not hold full banking licenses, and are not subject to the same level of regulatory oversight. Examples include specialty finance companies, equipment lenders, and leasing firms. NBFIs often have more flexible underwriting criteria than banks.
Community Development Financial Institutions (CDFIs)	A type of NBFI. Mission-driven financial institutions that provide credit and financial services to underserved or low-income communities. To achieve a CDFI certification, at least 60% of a financial institution's activities must be targeted to one or more LMI populations or underserved communities. CDFIs also typically provide technical assistance, business training, and financial counseling to help borrowers succeed and enhance their community impact.
Secured Loan	A loan backed by collateral, such as equipment, property, or other assets that the lender can claim if the borrower defaults. Secured loans typically carry lower interest rates because they involve less risk for the lender.
Unsecured Loan	A loan not backed by collateral and instead based on the borrower's creditworthiness alone. Unsecured loans generally have higher interest rates and shorter repayment terms because the lender assumes greater risk.
Equipment Leases	Financing arrangements in which a customer pays to use equipment over a fixed period without owning it. At the end of the term, the equipment may be returned, purchased, or upgraded, depending on the terms of the lease.
Equipment Service Contracts (a.k.a. equipment-as-a-service)	A model in which customers pay a recurring fee for equipment, maintenance, and performance rather than purchasing equipment. Ownership remains with the service provider, reducing upfront costs and shifting performance risk away from the customer.

[8] CalEPA released its updated Designation of Disadvantaged Communities in May 2022.

3. KEY FINDINGS

3.1 PROGRAM PERFORMANCE

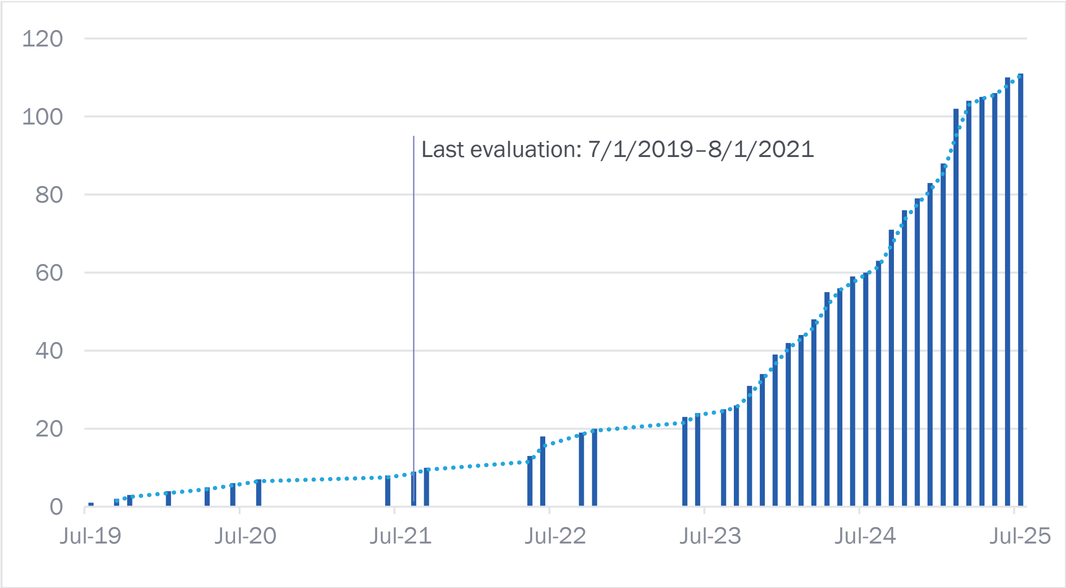
In this section, we summarize the key accomplishments of GGF over its first six years, as reported by CAEATFA's program tracking data, as well as the results of our impact analysis.

PARTICIPATION AND LOAN CHARACTERISTICS

GGF participation has increased significantly since the last evaluation; however, loan volume has been concentrated among a single lender. The program has had limited participation from multifamily properties and has not yet reached affordable multifamily properties. There are large differences in loan characteristics across lenders, smaller differences between small businesses and multifamily properties, and no meaningful difference between customers in DACs and non-DACs. IRBDs have had a significant impact on the program, including a clear influence on participation rates and a substantial decrease in interest rates.

Program participation was slow to start but has increased substantially since the last evaluation, coinciding with the introduction of IRBDs. The program financed 111 projects through July 2025 (Figure 1). Since the end of the previous evaluation period, GGF has closed 102 additional loans. Participation increased sharply in 2024, with the acceleration aligning closely with the first use of IRBDs in mid-2024.

Figure 1. Total Cumulative Loans Over Time (Month-Year)

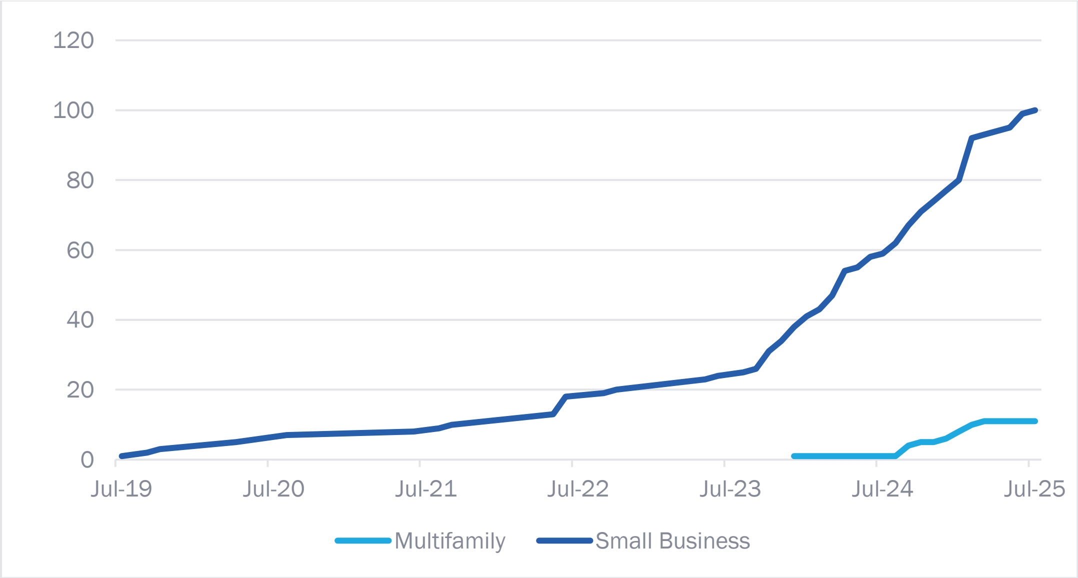


Source: CAEATFA tracking data

Program participation has been concentrated among small businesses, with minimal uptake among multifamily properties. Looking into customer segments, participation was overwhelmingly concentrated among small businesses (e.g., medical clinics, offices, manufacturing facilities, restaurants, retail businesses, grocery stores, agricultural farms, warehouses, and processing facilities), which accounted for 100 of the 111 loans, compared to just 11 loans to multifamily properties. Although property type (market-rate or affordable) is not tracked in the data, according to

CAEATFA, all the multifamily loans were for market-rate properties. Figure 2 illustrates the cumulative loans for multifamily and small businesses.

Figure 2. Cumulative Loans Over Time by Customer Segment (Month-Year)

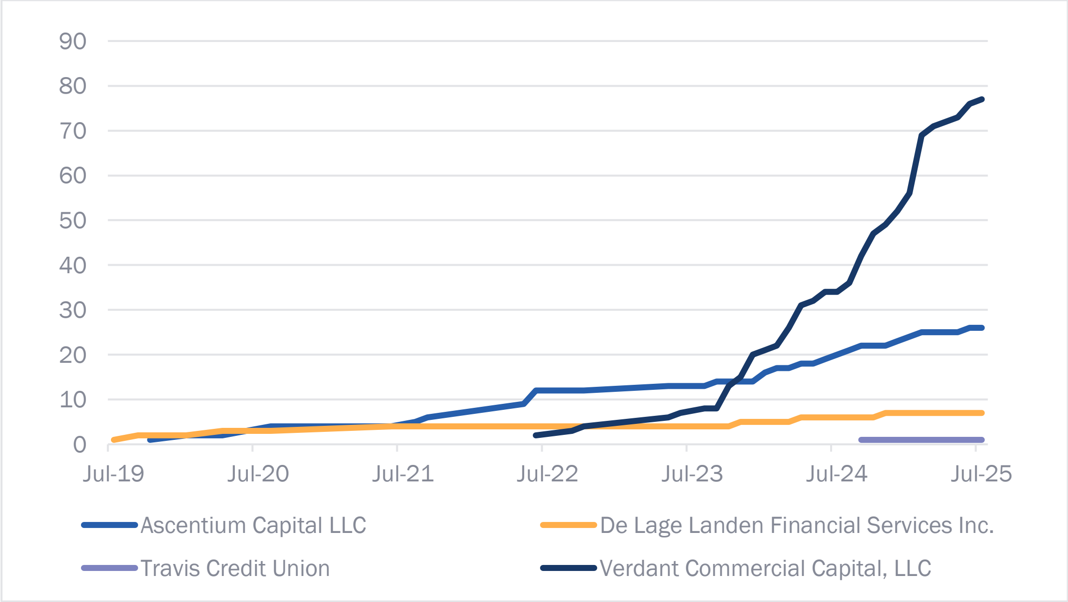


Source: CAEATFA tracking data

Loan volume has increased substantially, but is concentrated among a small number of lenders. Since program inception, GGF has generated $10.2 million in private capital, with $8.5 million issued since the last evaluation. The LLR contributions totaled $1.2 million, or approximately 12% of total loan volume. Although six lenders participated in the program, four accounted for nearly all lending activity (Figure 3, Table 5).

Verdant Commercial Capital issued the largest number of loans (77), issuing all but one multifamily loan throughout the evaluation period. Ascentium Capital and De Lage Landen's lending activity have stagnated after their early participation, while Travis Credit Union issued only one loan. Renew Energy Partners and Prime Capital have issued no loans.

Figure 3. Cumulative Loans per Lender Over Time (Month-Year)



Source: CAEATFA tracking data

Loan amounts varied by customer segment, lender, and equity status. The average loan amount was over $90,000, with an average interest rate of 10.16% and an average term length of 50 months (approximately four years), resulting in an average monthly payment of approximately $2,300. Notably, a sizable portion of the total financed amount was driven by two large outlier loans exceeding $800,000. Both loans were issued to small businesses in non-DAC areas to finance multiple HVAC replacements. Excluding these outliers, the average loan size was approximately $78,000.

Table 5 summarizes key loan characteristics overall and by customer segment, lender, and equity status, and reveals several key findings:

- *Customer segment:* Multifamily loans were nearly the same amount on average compared to small business loans, but carried higher interest rates and shorter terms, resulting in higher monthly payments.
- *Lender:* Loans issued by Verdant tended to have higher interest rates and shorter terms, while Ascentium Capital (the next largest contributor) issued low-volume loans with higher-than-average loan lengths. As such, Vedant's dominance of the loan volume ultimately drives average interest rates up and average loan terms down.
- *Equity status:* Loans issued in DACs were smaller on average than those issued outside DACs, but interest rates and loan terms were largely comparable, leading to smaller monthly payments for customers in DACs.

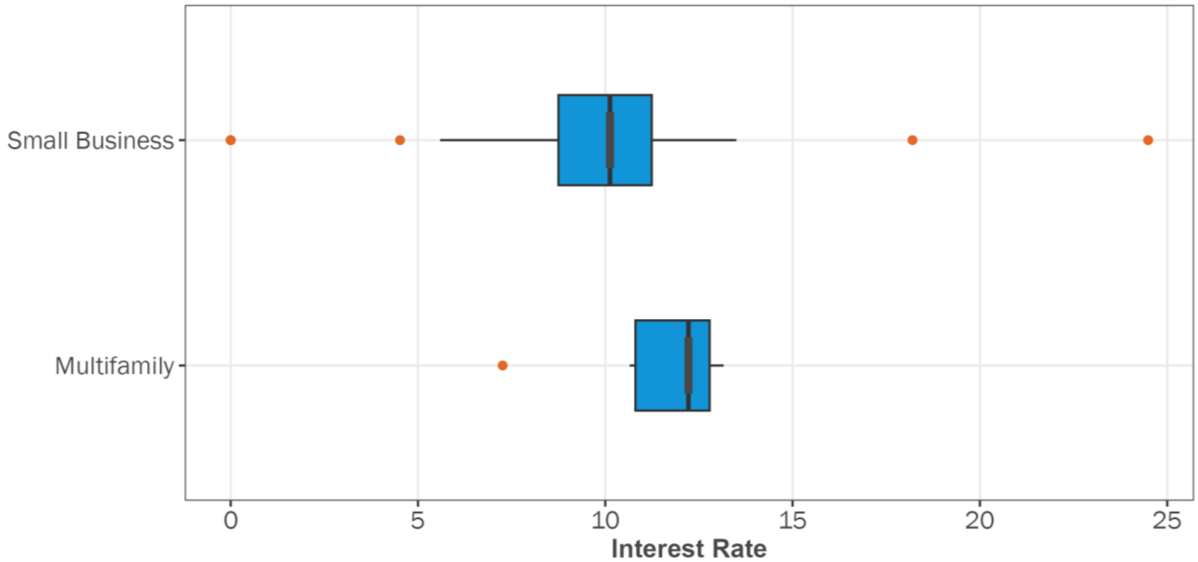
Table 5. Loan Characteristics Summary

Group	Number of Loans	Total Financed Amount	Average Financed Amount	Total Loss Reserve Amount	Average Interest Rate	Average Term Length (Months)	Average Monthly Payment
Overall	111	$10,167,877	$91,603	$1,169,587	10.16%	50	$2,350
By Customer Segment							
Multifamily	11	$974,043	$88,549	$124,340	11.57%	40	$2,956
Small Business	100	$9,193,834	$91,938	$1,045,248	10.00%	51	$2,283
By Lender							
Ascentium Capital LLC	26	$1,807,109	$69,504	$235,914	8.62%	56	$1,663
De Lage Landen Financial Services Inc.	7	$1,292,406	$184,629	$105,924	6.35%	58	$3,124
Travis Credit Union	1	$241,744	$241,744	$19,587	7.26%	84	$3,679
Verdant Commercial Capital, LLC	77	$6,826,618	$88,657	$808,162	11.06%	47	$2,494
By Equity Status							
DAC	43	$2,747,348	$63,892	$383,936	10.29%	49	$1,931
Non-DAC	68	$7,420,529	$109,125	$785,651	10.07%	51	$2,614

Source: CAEATFA Tracking Data

Interest rates generally ranged from 5% to 15%, with a small number of outliers. Examining the average interest rate alone obfuscates typical rates due to a few extreme outliers (Figure 4). The highest interest rate (24.5%) was associated with a $32,000 loan, which had the shortest term in the portfolio (12 months, compared to the average of 50 months). The shorter term is likely the reason for the elevated interest rate, based on typical lending practices. Three loans had 0% interest rates, associated with IRBDs. Multifamily loans exhibited a narrower range of interest rates than small business loans. Despite differences in loan size, average interest rates were similar for loans issued in DACs and non-DACs.

Figure 4. Interest Rate by Customer Segment



Source: CAEATFA tracking data

On average, the use of IRBDs reduced interest rates by approximately eight percentage points. IRBDs have been utilized by two lenders across 50 loans, nearly half of all loans issued (Table 6). Average post-IRBD interest rates were 2.7%, representing an average reduction of just under eight percentage points (Table 7). Although most IRBDs produced sizable interest rate reductions, a small number of loans experienced minimal reductions (as little as 0.11 percentage points).

Table 6. IRBD Costs by Lender

Lender	Number of Loans	IRDB Total Cost	IRDB Average Cost
Ascentium Capital	3	$10,045.27	$3,348.42
Verdant Commercial Capital	47	$318,690.30	$6,780.64
Total	50	$328,735.57	$6,574.71

Source: CAEATFA tracking data

Table 7. IRBD Interest Rate Change by Lender

Lender	Average Original Interest Rate	Average Interest Rate after Buydown	Average Interest Rate Difference
Ascentium Capital	8.75%	0%	8.75%
Verdant Commercial Capital	10.48%	2.95%	7.54%
Total	10.38%	2.77%	7.61%

Source: CAEATFA Tracking Data

LOAN PERFORMANCE

GGF loans are performing well, but a small number of defaults significantly depleted the LLR for low-volume lenders. Defaults were associated with large small business loans in DACs; however, sample sizes are too small to identify meaningful trends regarding which types of loans or borrowers are most likely to default.

Most GGF loans are in good standing, and the delinquency rate is comparable to that of commercial bank loans nationwide. The study team examined the performance of GGF loans using program tracking data to identify trends across customer segments (Table 8). Loan performance data were available for 110 of the 111 loans issued. The majority of loans (89 of 110) are currently in good standing, while 13 have been paid in full. Five loans have experienced late payments, and three loans have defaulted. Accounting for these defaults, the delinquency rate for GGF loans is 2.73%. For context, the average delinquency rate for all commercial bank loans nationwide was 2.75% in Q2 2025.[9]

A small number of defaults have put the LLRs for two lenders at risk of depletion. The tracking database did not include sufficient information to quantify the losses based on the amount of these loans that had already been paid off. Based on original loan amounts, the losses may have accounted for up to 17.4% of total LLR funds and more than half of the LLR balances for the two lenders that experienced defaults. As a result, LLR funds for these lenders could be rapidly depleted in the event of additional defaults.

Table 8. Loan Performance

Group	Number of Loans	Current	Paid in Full	30 Day Late Payment	60 Day Late Payment	Defaulted	Defaulted Loan Amount (Original)	Loan Loss Reserve Amount	Possible Proportion Defaulted to Loss Reserve
Overall	110	89	13	3	2	3	$202,338	$1,161,630	17.4%
By Lender									
Ascentium Capital LLC	26	21	3	0	0	2	$139,459	$235,914	59.1%
De Lage Landen Financial Services Inc.	7	5	1	0	0	1	$62,879	$105,924	59.4%
Travis Credit Union	1	1	0	0	0	0	N/A	$19,587	0.0%
Verdant Commercial Capital, LLC	76	62	9	3	2	0	N/A	$800,205	0.0%
By Customer Segment									
Multifamily	11	11	0	0	0	0	N/A	$124,340	0.0%
Small Business	99	78	13	3	2	3	$202,338	$1,037,290	19.5%
By Equity Status									
DAC	43	29	9	2	1	3	$202,338	$383,936	52.7%
Non-DAC	67	60	4	1	1	0	N/A	$777,694	0.0%

Source: CAEATFA Tracking Data

The defaulted loans were among the top-five largest loans. Sample sizes are too small to confidently assess trends, but these loans are among the largest small business loans issued as part of the program, totaling more than $150,000 each. The monthly payment amounts for the defaulted loans were also all above the average monthly payment amount

[9] Delinquency Rate on Consumer Loans, All Commercial Banks (DRCLACBS) | FRED | St. Louis Fed

across the sample. This explains why only a handful of defaults have had such a major impact on the LLR, as these loans represented a substantial share of the issuing lenders' total deployed capital.

It is unclear if being in a DAC impacted loan performance. All defaulted loans were issued to customers located in DACs. However, this pattern is not conclusive evidence that defaults are inherently more likely among DAC customers; Verdant has issued the largest amount of capital to customers in DACs and has not experienced a single default. Late payments have been nearly evenly distributed across customers' equity status, occurring among both DAC and non-DAC customers.

REACHING THE UNDERSERVED

GGF does not formally define underserved segments in the non-residential market. GGF provides enhanced LLR contributions to multifamily properties. However, there are subsegments within the small business and multifamily markets that may have a higher need than others, and they are not being intentionally targeted by the program. While not a stated goal of the program, GGF has served a significant number of customers in DACs, suggesting its lender and contractor networks are sufficient to reach these areas.

The program's definition of 'underserved' in the non-residential context is unclear. One of the key performance metrics of GGF is to reach underserved customers (see Appendix A). There is a clear consensus on how to interpret this metric for the residential market (i.e., LMI customers), but the definition is less clear for the non-residential market. CAEATFA generally views small businesses and multifamily properties as underserved, given their limited access to affordable capital relative to larger commercial borrowers.

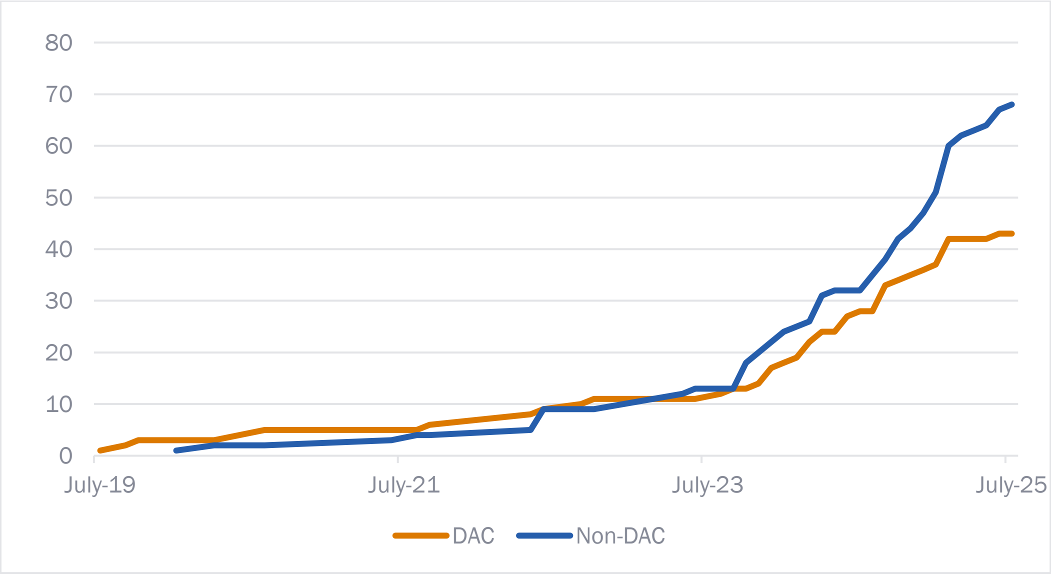
Experts agree that small businesses and multifamily properties are categorically underserved, but there may be more nuance in the market that GGF is not addressing. IOU Finance Leads and third-party PAs we interviewed largely aligned with CAEATFA's view, noting that many small businesses and multifamily properties face persistent financing barriers, including inconsistent revenue streams, limited credit histories, and challenges meeting underwriting requirements. High interest rates exacerbate upfront cost barriers to participation, and these financial pressures are often compounded by administrative burdens, as many customers lack the staff capacity to compile required documentation. At the same time, some PAs cautioned against treating all customers as uniformly underserved, emphasizing the meaningful variation within these segments. Larger property managers and more established businesses are often better positioned to secure financing, while smaller multifamily owners, independent landlords, and family-run businesses face greater constraints. GGF's design is not specifically catered to these nuances. As discussed in Section 2.2, GGF previously targeted affordable multifamily with accelerated levels of LLR contribution through GGMF. Now, all multifamily properties receive the same coverage, which is the same total coverage of the first $1 million as before, but not as accelerated. As such, affordable multifamily properties are now eligible for less accelerated coverage than they were before these design changes, in favor of attracting a broader range of multifamily properties. Currently, no other types of enhanced interventions are available for specific sub-segments.

Interviews suggest that many participants would not have struggled to fund their project in the absence of GGF, and that the program supported project acceleration or expansion rather than serving as essential financing for these customers. Six out of ten participants reported that they would have proceeded with their projects regardless of GGF participation, citing operational necessity as the primary driver. In contrast, four participants indicated they would have been unlikely to complete their projects without GGF support; notably, these projects were described as non-essential upgrades. Most participants (8 out of 10) reported that they would have relied on cash in the absence of GGF, and half indicated that they would have explored alternative financing options, such as bank loans or credit cards. Three participants specifically described using GGF as a short-term bridge loan while securing other financing or incentives, with the intention of paying off the loan early once alternative funding became available. This suggests that while GGF can support project timing and scope, it is sometimes used by more financially savvy customers, who take full advantage of a good deal presented by GGF.

There is some evidence that multifamily property participants may have had more need for GGF than small business participants, which justifies GGF's approach. Five of the seven small businesses and one of three multifamily properties we interviewed said they would have had to move forward with their project even without GGF, using cash or alternative financing. Conversely, two of the three multifamily properties stated that they would likely have scaled down the projects or delayed their projects without GGF. These two properties stated that they would most likely have relied on rebates, rather than other forms of financing, in the absence of GGF. Given the limited number of respondents, these comparisons should be interpreted anecdotally; however, they do corroborate findings from other areas of this study that suggest multifamily properties are in higher need of GGF than small businesses. This justifies the enhanced LLR contributions that GGF offers to multifamily properties.

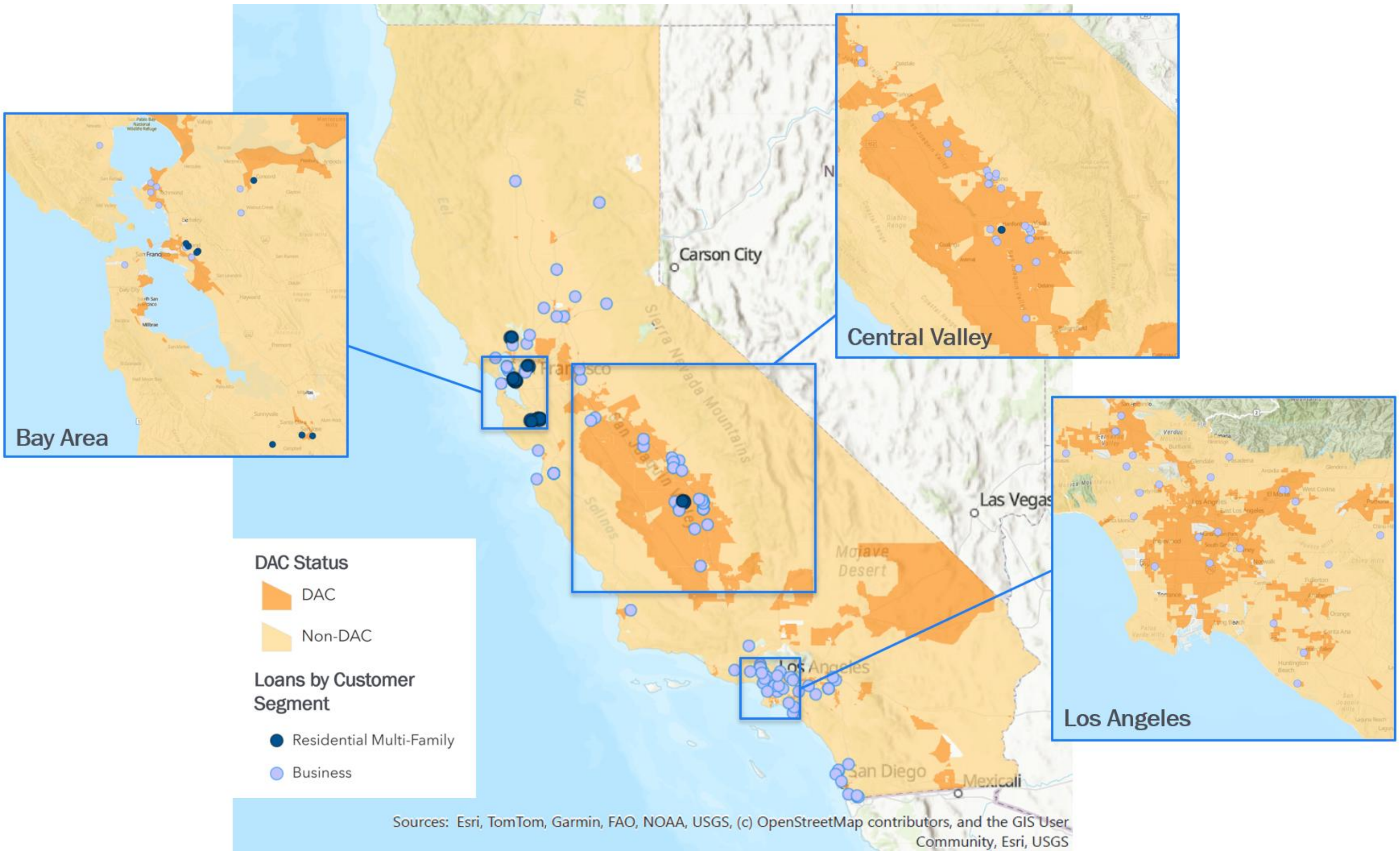
The program achieved participation among customers in DACs. In the absence of a formal definition of underserved customers, the study team examined the proportion of participating customers across DACs vs. non-DACs (Figure 5). Overall, participation was concentrated among customers outside of DACs; however, the program also reached 43 customers within DACs (39% of the total customers). Figure 6 further illustrates the geographic patterns, showing that the program has achieved some level of participation in most areas where DACs are concentrated, in both urban and rural areas, except in the sparsely populated region near the Mojave Desert. This suggests that the geographic reach of the current lender and contractor network is not a major barrier to program expansion.

Figure 5. Cumulative Loans Over Time per Equity Status (Month-Year)



Source: CAEATFA Tracking Data

Figure 6. Geographic Distribution of Loans by Customer Segment and Equity Status



ENERGY SAVINGS AND EMISSION REDUCTIONS

GGF loans supported 297 energy efficiency and 3 clean energy measures across 111 loans. The building improvements installed through the program offer a range of benefits to customers, including reduced energy bills and lower greenhouse gas emissions. These benefits are difficult to quantify confidently given limited tracking data requirements, but we estimate that GGF has achieved at least 1,800 MWh in electric savings, 92,000 Therms in gas savings, and 876 metric tons of carbon dioxide (CO_2) emissions reductions.

Lighting dominates the measure mix, and there has been limited financing of clean energy measures. A total of 301 individual measures were financed during the evaluation period, and nearly two-thirds were lighting upgrades (Table 9). Most customers (61 of 111) financed only one measure, while the remaining customers installed multiple measures, typically within the same end-use category, such as lighting, HVAC, or building envelope improvements. Cumulative trends indicate steady growth in both lighting and non-lighting measures over time, with lighting continuing to account for the majority of installations. Clean energy measures, introduced in 2023, have seen minimal uptake to date, suggesting limited market penetration.

Data tracking requirements create uncertainty about the savings achieved by GGF. GGF programs are not required to track or estimate ex-ante savings for projects, unless project costs exceed $350,000 (there were two such cases for GGB). The tracking database included some useful data for estimating savings, such as basic descriptions of measures, building type, climate zone, and application type (i.e., accelerated replacement, normal replacement, and new construction). However, overall, information in tracking databases was insufficient to accurately calculate savings. Key missing information included, for example, a lack of detail on measures installed (e.g., installed and replaced equipment efficiency and capacity), installation location (e.g., interior or exterior), building type and square footage, and measure quantities (either missing entirely or in inconsistent units with technical resource manuals [TRMs]). We conducted outreach via three phone call attempts to fill in missing information where it was most needed, but were unable to connect with any participants. We used engineering judgment and satellite imagery to make reasonable assumptions wherever possible, and ultimately estimated savings for 278 of 301 measures. We were unable to estimate savings for any of the three Clean Energy and Transportation measures. More details on our approach are available in Appendix D.

GGF helped customers achieve at least 1,800 MWH and 92,000 Therms in energy savings. Table 9 shows the total estimated program savings, by measure category, installed through the program between January 2019 and July 2025. Lighting has dominated the measure mix throughout the program's history and, as expected, was a major contributor (54%) to electric energy savings (kWh), followed distantly by refrigeration and HVAC (40% combined). Water heating projects, although a smaller proportion of overall projects, contributed the majority (82%) of gas energy savings (Therms). We made conservative assumptions when necessary; as a result, these projects may have achieved significantly more savings.

Table 9. GGF Program Estimated Energy Savings

Measure Category	Number of Measures	Estimated Program Savings	
		kWh	Therms
Lighting	186	981,020	(5,030)
Refrigeration	28	398,274	N/A
HVAC	37	315,925	17,995
Other	2	39,872	1,961
Agriculture	4	35,430	N/A
Building Envelope	15	21,115	58
Industrial	2	8,686	N/A
Food Service	3	5,453	1,187
Appliances	2	399	6
Water Heating	18	(2,892)	76,396
Total	**297**	**1,803,281**	**92,573**

Note: The total number of measures excludes the three clean energy and transportation measures. We were unable to estimate savings for 19 of the 297 energy efficiency measures

GGF helped customers achieve at least 876 metric tons (MT) of carbon dioxide (CO2) reductions. The estimated kWh and therm savings from the energy efficiency measures in Table 9. GGF Program Estimated Energy Savings contributed to CO2 reductions. Table 10 summarizes CO2 reductions by program year.

Table 10. GGF Program Estimated GHG Impacts

Year	MT CO2
2019	64.5
2020	1.0
2021	36.4
2022	14.9
2023	421.3
2024	316.8
2025	22.0
Total	**876.7**

3.2 Market Insights

In this section, we summarize key findings related to the market, specifically the needs of small businesses and multifamily properties for energy upgrades, their interest in and barriers to selecting energy-efficient options, their inclination to utilize financing for upgrades, and their preferences regarding financing options. These findings provide insight into GGF's role in the marketplace, whether it is filling a critical market gap, and the likelihood that customers will be interested in GGF when they have energy upgrade needs.

Plans for Energy Upgrades

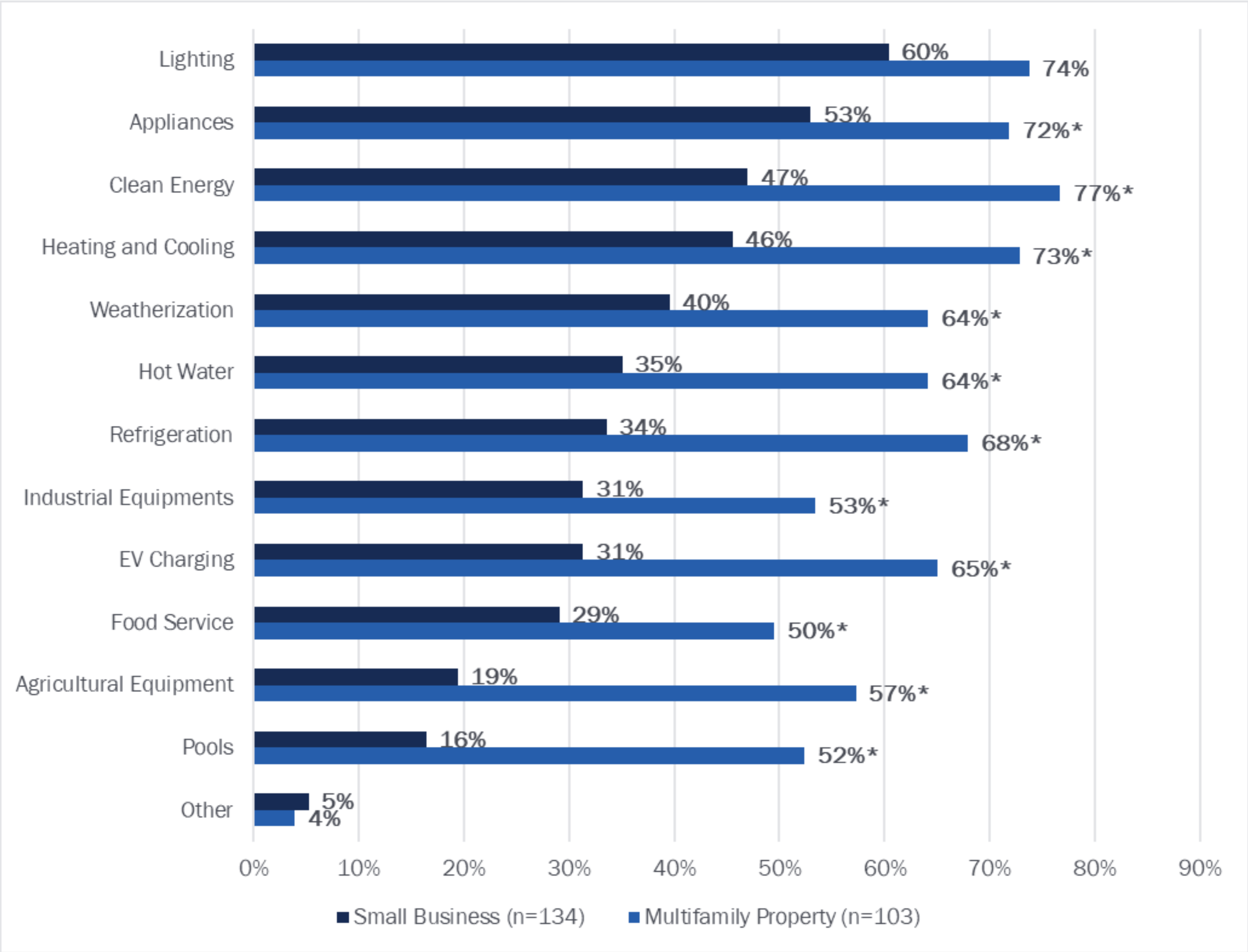
There will be strong demand for a wide variety of energy upgrades in the next five years, particularly among multifamily properties. GGF's ability to finance a mixture of energy-efficient, clean energy, and non-energy upgrades is a good match for these needs. Many customers are likely to choose energy-efficient options. Those who are less likely to choose energy-efficient options are concerned about performance and cost, but indicate that financing could increase their interest in these options

There is a significant need for energy upgrades among small businesses and multifamily properties. Figure 7 shows the types of energy upgrades that non-participants expect to make in the next five years. More than half of non-participant survey respondents anticipate multiple energy improvement needs. These needs extend beyond equipment upgrades (e.g., lighting, appliances, HVAC) to include clean energy (e.g., solar and battery storage),[10] EV charging, and weatherization. GGF's ability to cover these upgrades, as well as any non-energy upgrades, may position it well to serve these customers' needs.

Multifamily properties anticipate a greater need than small businesses for every type of energy upgrade we explored. Affordable multifamily properties (n=78) had higher anticipated need for almost all kinds of upgrades compared to market-rate properties (n=25): agricultural equipment (64% versus 36%), weatherization (73% versus 36%), industrial equipment (62% versus 28%), clean energy (79% versus 68%), EV charging (69% versus 52%), food services (53% versus 40%), heating and cooling (77% versus 60%), lighting (79% versus 56%), pools (59% versus 32%), refrigeration (73% versus 52%), and hot water upgrades (72% versus 40%).

[10] In the survey, we provided examples of "clean energy," including solar, battery storage, wind turbines, and microgrid equipment.

Figure 7. Non-participant Future Energy Upgrade Needs



** indicates statistical significance at the 99% confidence level (p < .01). Multiple responses allowed.*

Customers are likely to choose energy-efficient options for a wide range of measures. For each of the applicable upgrades (i.e., excluding clean energy and EV charging), we asked survey respondents how likely they were to choose energy-efficient options on a scale of 1 to 5, with 5 indicating "very likely" (Table 11). Most non-participant survey respondents indicated that they were somewhat likely (scores of 4) or very likely (scores of 5) to choose energy-efficient options. While small businesses were more likely to pick energy-efficient options for some types of measures than multifamily properties, the opposite was true for other types of measures. Market-rate and affordable multifamily properties were similarly a mixed bag. Overall, 82% of small businesses and 92% of multifamily properties indicated that they were somewhat or very likely to choose energy-efficient options for at least one type of upgrade (86% of total respondents).

Table 11. Likelihood of Choosing Energy-Efficient Options

Measure Type	Customer Type	Not at all likely 1	2	3	4	Very likely 5	n
Agricultural Equipment	Small Businesses	0%	4%	23%	12%	62%	26
	Multifamily Properties	0%	3%	17%	37%*	42%	59

Measure Type	Customer Type	Not at all likely 1	2	3	4	Very likely 5	n
Appliances	Small Businesses	1%	0%	15%	28%	55%	71
	Multifamily Properties	0%	0%	15%	41%	44%	73
Weatherization	Small Businesses	0%	4%	23%	23%	51%	53
	Multifamily Properties	0%	2%	12%	41%	45%	66
Food service	Small Businesses	0%	5%	18%	36%	41%	39
	Multifamily Properties	0%	0%	14%	35%	51%	51
Heating and Cooling	Small Businesses	0%	3%	10%	23%	64%	61
	Multifamily Properties	0%	1%	11%	44%*	44%	75
Industrial	Small Businesses	0%	5%	21%	29%	45%	42
	Multifamily Properties	0%	2%	20%	29%	49%	55
Lighting	Small Businesses	0%	1%	9%	25%	65%*	81
	Multifamily Properties	0%	3%	12%	51%*	34%	76
Pools	Small Businesses	0%	0%	9%	18%	73%*	22
	Multifamily Properties	2%	2%	19%	44%	33%	54
Refrigeration	Small Businesses	2%	2%	22%	29%	44%	45
	Multifamily Properties	0%	0%	17%	41%	41%	70
Hot Water	Small Businesses	0%	0%	9%	32%	60%*	47
	Multifamily Properties	0%	0%	23%	44%	33%	66
Other	Small Businesses	14%	0%	0%	14%	71%	7
	Multifamily Properties	0%	0%	25%	0%	75%	4

** indicates statistical significance at the 99% confidence level (p < .01)*

Performance and cost are key barriers, but financing could help more customers choose energy-efficient options. While most small businesses and multifamily properties are likely to choose energy-efficient options in their next upgrade, some still face significant barriers to adoption. We asked non-participant survey respondents who were neutral about or unlikely to choose energy-efficient options (n=107) about the barriers they face and whether financing could help. The most common barriers were performance concerns (56%), high upfront cost (53%), and doubts that the energy savings would justify the higher prices (45%). Most of these respondents (83%) indicated that they would be more inclined to consider energy-efficient options if financing were available to help offset costs.

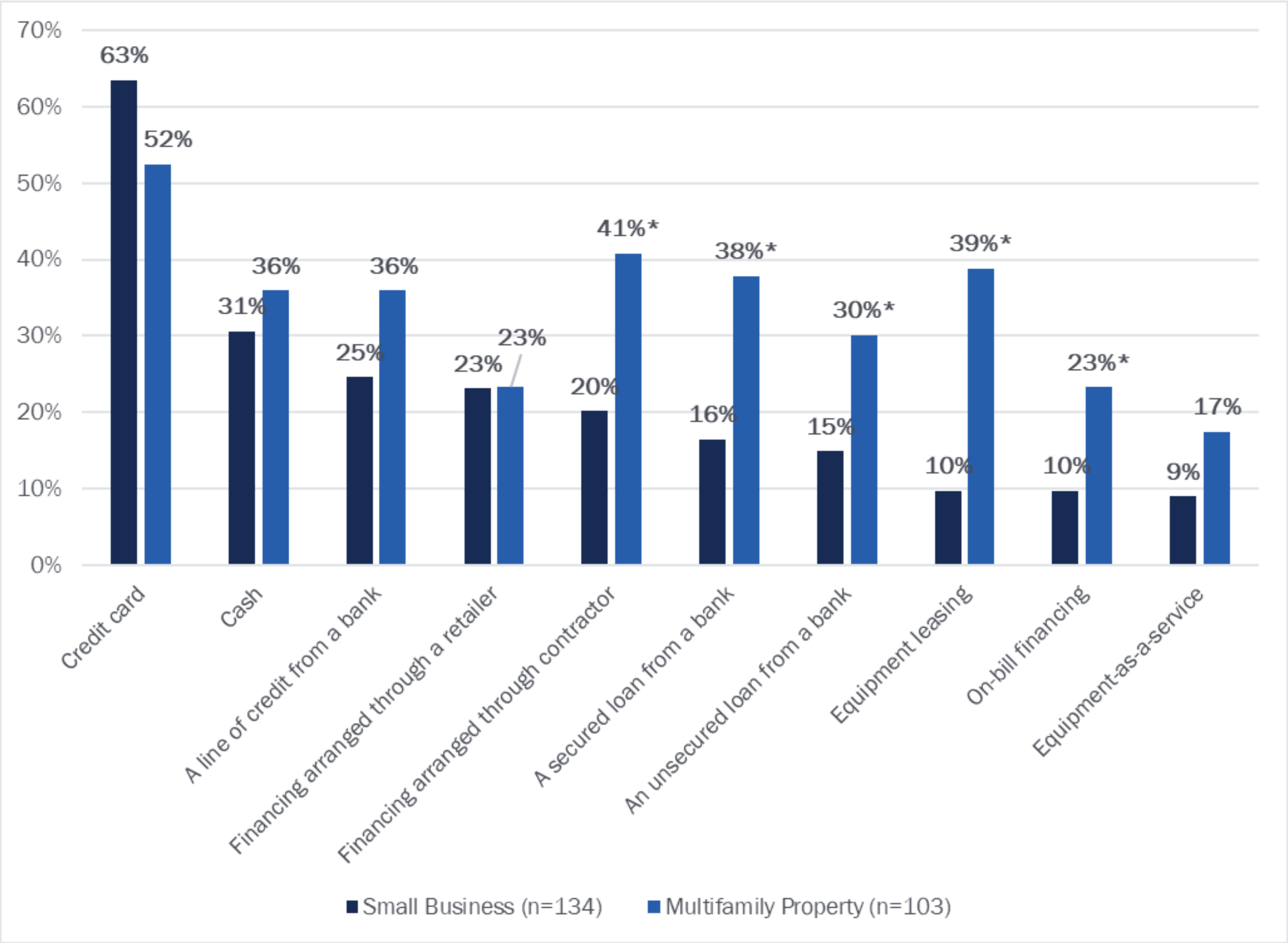
PAYMENT PREFERENCES

Customers prefer to avoid financing, which significantly limits the growth potential for GGF. Small businesses often struggle with their bottom line and may be unwilling or unable to afford additional monthly payments. Multifamily properties, particularly affordable ones, are more open to financing but may require more technical support to determine how to fund their projects.

CAEATFA, IOU Finance Leads, and third-party PAs all highlighted major barriers to program growth in the small business and multifamily markets. Small businesses and multifamily properties each have unique challenges. Small businesses often face challenges with business stability and cash flow, making them reluctant to take on additional debt. Multifamily properties, particularly affordable housing properties, are often owned by investment groups that manage complex layers of funding, referred to as a “finance stack” (e.g., private financing, investment funds, federal program funding, tax credits). Assembling all these sources of capital can take several years; as a result, multifamily property owners may prefer to invest in large upgrades when they refinance their existing debt. However, there may still be needs that GGF can support in between these periods when equipment fails or is scheduled for replacement. Across both small business and multifamily segments, customers often make energy upgrades reactively and typically scale them to fit available cash reserves. Taken together, these factors significantly reduce the need for financing and limit GGF’s ability to grow in these markets.

Multifamily properties are more open to financing compared to small businesses. We asked non-participants about their preferred payment methods for building or equipment improvements costing $5,000 or more (Figure 8). Results confirm that both customer segments prefer to avoid financing. Most small businesses and multifamily property owners preferred to use credit cards. Otherwise, cash was the next preferred option for small businesses. Multifamily properties, however, were more likely to choose financing arranged through a contractor or a secured loan from a bank, rather than paying cash. They preferred secured over unsecured loans, possibly because secured loans are generally less risky to the lender and provide more favorable loan terms. Affordable multifamily property owners showed a stronger preference for financing through contractors (46% compared to 24% for market-rate property owners).

Figure 8. Payment Preferences for Equipment Improvements



** indicates statistical significance at the 99% confidence level (p < .01). Multiple responses allowed.*

Multifamily properties require support in developing sophisticated financing approaches for projects. The two third-party PAs of multifamily programs we interviewed noted several challenges to funding projects where multifamily properties often need technical support. As discussed earlier, some properties, particularly affordable multifamily, may struggle to obtain approval for additional loans due to their existing financing structure. Multifamily properties also struggle to find the means to pay the contractor a portion of the project cost upfront. These challenges may partially explain why multifamily properties are more interested in equipment leasing and service contracts than small businesses, as these options may reduce upfront costs or be easier to obtain approval for than new loans. Service contracts often guarantee a certain amount of energy savings, making them more predictable in terms of return on investment.

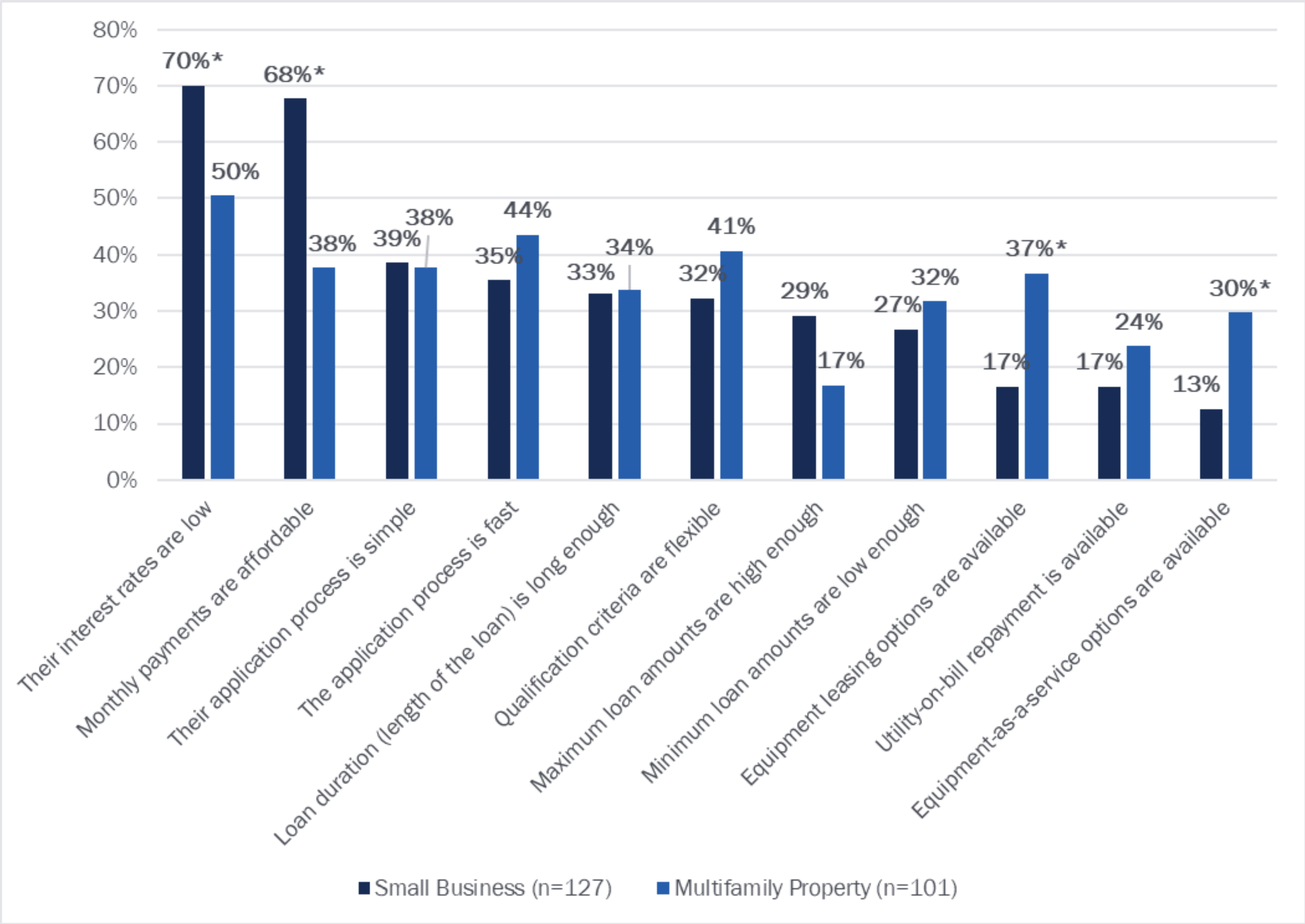
FINANCING ACCESS AND SELECTION CRITERIA

Respondents in both segments did not highlight access to financing as a critical barrier; however, small businesses are particularly focused on interest rates and the affordability of monthly payments. Multifamily properties often share this concern, but also highly value a smooth application process.

Most customers do not think they would struggle to qualify for financing, but some segments may face more challenges than others. Less than a third (23%, n=228) of non-participant respondents indicated that they would have difficulty qualifying for financing; however, small businesses (28%, n=127) were slightly more likely to experience difficulty than multifamily properties (17%, n=101).

Interest rates and affordability are the primary concerns for customers when selecting a financing option, but multifamily properties have unique needs. We asked non-participants to identify the most important criteria when selecting a financing option (Figure 9). "Low interest rates" and "affordable monthly payments" were the most commonly reported criteria overall; however, they were statistically more important to small businesses than to multifamily properties. Multifamily properties, on the other hand, were statistically more interested in financing options that do not involve traditional loans, such as equipment leasing and service contracts.

Figure 9. Financing Selection Criteria



* indicates statistical significance at the 99% confidence level (p < .01). Multiple responses allowed. The base size (n) in this figure only includes those survey respondents who indicated they would consider using financing options for energy improvements.

Multifamily properties more often face challenges related to the administrative burden of applying for financing, which potentially makes them a good match for GGF. As Figure 9 shows, while application processes are less important than several other criteria, multifamily properties are more concerned about them than small businesses.[11] This finding aligns with the insights provided by CAEATFA and the multifamily program implementers we interviewed. They noted that the administrative burden is particularly acute for multifamily properties with limited staff. Simplifying the application process and reducing documentation requirements, as GGF has, would directly mitigate these barriers. They also noted that properties could benefit from a more guided experience, whether through a program manager helping them navigate financing options or through a contractor coordinating all steps of the application.

[11] While not statistically different in Figure 9, in a separate question on financing barriers, multifamily properties were statistically more likely (41%, n=101) than small businesses (23%, n=127) to say a "slow application process" was a barrier.

FINANCING OPTIONS

Small businesses and multifamily properties have numerous options for financing projects, but the market landscape is becoming increasingly complex. For energy upgrades, many customers will choose the IOU's OBF program because it offers 0% interest, among other benefits. However, some customers do not qualify for OBF, and in these cases, GGF can provide a helpful alternative. When deciding, customers will compare GGF with other public programs and private financing options. Customers, especially small businesses, will focus primarily on interest rates and affordable monthly payments. Multifamily properties often place an emphasis on factors beyond affordability, which could be an advantage for GGF.

There are many financing options available to small businesses and multifamily customers. Table 12 compares the offerings of several key publicly funded, hybrid (i.e., combining public and private funds), and utility financing programs available to small businesses and multifamily properties in California. In general, customers have access to a wide variety of options for funding their projects, and each of them has advantages and disadvantages compared to GGF:

- **IOU OBF** offers 0% interest rates for all projects, whereas GGF can only achieve a 0% interest rate in some cases with IRBDs. Other important advantages of OBF are that it leverages customers' existing relationship with their utility and guarantees a net positive investment through bill neutrality. However, OBF requirements are much more restrictive than GGF's to guarantee that return. OBF loan limits are also lower and may not be suitable for large projects.
- **Commercial Property Assessed Clean Energy (C-PACE) and Fannie Mae** offer substantially larger and longer-term loans than GGF, but at market interest rates and with mortgage security requirements that may be unattractive to some customers or not possible for customers with complicated financing stacks.[12] Additionally, C-PACE is only available in municipalities with enabling legislation in place.
- **California Capital Access Program (CalCAP) and Infrastructure and Economic Development Bank (IBank)** offer similar loan amounts to GGF and sub-market interest rates based on LLRs and other credit enhancement approaches. The project requirements for these loans are less restrictive than those of GGF, but multifamily properties are not eligible for CalCAP and some IBank lenders' products. However, IBank and CalCAP include contractor and lenders fees that are often passed on to customers, whereas GGF does not charge fees.

In addition to those included in this analysis, a wide variety of public (e.g., Small Business Administration loans) and private (e.g., from commercial banks, solar companies, equipment service companies) products are available to small businesses and multifamily properties.

Table 12. Example California Financing Programs

Financing Program	GoGreen Financing	IOU OBF	C-PACE	Fannie Mae Green Financing Loans	CalCAP Small Business	IBank
Sector	Hybrid	Utility	Hybrid	Public	Public	Public
Interest Rates	Sub-Market	0%	Market	Sub-Market	Sub-Market	Sub-Market
Loan Amount	\$5K to \$5M[a]	\$5K to \$250K[b]	\$1M to \$400M	Any	Up to \$5M	\$5K to \$500K
Loan Duration Max	10 years [c]	10 years	30 years	30 years	Not specified	Up to 15 years
Multifamily Eligibility	Yes	Yes	Yes	Yes	No	Yes

[12] C-PACE is particularly challenging in this respect. C-PACE loans are secured by a property assessment recorded on the title. Loan origination requires coordination among property owners, lenders, local tax authorities, and senior mortgage lenders. This generally impacts transaction timelines and costs.

Financing Program	GoGreen Financing	IOU OBF	C-PACE	Fannie Mae Green Financing Loans	CalCAP Small Business	IBank
Non-Energy Upgrades Allowed	Yes	No	No	Yes	Yes	Yes

Note: Loan amount, loan term, and eligibility vary across lenders within a program. Stated ranges are estimates based on publicly available data from lenders. Actual ranges may vary.

[a] CAEATFA reported in June 2026 that the $5 million loan cap has been removed.

[b] San Diego Gas and Electric's OBF program allows loans up to $1 million.

[c] Some GGF lenders offer 15 or 20-year solar loans

Choosing financing options for energy efficiency and clean energy upgrades has become increasingly complex. Many of the same programs and financing options that existed in 2016 remain available in 2026. At the same time, the State of California has continued to aggressively pursue its strategic decarbonization goals, and utilities have continued to invest in demand-side management, increasing the number of programs available to help with the costs of adopting energy efficiency and financing. As such, customers face an increasingly complicated landscape when deciding how to fund. Shifting federal priorities around clean energy and federal program funding exacerbates this complexity. CAEATFA, IOU Finance Leads, and third-party PAs all agreed that customers increasingly need support to navigate this complex landscape and maximize the affordability of their projects. Contractors play a crucial role in presenting financing options to customers and connecting them with helpful programs to offset the costs of upgrades, making them essential to the success of programs like GGF.

OBF is a logical first choice for customers, but they may struggle to qualify due to the program's strict rules. CAEATFA, IOU Finance Leads, and third-party PAs we interviewed all agreed that, whenever possible, customers will choose OBF, primarily because of its 0% interest rate. However, many customers and projects cannot qualify for OBF due to several restrictions, such as loan size (i.e., projects exceeding $250,000), utility bill payment or credit history, utility account tenure (i.e., a minimum of 24 months), the desire to include non-energy measures (which are not eligible for OBF), or the inability to demonstrate utility bill neutrality.[13] Multifamily properties, in particular, may also have limited access to OBF due to their metering infrastructure. For example, multifamily projects may address the entire property across multiple meters, but the OBF loan must be assigned to a single meter. This makes it challenging to demonstrate bill neutrality.

GGF can help fill the gap when customers cannot qualify for OBF, provided it can offer similar or more affordable monthly payments compared to other options. If OBF is not an option, customers have a wide variety of other public programs and private financing options available to consider (Table 12). Contractors are crucial to ensuring GGF is one of those options. As discussed earlier, some of these other options also have credit enhancements to provide sub-market interest rates, and some are significantly less restrictive than GGF. At the same time, GGF's simplified application process, support for smaller loans, and accessibility to credit-challenged borrowers are important advantages over other options. However, the non-participant survey results clearly show that most customers, particularly small businesses, primarily decide based on interest rates and affordable monthly payments.

GGF is currently reliant on IRBDs to deliver more affordable monthly payments and drive growth. CAEATFA, IOU Finance Leads, and third-party PAs agree that GGF has needed to use the IRBDs to further reduce interest rates (thereby increasing the affordability of monthly payments) to levels that make it an attractive backup option to OBF. Otherwise, interest rates would be at or near market rate. Reinforcing this, one participating lender also noted that, while contractors can generate customer interest in GGF due to its streamlined processes and flexible qualification, the IRBDs have been critical in closing the deal. Historical trends in the data support this assertion. As discussed in Section

[13] Bill neutrality refers to the energy bill cost savings from the project meeting or exceeding the cost of the loan.

3.1, GGF loan volume increased considerably following the introduction of IRBDs (see Figure 1). Without IRBDs, it is unlikely the program would have had as much success.

Participants also emphasized the importance of affordable and predictable monthly payments. When asked why they chose GGF, most respondents (8 out of 10) cited GGF's low interest rates as the primary reason for participating, with 8 out of 10 participants also describing their monthly payment as manageable. In addition, nearly all participants (9 out of 10) characterized the application process as fast and easy to navigate, citing minimal documentation and few complications. Half of the participants (5 of 10) highlighted quick loan disbursement as another key program strength, with two mentioning it was especially critical for time-sensitive upgrades. Furthermore, five participants specifically praised lender competence, flexibility, and responsiveness.

AWARENESS AND INTEREST IN GOGREEN FINANCING

There is mixed awareness of GGF, and GGF needs contractors to continue promoting it to ensure it is considered among the wide array of options in the market. When presented to them, non-participants are highly interested in GGF's potential to deliver low interest rates, streamlined application processes, and flexible qualification criteria. If GGF can deliver on these features, customers would be highly likely to choose GGF the next time they need to make an upgrade. They have limited concerns about energy efficiency and clean energy requirements, provided they are an IOU customer.

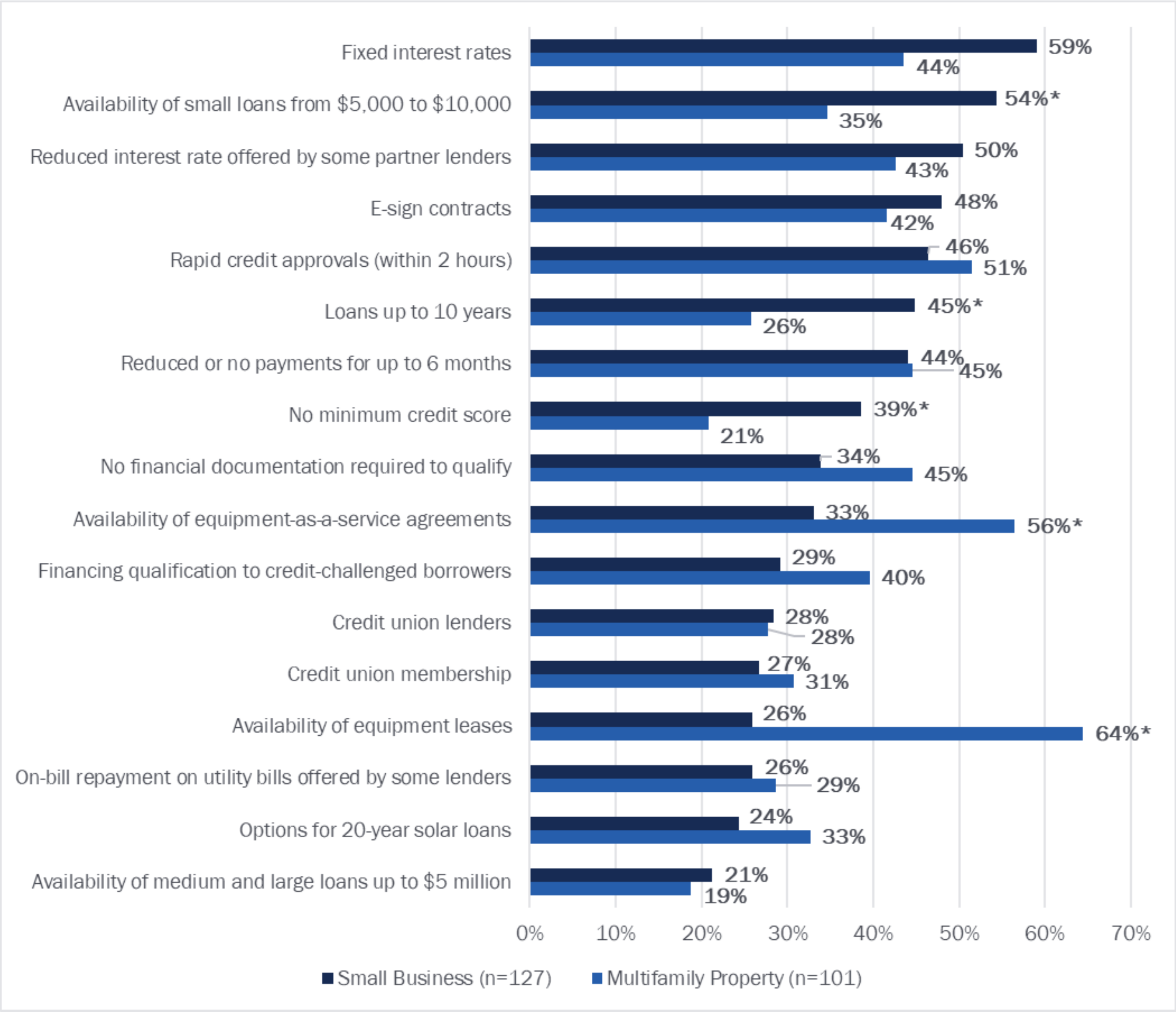
There is mixed awareness of GGF. About half (48%) of respondents were aware of GGF prior to taking the survey. This is a strong result, but it also highlights the need for contractors to continue promoting the program as an option for their customers.

Most non-participants expressed interest in many of GGF's features, with notable differences between small businesses and multifamily properties. After briefly describing the program, we asked non-participants about their interest in specific features available from some or all GGF partner lenders (Figure 10). In line with their selection criteria for financing in general (Figure 9), respondents in both segments were attracted to reduced, fixed interest rates, streamlined application processes (e.g., e-sign contracts, rapid credit approvals), and the opportunity for reduced or no payments for the first six months. We noted the following key statistically significant or otherwise large (10% or more) differences between segments, which often align with market intelligence provided by experts we interviewed.

- Small businesses were more interested in small loans ($5,000 to $10,000) compared to multifamily properties. According to some third-party PAs we interviewed, small businesses are more interested in making smaller, incremental upgrades as needed, rather than large retrofits. Multifamily properties, on the other hand, tend to have larger projects based on the size of their property. However, small loans are also preferred by affordable multifamily properties (37%, n=78), more so than they were for market-rate multifamily properties (26%, n=23).
- As with general financing preferences, multifamily properties showed a statistically higher interest in equipment leasing and service contracts compared to small businesses. The preference for equipment leasing and service contracts is especially prevalent among affordable multifamily properties (71% interested in equipment leasing and 60% interested in service contracts, n=78) compared to market-rate properties (43% interested in equipment leasing and 43% interested in service contracts, n=23).
- Small businesses and multifamily properties were drawn to different kinds of qualification flexibility. Small businesses were more interested in having no minimum credit score requirement. In contrast, multifamily properties were more interested in not requiring any financial documentation to qualify (which could be related to smoother application processes or qualification concerns), as well as lenders willing to qualify credit-challenged borrowers. This aligns with how these customers typically qualify for financing, based on our team's understanding

of lending practices. Small business loan underwriting tends to lean heavily on credit scores, whereas multifamily loan underwriting focuses on cash flow, i.e., whether revenue is sufficient to cover loan payments.

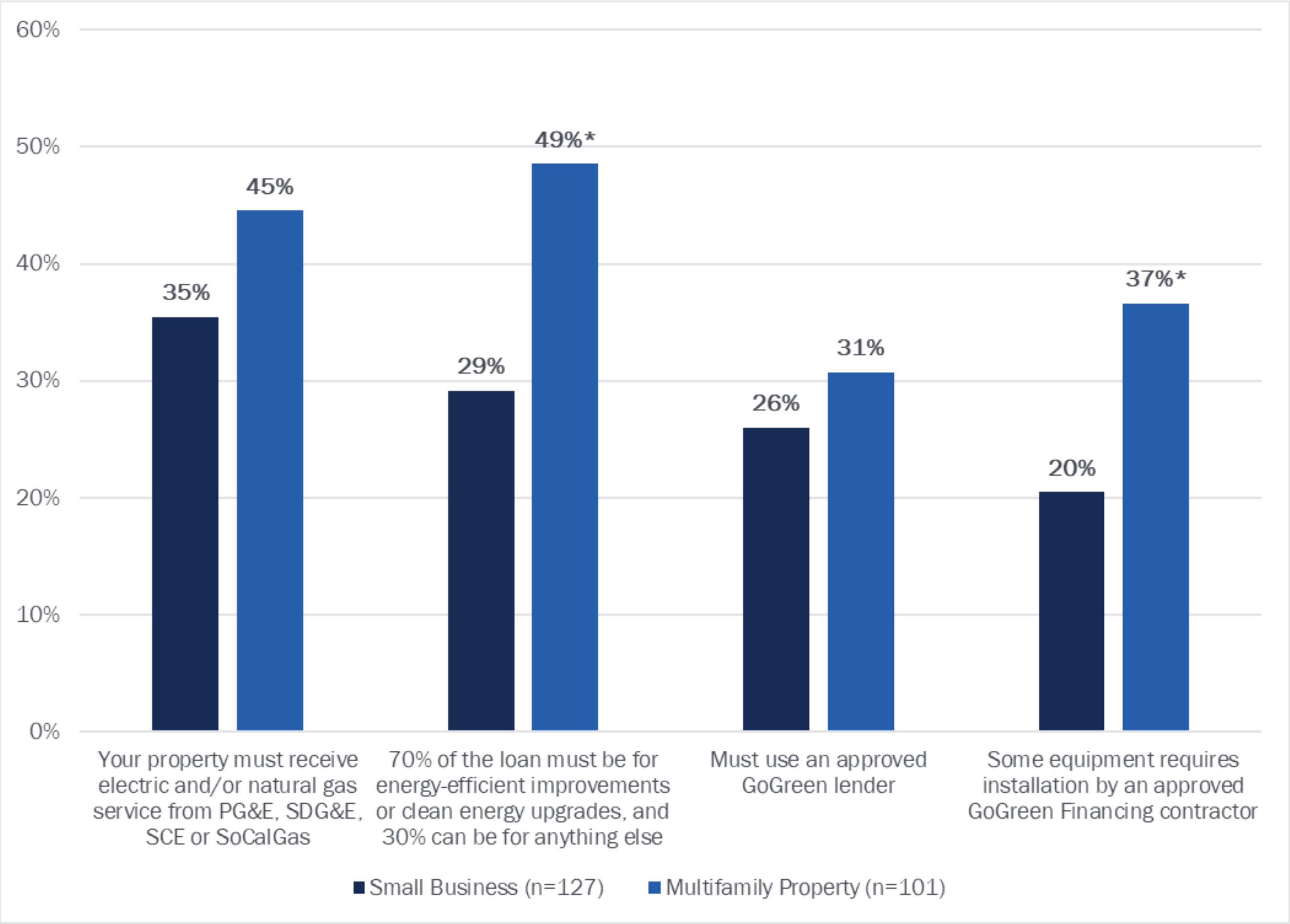
Figure 10. Interest in GoGreen Features



** indicates statistical significance at the 99% confidence level (p < .01). Multiple responses allowed. The base size (n) in this figure only includes those survey respondents who indicated they would consider using financing options for energy improvements.*

Energy efficiency and clean energy requirements are a concern for many multifamily customers, especially affordable multifamily properties. There are several unique requirements for GGF compared to other financing options. To qualify, the business or property must be an IOU customer, use GGF lenders and contractors, and at least 70% of the loan's credit-enhanced amount must go towards eligible energy efficiency or clean energy measures. We asked non-participants if these requirements made them less likely to choose GGF (Figure 11). Less than half expressed concerns about any one barrier. As expected, the requirement to be an IOU customer is a structural barrier for both segments, as some may be municipal utility customers. Otherwise, the majority of small businesses were not discouraged by the other requirements, but nearly half of multifamily properties expressed concerns about energy efficiency and clean energy requirements.

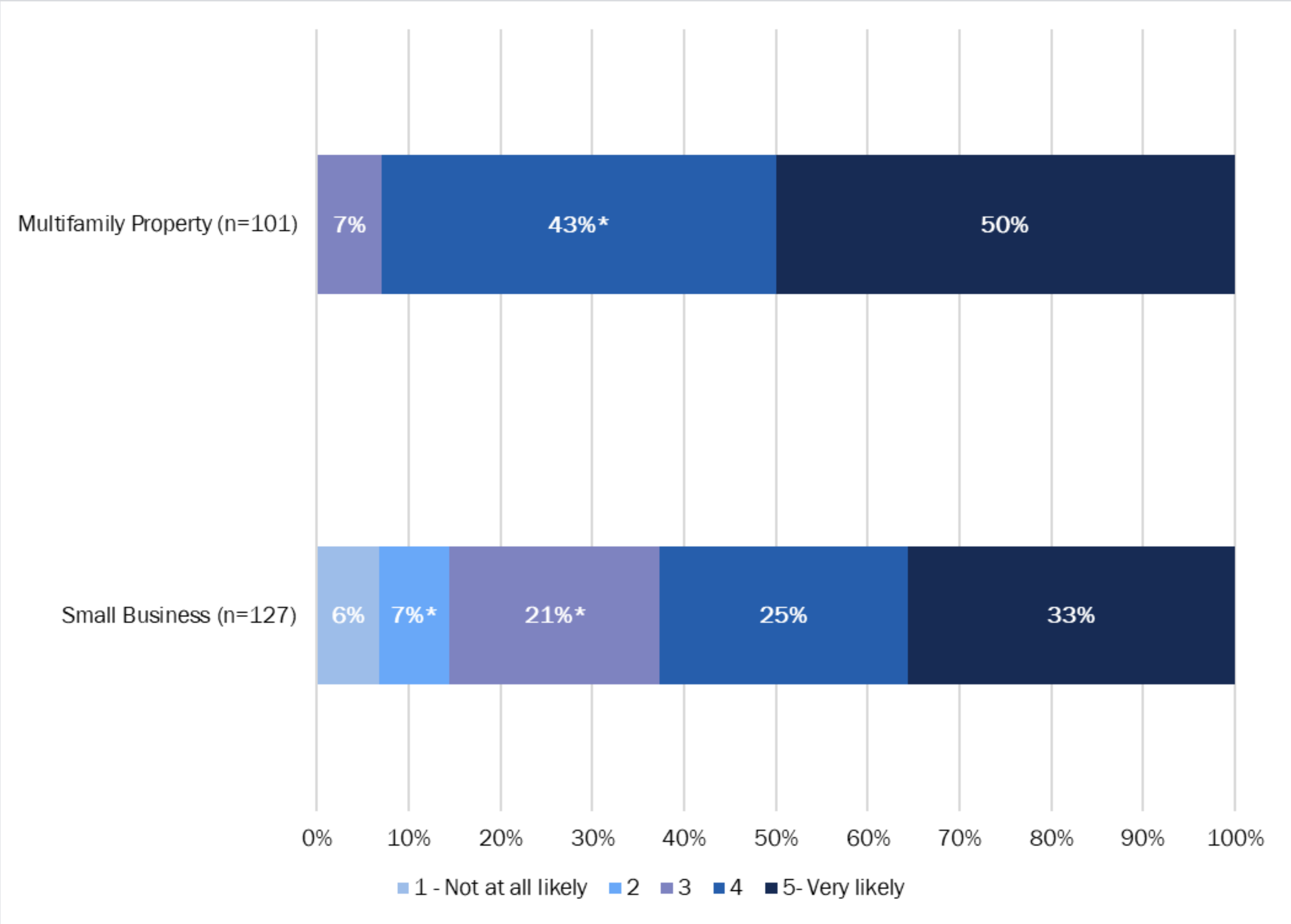
Figure 11. Discouraging GGF Requirements



* indicates statistical significance at the 99% confidence level ($p < .01$). Multiple responses allowed. The base size (n) in this figure only includes those survey respondents who indicated they would consider using financing options for energy improvements.

Concerns about requirements are not a dealbreaker, as most respondents report they would be likely to choose GGF the next time they need to make an upgrade. Overall, 73% of non-participant survey respondents indicate that they are “likely” or “very likely” to use GGF after reviewing the features and requirements, with multifamily properties reporting a statistically significantly higher likelihood compared to small businesses (Figure 12). Additionally, affordable multifamily properties show a statistically higher propensity to be “very likely” to use GGF (59%, n=78) than market-rate multifamily properties (17%, n=23). We asked respondents to explain in their own words why they would be likely to choose GGF. The top listed reasons for multifamily properties’ interest include sustainability goals (28 out of 130 distinct comments), energy savings (15 out of 130), low and fixed interest rates (14 out of 130), and opportunities to sponsor green projects or green loans (13 out of 130). The most frequently mentioned reasons for small business owners to use GGF include a streamlined and quick application process (9 out of 90 distinct comments), affordable financing qualifications (8 out of 90), as well as low and fixed interest rates (8 out of 90).

Figure 12. Likelihood to Use GoGreen



* indicates statistical significance at the 99% confidence level (p < .01). The base size (n) in this figure only includes those survey respondents who indicated they would consider using financing options for energy improvements.

3.3 DESIGN AND DELIVERY

In this section, we summarize key findings related to whether the design and delivery of GGF are sufficient to meet customer needs and support program growth. These findings draw on the perspectives of CAEATFA, IOU Finance Leads, third-party PAs, and participating and nonparticipating lenders. Our analysis is also based on our team's broader experience with financing programs.

CURRENT LENDER NETWORK

CAEATFA has targeted and recruited lenders with the potential to address market gaps and deliver the benefits that excite customers about GGF. However, only one lender has been able to produce substantial loan volume through GGF. Other participating lenders note that the LLR is not structured to sufficiently de-risk loan portfolios, thereby limiting program growth potential and GGF's ability to reach near-prime borrowers.

GGF has recruited specialist lenders that have the potential to serve the needs of credit-challenged borrowers. Five of the six partner lenders are NBFIs. NBFIs generally have greater flexibility than traditional banks, particularly in underwriting, which can enable them to offer more competitive terms and serve a broader range of borrowers that may not fit standard bank criteria. **Verdant is the top-contributing lender, which may be partly due to its strong alignment**

with the business model. Verdant contributed 77 of 111 GGF loans through July 2025 (Figure 3). Multiple factors contribute to Verdant's success with the program. They are a specialized NBFI focused on energy efficiency lending, have strong relationships with contractors, and, as an NBFI, have flexibility in their underwriting criteria, all of which align well with GGF's goals and delivery model. Furthermore, now that Verdant has established a significant loan volume, the LLR offers sufficient coverage against potential losses to encourage further participation.

Other participating lenders have had limited participation, citing concerns with the LLR's coverage. The next highest contributor was Ascentium Capital, with 26 loans. The remaining lenders contributed few, if any, loans to GGF. As discussed earlier, the LLR provides very limited loss coverage for lenders with low loan volume, and even one default is a significant risk for loss (see Loan Performance). Lenders we interviewed confirmed that the LLR contribution does not adequately de-risk each loan added to their portfolios. One lender noted that the leads provided through the program were consistently unable to meet underwriting criteria and, therefore, could not qualify for a loan. Lenders have had to exercise discretion in selecting which GGF leads they consider, and, in some cases, they have had to tighten credit standards for GGF leads to ensure the LLR appropriately de-risks their overall portfolio. These barriers prevent participating lenders from reaching the loan volume they need to be properly covered by the LLR, and prevent the program from reaching near-prime borrowers (i.e., those with credit challenges or who otherwise face difficulty qualifying for financing) as intended.

The IRBD has been helpful to lenders, but can be challenging to promote. Lenders reported a notable increase in loan activity following the introduction of the IRBD. However, CAEATFA and one participating lender noted that its current structure makes it difficult to promote broadly. As the lender explained, while reduced interest rate financing can help promote clean energy projects, the IRBD's actual rate reduction varies on a case-by-case basis. As a result, lenders cannot provide a clear interest rate offer upfront, limiting its value as a marketing tool.

NEW LENDER RECRUITMENT

CAEATFA has recognized the need for new lenders. Community development financial institutions (CDFIs) are a priority for network expansion based on their ability to reach credit-challenged borrowers, access and deploy low-cost capital, and, in many cases, provide technical assistance. However, GGF has faced challenges recruiting additional CDFIs and may need a significantly different funding approach to convince them to participate.

Many CDFIs are designed to address the critical market gaps and could be particularly influential in the affordable multifamily sector. CAEATFA has recognized that expanding the lender network is a critical strategy to support program growth and has placed particular emphasis on recruiting CDFIs. While CDFIs share similarities with NBFIs, their primary distinction is a mission centered on community development and financial inclusion. To achieve a CDFI certification, at least 60% of a financial institution's activities must be targeted to one or more low- and moderate-income (LMI) populations or underserved communities. CDFIs often have access to low-cost capital that commercial banks do not, such as the U.S. Treasury's CDFI Fund, foundations, philanthropic investors, and tax credits (e.g., the New Markets Tax Credit). In addition, CDFIs typically provide development services, including technical assistance, business training, and financial counseling, alongside financing, to help borrowers succeed and enhance their community impact. Based on the findings about their needs and financing preferences (see Section 3.2), multifamily properties may particularly benefit from CDFIs: multifamily properties are more interested than small businesses in lenders willing to work with credit-challenged borrowers, and experts we interviewed note that multifamily properties, particularly affordable properties, may need additional technical assistance navigating options with their complicated financing structure, identifying no-cost programs and funding sources, and ultimately maximizing affordability.

Compared to traditional lenders, CDFIs are better suited to support expanded multifamily participation, particularly for customers facing limited access to conventional financing. As discussed in Section 3.2, multifamily properties are particularly interested in flexible qualification criteria for lenders willing to work with credit-challenged borrowers (Figure

9 and Figure 10). While small businesses also benefit from technical assistance, CAEATFA and Programs Implementers we interviewed noted that finance-related technical assistance is especially necessary for multifamily properties, which often lack dedicated energy managers and whose management staff are already stretched thin. This assistance is especially important for affordable multifamily properties, which tend to have more complicated financing stacks compared to market-rate properties. CDFIs specialize in meeting both needs, providing access to various funding streams (e.g., grants and near-prime lending) and helping credit-challenged borrowers understand their options, improve their financial documentation, and enhance their loan applications.

Recruiting CDFIs may require significant adjustments to LLR design. One CDFI, Travis Credit Union, participates in the program but has only completed one GGF loan to date. Despite outreach efforts, no new CDFIs have joined the program to date. Non-participant lender interviews included five CDFIs. Consistent with participating lenders, nonparticipating lenders all indicated that they were not interested in participating in GGF as currently designed because the LLR's coverage does not sufficiently de-risk their portfolios, but indicated they would consider partnering with GGF if changes were made to the LLR.

Funding administrative costs may help attract CDFIs and support long-term market transformation. Many CDFIs are interested in energy efficiency and clean energy financing and see potential to further their missions with GGF. Several nonparticipating CDFIs noted that access to grants would be highly valuable, particularly if used to fund staff time devoted to providing support services to potential borrowers, which is an essential part of how CDFIs effectively serve their customers. Grants could also help offset the relatively high administrative costs associated with closing small loans. Costs for loan underwriting, origination, and servicing remain similar regardless of the loan amount, making smaller projects more resource-intensive to finance and potentially reducing returns when fees are not increased to reflect this. If the LLR can help them overcome barriers to entry, having this additional funding could help build the capacity of partner CDFIs to serve affordable multifamily and other underserved markets, possibly without intervention from CPUC.

IMPACTS OF RECENT DESIGN ADJUSTMENTS

CAEATFA is pursuing several design adjustments to better meet the needs of small businesses and multifamily properties. Some of these efforts are still ongoing, and for others, the benefits have yet to materialize. IRBDs stand out as the most successful adjustment, driving significantly more loan volume; however, this strategy may not be sustainable in the long term.

CAEATFA is pursuing several initiatives to enhance GGF's attractiveness to new lenders and increase multifamily lending. These changes align with the feedback provided by participating and nonparticipating lenders, and include the following:

- Updating program regulations to provide accelerated contributions for multifamily projects. See Section 2.2.
- Pursuing several potential sources, including the California Energy Commission, taxpayer funding, and philanthropic organizations interested in supporting affordable multifamily housing.
- Partnering with organizations like the Association for Energy Affordability, Inclusive Prosperity Capital, and the Milken Institute to develop pre-assembled financing options, which could help multifamily owners navigate complex projects with multiple sources of capital.

GGF loans can now be repaid using IOU OBR systems; however, the benefits of this approach are unclear. This model helps diversify financing options for customers and expands the range of costs that can be financed through on-bill structures, particularly since OBF and GGF OBR can theoretically be combined. It also has the potential to unlock more affordable financing terms, largely due to the increased repayment confidence that comes from tying payments to a utility service that may be disconnected for nonpayment. However, the benefits of integrating with OBR have yet to materialize in practice. The model has proven complex and costly to set up and operate, given the level of coordination required between the utility and participating lenders. One participating lender noted that although their organization initially expressed interest in OBR, they ultimately decided not to move forward with the option due to its complexity. Further illustrating this challenge, only one transaction has been completed under the OBR structure to date, and the lender involved reported an early delinquency that was linked to delays in establishing the customer billing mechanism on the utility side, rather than borrower nonpayment. Further refinements will be needed before OBR can be delivered more effectively.

IRBDs have accelerated program participation, but they may not be sustainable and are unlikely to lead to lasting changes in lending practices. IRBDs function like a rebate or cash payment – the funds are spent only once. LLRs, on the other hand, “revolve” in the sense that the loans are eventually repaid, so the funds committed to the LLR can return to CAEATFA’s reserves to support future participation. CAEATFA also does not see IRBDs as a long-term strategy, noting that it has already been difficult to sustain IRBDs and that they have had to reduce the IRBD amounts on each loan as a result. Furthermore, from a program theory standpoint, using IRBDs to reduce interest rates is a promotional tool that can ‘sweeten the deal,’ but it is unlikely to alter lender confidence in near-prime borrowers or their interest in energy efficiency and clean energy financing in ways that enable the CPUC to eventually exit the market, as intended.

4. CONCLUSIONS AND RECOMMENDATIONS

GGF has continued to struggle to gain traction in the market, with low levels of participation, particularly among multifamily properties, and limited levels of engagement from partner lenders. There will be significant demand for energy efficiency and clean energy upgrades among small businesses and multifamily properties over the next five years; however, GGF is not well-positioned to support that demand, and may not be needed by most customers.

Customers are not inclined to use financing if they can avoid it. They will choose 0% interest financing from OBF if they qualify, and otherwise have a wide variety of financing options available to them. Customers will choose the lowest interest rates and most affordable monthly payments first, which GGF has only been able to deliver using IRBDs –the impact of which can be empirically observed in the significant increase in participation after introducing them in 2023. IRBDs are a relatively costly use of ratepayer funds compared to LLRs, but if GGF can sustain the IRBDs, customers that cannot qualify for OBF will likely choose GGF: it offers affordable payments, streamlined application processes, flexibility for credit-challenged borrowers, and alternative forms of financing (like equipment leases and service contracts).

GGF may not be reaching customers who truly need improved access to financing, which raises questions about the program's premise. Most non-participants we surveyed indicated that they would not face significant barriers to accessing financing if they wanted it, and anecdotal evidence from the participant interviews suggests they could have found financing without GGF. Several noted using GGF specifically as a bridge loan. However, participant interviews also suggest that multifamily properties may have had more need for GGF than small businesses,

That said, there are market gaps that GGF could address with the right implementation strategies. There is consensus across industry research and the perspectives of the experts we interviewed that small businesses and multifamily properties often cannot afford the upfront cost of energy efficiency and clean energy upgrades, and some may not be considered creditworthy based on their financial performance, location, existing financing stack, or other risks. These customers, particularly affordable multifamily properties, also require technical assistance to navigate complex financing arrangements, understand their options, and ensure they are maximizing rebates, grants, and other no-cost programs before taking on debt.

CAEATFA is pursuing several strategies to address these needs, such as utilizing IRBDs, exploring alternative funding sources, collaborating with key IOU programs, and forming technical assistance partnerships. It is also focusing on recruiting specialized lenders like CDFIs, which can serve near-prime borrowers and offer technical assistance. However, the program has struggled to attract new partner lenders mainly because of the limited coverage of the LLR, as without a high volume of loans, just a few defaults can wipe out the reserve. Both participating and non-participating lenders we interviewed see this as a major barrier to more engagement. As a result, GGF's current design doesn't fully align with the business models of the lenders it most needs. The introduction of OBR for GGF is a promising step, as it could reduce overall risk, but further structural changes to the LLR and funding strategies are likely necessary to attract more lenders.

The CPUC is entering into discussions with CAEATFA about the future of GGF in early 2026. This study provided numerous market insights but also raised several additional questions that the CPUC should consider in its decision-making process. Is it justifiable or necessary to continue providing preferential financing to all small businesses and multifamily customers, especially when there is evidence that many participants don't specifically need GGF? Are IRBDs a sustainable or cost-effective use of ratepayer dollars? What is the likelihood that the strategies CAEATFA is currently pursuing will be able to overcome the hurdle of lower lender participation? Is GGF leading to market transformation?

4.1 RECOMMENDATIONS

We support and see potential in CAEATFA's current strategic efforts to better meet customer needs and recruit specialized lenders. However, without more significant changes, continued investment in GGF risks supporting projects that would have proceeded without the program's support and commits the CPUC to a long-term market intervention strategy without a clear goal. A more targeted approach would better align program resources with CPUC policy goals and improve the likelihood that GGF delivers meaningful value to customers with the greatest financing needs. Based on the results of the study, we make the following recommendations:

- **Refocus the program on affordable multifamily housing as the primary target market.** To maximize public value, GGF should shift emphasis to affordable multifamily housing, where the evaluation found the strongest alignment between financing need and program objectives. This may require deprioritizing or phasing out broad participation from small businesses and market-rate multifamily properties so that limited program resources are not spread thin across segments with lower incremental impact. The overall market size for this segment is relatively small; as such, participation expectations should be calibrated accordingly. However, the potential for meaningful impact is high.
- **Recruit CDFIs by meaningfully increasing LLR contributions for affordable multifamily loans.** GGF should prioritize recruiting CDFIs as partner lenders for affordable multifamily housing and adjust the LLR structure accordingly to make their participation viable. This would involve returning to a targeted approach in which only affordable multifamily properties receive enhanced LLR support. To sufficiently de-risk the program for CDFIs, particularly during early or low volume phases of participation, LLR contributions may need to be significantly more accelerated than under the current structure—for example, exceeding 30% of the first $200,000 of loan value—or provide greater overall coverage than the existing strategy of covering 10% of the first $1 million. By providing additional funding upfront, GGF can protect lenders from losses, especially when they are just starting out and have only made a few loans, making participation less risky and reducing barriers to entry. CAEATFA should work directly with prospective CDFI partners to identify contribution levels that meaningfully change participation decisions.
- **Pursue market transformation by expanding administrative support for CDFIs.** In addition to enhancing credit support, GGF should pursue market transformation by expanding administrative support for CDFIs serving affordable multifamily housing. Interviews indicate that a key barrier to breaking into the affordable multifamily space is the cost and complexity of originating and servicing loans for EE and clean energy projects. GGF could help address this barrier by using ratepayer funds or other funding sources to offset a portion of lenders' administrative costs, including underwriting, origination, servicing, and technical assistance, as well as coordination with multifamily program administrators. This support would allow CDFIs to build internal capacity, gain experience in energy lending, and develop more standardized, cost-effective processes. Over time, this approach can reduce per-loan transaction costs, increase lender confidence, and make this type of lending more routine and scalable, supporting an eventual pathway toward reduced program intervention.

APPENDIX A. RESOLUTION E-4900 METRICS

In 2017, the CPUC established specific metrics for evaluating the success of the Energy Efficiency Financing Pilots, as shown in Table 13.

Table 13. Energy Efficiency Financing Pilot Metrics

Goal	Metric	CPUC Comments
The financing tool is **scalable**	Number of loans made by the Pilot, with breakdown by: ▪ Growth in the number of loans on a month-by-month basis over the lifetime of the Pilot ▪ Total amount of financing generated by the Pilot ▪ Geographic distribution of loans, including the ability to reach new regions of the state, especially those with large, underserved populations	Data should be presented to show whether these financing tools can reach a significant and growing number of Californians.
The financing tool is **leveraged** by private capital and support	Private capital participation in the Pilot, as measured by: ▪ Number of financial institutions participating in the pilot, and types of financial institutions participating (such as credit unions) ▪ Amount of private capital attracted	Data should be presented to indicate whether these financing tools can become partially or entirely self-supporting, that is, can reach a point where they depend on ratepayer funds less or not at all.
The financing tool **reaches underserved Californians** who would not otherwise have participated in energy-efficient upgrades	Analysis of participants in the Pilot, according to: ▪ Credit scores of loan participants reported on an aggregate basis ▪ Length of time allowed for applicants to pay back the loans ▪ Percentage of participants deemed "underserved" as measured through CalEnviroScreen data, area median income, or other poverty statistics ▪ Whether participants would have qualified for existing private energy efficiency loan programs at interest rates and terms that they can afford or would accept	The "counterfactual" of whether participants would have taken loans from elsewhere for the same upgrades is difficult to demonstrate, but best efforts should be made to provide data showing that hard-to-reach communities were reached, and analysis done by evaluation, measurement & verification (EM&V) contractors can also be consulted.
The financing tool produces **energy savings**	Energy savings that resulted, as measured: ▪ Through customer meter data provided by the utilities via Energy Division data request (customer privacy must be maintained) ▪ Through normalized metered energy consumption analysis, as an option ▪ Comparison of energy savings from other loan programs to that of the pilot, if possible, to assess through EM&V	Lower-income participants may prefer longer loan repayment periods, so the length of time allowed for repayment may offer a proxy for the ability to reach low-income communities.

APPENDIX B. KEY PROGRAM PERFORMANCE DATAPOINTS

Table 14 below summarizes GGF performance across three areas: Participation and Engagement, Value in the Marketplace, and Program Design. We rate each area using the following scale:

- ▲ Performing well
- ▬ Some improvement needed
- ▼ Significant improvement needed

Table 14. Summary of GGF Program Performance

Area	Key Finding	Performance Rating
Participation and Engagement		
Customer Participation	GGF participation has increased substantially since the last evaluation (102 of 111 loans). However, multifamily uptake remains limited, with only 11 participating properties. The program's growth is largely driven by IRBDs; across 50 IRBDs, total costs reached $328,736 (averaging $6,575 per loan), raising concerns about long-term sustainability.	▬
Lender Participation	Since inception, four of six partner lenders have closed GGF loans. Loan volume has been concentrated with one lender (69% of loans). Lenders say the LLR structure has not sufficiently de-risked their portfolios. Given the size of these loans, one or two defaults can significantly reduce the LLR, especially in the early participation phase. This concern persists despite defaults to date remaining below national benchmarks.	▼
Reaching the Underserved	GGF treats small businesses and multifamily properties as categorically underserved, but there is more nuance in the market that the program is not intentionally targeting. GGF provides enhanced LLR contributions to multifamily properties and over a third of participants (43 of 111) operate in disadvantaged communities. Participant interviews suggest that many customers did not need GGF to complete their projects, but it may have helped with the timing and scale of their projects.	▬
Energy Savings and Emission Reductions	The GGF loans supported 297 energy efficiency measures and 3 clean energy measures across 111 loans, with loan amounts ranging from $5,000 to over $800,000, averaging more than $90,000 per loan. Nearly two-thirds of the measures financed through the program were for lighting upgrades, along with investments in HVAC systems, refrigeration, water heating, and improvements to building envelopes. Clean energy measures included solar and solar + storage. As a result of these efforts, GGF helped customers achieve at least 1,800 MWh and 92,000 Therms in energy savings, as well as 876 metric tons of CO_2 reduction.	▲
Value in the Marketplace		
Potential to Finance Upgrade Needs and Encourage Energy Efficiency	Many non-participant survey respondents anticipate making a wide variety of energy upgrades within the next five years (between 32% and 66% depending on the upgrade), and 86% report being 'somewhat' or 'very' likely to opt for energy-efficient options. More than half (60%) of customers anticipate making clean energy upgrades (e.g., solar, storage), and 46% anticipate making electric vehicle charging upgrades. While overall interest in energy efficiency is high, access to capital remains a meaningful barrier for a subset of non-participants: 23% of non-participant respondents indicated they would have difficulty qualifying for financing. Consistent with this, among respondents who were neutral about or unlikely to choose energy-efficient options, 83% reported that the availability of financing would make them more likely to adopt energy efficiency. GGF's ability to cover energy efficiency, clean energy, and non-energy upgrades (up to 30% of the loan value) has the potential to meet these multifaceted needs.	▲

Area	Key Finding	Performance Rating
Ability to Address Market Gaps	Most customers prefer to use cash or a credit card when they can. Non-participant survey results suggest that GGF and its partner lenders offer attractive products. If they needed financing, 73% of non-participant survey respondents indicated that they are “likely” or “very likely” to use GGF after reviewing the features and requirements; however, these responses were taken in isolation, and the reality is that there are many options available on the market. Customers will choose financing based on interest rates and affordable monthly payments first. CAEATFA, IOU Finance Leads, and third-party PAs we interviewed all agreed that IOU on-bill financing (OBF), which offers 0% interest rates among other benefits, is the logical first choice for customers. However, many customers cannot qualify for OBF, in which case GGF will be compared to the many other options in the market. GGF’s streamlined application process and flexible qualification criteria are important benefits; however, GGF currently relies on IRBDs to deliver the low interest rates and affordable payments that customers want, raising questions about whether the program can serve a market gap without them.	—
Program Design		
Loan Performance	Most loans are in good standing. While $202,337 in loan capital has defaulted through 3 loans, the program’s delinquency rate (2.73%) remains comparable to national commercial loan benchmarks (2.75%). Despite a reasonable rate of default, the total loan capital defaulted accounts for 17% of the total loan loss reserve fund.	▲
Expanding the Lender Network	CAEATFA has targeted and recruited lenders with the potential to serve customers who would otherwise not quality for financing and deliver the benefits that excite customers about GGF. However, CAEATFA has recognized the need to recruit new kinds of specialized lenders, particularly community development financing institutions (CDFIs), to better meet the needs of multifamily customers. However, recruitment efforts have been unsuccessful so far. CDFIs are very interested in entering the energy efficiency and clean energy space, with a focus on affordable multifamily housing. However, non-participating CDFIs we interviewed said the current LLR structure provides insufficient loss coverage and prevents them from joining the program.	▼
Strategic Design Changes	CAEATFA has implemented key design changes to better meet customer needs. These changes have focused on lowering financing costs through IRBDs, simplifying repayment through OBR, expanding eligibility to smaller loans and additional clean energy technologies, and streamlining program administration by consolidating previously separate offerings. More recent restructuring efforts, including integration with IOU billing systems and revisions to the LLR structure, were intended to improve risk mitigation, broaden lender participation, and create a more consistent and accessible financing pathway, particularly for multifamily properties. It is too soon to tell whether these changes will yield results. CAEATFA is also pursuing alternative sources of funding and technical assistance partnerships; however, these efforts have not been completed.	—
Potential for Market Transformation	There is no clear exit strategy for the CPUC based on GGF’s current design. The LLR has not meaningfully changed partner lenders’ ability or interest in underserved markets and credit-challenged borrowers. IRBDs have been a helpful promotion tool, but are not designed to transform the market.	▼

APPENDIX C. NON-PARTICIPANT SURVEY TOPLINE

ENERGY IMPROVEMENT NEEDS

Q1. First, let's focus on your plans for building or equipment improvements at your property/business sites. Do you anticipate making any of the following building or equipment improvements to your property/business over the next 5 years?

	Market Sector		Multifamily Type		Total (n=237)
	Small Business (n=134)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
Lighting	60%	74%	79%	56%	66%
Appliances	53%	72%*	73%	68%	61%
Clean Energy	47%	77%*	79%	68%	60%
Heating and Cooling	46%	73%*	77%	60%	57%
Weatherization	40%	64%*	73%*	36%	50%
Hot Water	35%	64%*	72%*	40%	48%
Refrigeration	34%	68%*	73%	52%	49%
EV Charging	31%	65%*	69%	52%	46%
Industrial Equipment	31%	53%*	62%*	28%	41%
Food Service	29%	50%*	53%	40%	38%
Agricultural Equipment	19%	57%*	64%	36%	36%
Pools	16%	52%*	59%	32%	32%
Other	5%	4%	4%	4%	5%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01). Multiple responses allowed.

Q2. When the time comes to upgrade the following items, how likely are you to choose energy-efficient options that save energy but cost more compared to standard equipment? Please use a scale from 1 to 5, where 1 is "Not at all likely' and 5 is "Very likely."

	Market Sector		Multifamily Type		Total
	Small Business	Multifamily	Affordable	Market Rate	
Hot Water	92% (n=47)	77% (n=66)	73% (n=56)	100% (n=10)	83% (n=113)
Pools	91% (n=22)	78% (n=54)	80% (n=46)	63% (n=8)	82% (n=76)
Lighting	90% (n=81)	85% (n=76)	85% (n=62)	86% (n=14)	88% (n=157)
Heating and Cooling	87% (n=61)	88% (n=75)	90% (n=60)	80% (n=15)	88% (n=136)
Appliances	83% (n=71)	85% (n=73)	84% (n=57)	88% (n=16)	84% (n=144)
Food Service	77% (n=39)	86% (n=51)	90% (n=41)	70% (n=10)	82% (n=90)
Industrial Equipment	74% (n=42)	78% (n=55)	81% (n=48)	57% (n=7)	76% (n=97)
Weatherization	74% (n=53)	86% (n=66)	86% (n=57)	89% (n=9)	81% (n=119)
Refrigeration	73% (n=45)	83% (n=70)	81% (n=57)	92% (n=13)	79% (n=115)
Agricultural Equipment	73% (n=26)	79% (n=59)	82% (n=50)	67% (n=9)	78% (n=85)

Other	86% (n=7)	75% (n=4)	67% (n=3)	100% (n=1)	82% (n=11)

Note: Percentages encompass responses indicating Somewhat Likely or Very Likely; n in parentheses represents the respondents who reported a plan to upgrade specific aspects in Q1.

Q3. Below are some reasons why someone might choose standard equipment options instead of energy-efficient options. Please select all the reasons that might be relevant to you.

	Market Sector		Multifamily Type		Total (n=107)
	Small Business (n=48)	Multifamily (n=59)	Affordable (n=45)	Market Rate (n=14)	
Energy-efficient equipment costs too much	56%	51%	51%	50%	53%
Concerns that energy-efficient equipment may not perform as well as standard equipment	48%	63%	64%	57%	56%
Energy-efficient equipment usually does not save enough energy to justify the higher costs	35%	53%	58%	36%	45%
Energy-efficient equipment isn't always in stock	19%	41%	38%	50%	31%
Lack of knowledge about energy-efficiency equipment options	13%	22%	20%	29%	18%
Something else	0%	2%	0%	7%	1%

Note: Multiple responses allowed; n in parentheses represents the respondents who selected a score of 1 through 3 on the 1-5 likelihood scale (1 = "not at all likely," 5 = "very likely") for choosing energy-efficient equipment in Q2.

Q4. If there were financing options available that helped you pay the increased costs of energy-efficient options, would you be more likely to consider energy-efficient options instead of standard efficiency options?

	Market Sector		Multifamily Type		Total (n=107)
	Small Business (n=48)	Multifamily (n=59)	Affordable (n=45)	Market Rate (n=14)	
Yes	73%	92%	96%	79%	83%
No	15%	8%	4%	21%	11%
Don't Know	13%*	0%	0%	0%	6%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parentheses represents the respondents who selected a score of 1 through 3 on the 1-5 likelihood scale (1 = "not at all likely," 5 = "very likely") for choosing energy-efficient equipment in Q2.

FINANCING NEEDS

Q5. If you make building or equipment improvements costing $5,000 or more, which of the following ways are you likely to pay for them? Select all that apply.

	Market Sector		Multifamily Type		Total (n=237)
	Small Business (n=134)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
Credit card	63%	52%	49%	64%	59%

	Market Sector		Multifamily Type		Total (n=237)
	Small Business (n=134)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
Cash	31%	36%	37%	32%	33%
A line of credit from a bank	25%	36%	37%	32%	30%
Financing arranged through a retailer	23%	23%	22%	28%	23%
Financing arranged through your contractor	20%	41%*	46%	24%	29%
A secured loan from a bank	16%	38%*	44%	20%	26%
An unsecured loan from a bank	15%	30%*	32%	24%	22%
Equipment leasing	10%	39%*	41%	32%	22%
On-bill financing	10%	23%*	24%	20%	16%
Equipment-as-a-service that lets you use the equipment without buying it upfront or leasing it	9%	17%	19%	12%	13%
Any other type of financing	0%	0%	0%	0%	0%
Don't know	1%	0%	0%	0%	1%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$). Multiple responses allowed.

Q6. Would you consider using financing for building or equipment improvements, including loans, leases, or a service that lets you use the equipment without buying it upfront?

	Market Sector		Multifamily Type		Total (n=23)
	Small Business (n=18)	Multifamily (n=5)	Affordable (n=3)	Market Rate (n=2)	
Yes	61%	60%	100%*	0%	61%
No	39%	40%	0%	100%*	39%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who did not seek financing for energy improvements in Q5.

Q7. Below are some reasons why someone might not want to use financing options. Please select all the reasons why you might not use financing options to pay for building or equipment improvements.

	Market Sector		Multifamily Type		Total (n=9)
	Small Business (n=7)	Multifamily (n=2)	Affordable (n=0)	Market Rate (n=2)	
I don't want additional debt, so I'd pay cash	86%	50%	-	50%	78%
I worry that my business or property would not qualify for financing	14%	50%	-	50%	22%
Applying for financing is too much of a hassle	0%	0%	-	0%	0%
I'm not sure where I could find affordable financing	0%	0%	-	0%	0%

	Market Sector		Multifamily Type		Total (n=9)
	Small Business (n=7)	Multifamily (n=2)	Affordable (n=0)	Market Rate (n=2)	
Internal approval for financing would be difficult	0%	0%	-	0%	0%
I want to pay for energy improvements over time instead of all at once, like through a lease or a monthly service plan	0%	0%	-	0%	0%
Some other reason	14%	50%	-	50%	22%

Note: Multiple responses allowed; n in parenthesis represents the respondents who did not consider financing for energy improvements in Q6.

Q8. Where do you usually seek information about financing options? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Internet searches	56%	41%	40%	43%	49%
Lenders	51%	47%	45%	52%	49%
Family, friends, relatives	35%	33%	32%	35%	34%
Contractor/project developer	31%	63%*	62%	70%	45%
Utility company	22%	29%	32%	17%	25%
Social media: LinkedIn/Twitter (X)/Facebook/Instagram	17%	56%*	62%	39%	34%
Nonprofit organizations, including local community programs, associations, churches, etc.	13%	22%	24%	13%	17%
Personal bank or credit union	2%	0%	0%	0%	1%
I have not sought information about financing before	6%*	0%	0%	0%	4%

Note: *indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q9. What is most important to your business or property when selecting a lender for financing? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Their interest rates are low	70%*	50%	45%	70%	61%
Monthly payments are affordable	68%*	38%	32%	57%	54%
Their application process is simple	39%	38%	40%	30%	38%
The application process is fast	35%	44%	46%	35%	39%
Loan duration (length of the loan) is long enough	33%	34%	31%	43%	33%

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Qualification criteria are flexible	32%	41%	46%	22%	36%
Maximum loan amounts are high enough	29%	17%	14%	26%	24%
Minimum loan amounts are low enough	27%	32%	32%	30%	29%
Equipment leasing options are available	17%	37%*	38%	30%	25%
Utility-on-bill repayment is available	17%	24%	24%	22%	20%
Equipment-as-a-service options are available	13%	30%*	29%	30%	20%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q10. Do you have preferred lenders when financing?

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
No, I do not have a preferred lender	48%	46%	46%	43%	47%
Yes, my preferred lenders are:	36%*	13%	12%	17%	26%
Yes, but I do not wish to disclose the names of my preferred lenders	16%	42%*	42%	39%	27%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q11. Do your preferred lender's financing options meet your needs for energy improvements?

	Market Sector		Multifamily Type		Total (n=121)
	Small Business (n=66)	Multifamily (n=55)	Affordable (n=42)	Market Rate (n=13)	
Yes, they meet all or almost all of our financing needs	64%	65%	71%	46%	64%
Yes, they meet some of our financing needs	27%	31%	24%	54%	29%
No, they do not meet our financing needs	3%	4%	5%	0%	3%
Don't know	6%	0%	0%	0%	3%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who both considered financing for energy improvements in Q6 and had preferred lenders in Q10.

Q12. Which of the following barriers, if any, does your property or business experience when it comes to accessing financing? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
High interest rates	59%*	36%	32%	48%	49%
Monthly payments are not affordable	30%	20%	18%	26%	25%
Difficulty qualifying	28%	17%	18%	13%	23%
Complicated application process	24%	35%	35%	35%	29%
Slow application process	23%	41%*	38%	48%	31%
Loan durations (length of the loan) are too short	17%	25%	26%	22%	21%
Maximum loan amounts are not high enough	16%	17%	18%	13%	16%
Minimum loan amounts are not low enough	13%	15%	13%	22%	14%
Equipment leasing options are not available	9%	17%	19%	9%	12%
Utility-on-bill repayment is not available	8%	15%	18%	4%	11%
Equipment-as-a-service options are not available	6%	28%*	32%	13%	15%
None of the above	13%	16%	18%	9%	14%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

INTEREST IN GOGREEN FINANCING

Q13. Before today, were you aware of GoGreen Financing?

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
No	80%*	16%	6%	48%*	52%
Yes	20%	84%*	94%*	52%	48%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q14. Where did you first learn about GoGreen Financing? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=110)
	Small Business (n=25)	Multifamily (n=85)	Affordable (n=73)	Market Rate (n=12)	
Internet searches	68%	47%	47%	50%	52%
Family, friends, relatives	36%	35%	36%	33%	35%
Contractor/Project developer	32%	48%	49%	42%	45%

	Market Sector		Multifamily Type		Total (n=110)
	Small Business (n=25)	Multifamily (n=85)	Affordable (n=73)	Market Rate (n=12)	
Lenders	28%	31%	33%	17%	30%
Social media: LinkedIn/Twitter(X)/Facebook/Instagram	24%	55%*	58%	42%	48%
Utility company/program	20%	29%	27%	42%	27%
Nonprofit organizations, including local community programs, associations, churches, etc.	20%	11%	11%	8%	13%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$). Multiple responses allowed; n in parenthesis represents the respondents who both considered financing for energy improvements in Q6 and were aware of GoGreen in Q13.

Q15. GoGreen Financing, offered by the California Public Utilities Commission (CPUC), is a program that provides loans through approved lenders to help small businesses and multifamily properties invest in energy improvements. Below are some of the key features of GoGreen Financing. Please select all features that you are interested in.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Availability of small loans from $5,000 to $10,000	54%*	35%	37%	26%	46%
Loans up to 10 years	45%*	26%	24%	30%	36%
Reduced interest rate offered by some partner lenders, incentivized by the State of California	50%	43%	35%	70%*	47%
Availability of equipment-as-a-service agreements	33%	56%*	60%	43%	43%
Financing qualification available to credit-challenged borrowers through some partner lenders, incentivized by the State of California borrowers	29%	40%	37%	48%	34%
Credit union lenders	28%	28%	26%	35%	28%
Availability of equipment leases	26%	64%*	71%	43%	43%
On-bill repayment on utility bills offered by some lenders	26%	29%	27%	35%	27%
Availability of medium and large loans up to $5 million	21%	19%	19%	17%	20%
None of the above	6%*	0%	0%	0%	3%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q16. Are you interested in any of these Go Green Financing features, offered by some lenders? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Fixed interest rates	59%	44%	44%	43%	52%
E-sign contracts	48%	42%	42%	39%	45%
Rapid credit approvals (within 2 hours)	46%	51%	54%	43%	49%
Reduced or no payments for up to 6 months	44%	45%	42%	52%	44%
No minimum credit score	39%*	21%	15%	39%	31%
No financial documentation required to qualify	34%	45%	40%	61%	39%
Credit union membership	27%	31%	35%	17%	29%
Options for 20-year solar loans	24%	33%	33%	30%	28%
None of the above	4%	1%	1%	0%	3%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q17. Below are some requirements for GoGreen Financing. Please tell us if any of these requirements make you less likely to participate in GoGreen Financing. Please select all that apply.

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Your property must receive electric and/or natural gas service from PG&E, SDG&E, SCE or SoCalGas	35%	45%	47%	35%	39%
70% of the loan must be for energy-efficient improvements or clean energy upgrades, and 30% can be for anything else	29%	49%*	53%	35%	38%
Must use an approved GoGreen lender	26%	31%	32%	26%	28%
Some equipment requires installation by an approved GoGreen Financing contractor	20%	37%*	44%*	13%	28%
None of the above	39%*	20%	15%	35%	30%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01). Multiple responses allowed; n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q17B. After reviewing some of the GoGreen Financing features and requirements, do you think GoGreen can address the unmet needs of your business/property that your preferred lenders have not covered?

	Market Sector		Multifamily Type		Total (n=39)
	Small Business (n=20)	Multifamily (n=19)	Affordable (n=12)	Market Rate (n=7)	
Yes	55%	79%	83%	71%	67%
Unsure	40%	16%	8%	29%	28%

	Market Sector		Multifamily Type		Total (n=39)
	Small Business (n=20)	Multifamily (n=19)	Affordable (n=12)	Market Rate (n=7)	
No	5%	5%	8%	0%	5%

Note: N in parenthesis represents the respondents who considered financing for energy improvements in Q6 and whose financing needs were not all met by preferred lenders in Q11.

Q18. Overall, how likely are you to use GoGreen Financing the next time you make building or equipment improvements? Please use a scale from 1 to 5, where 1 is "Not at all likely' and 5 is "Very likely."

	Market Sector		Multifamily Type		Total (n=228)
	Small Business (n=127)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
5 - Very likely	33%	50%	59%*	17%	40%
4	25%	43%*	35%	70%*	33%
3	21%*	7%	5%	13%	15%
2	7%*	0%	0%	0%	4%
1 - Not at all likely	6%*	0%	0%	0%	4%
Don't know	7%	1%	1%	0%	4%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

Q19. Please explain in your own words why you are likely/unlikely/unsure to use GoGreen Financing?

	Market Sector		Multifamily Type		Total (n=221)
	Small Business (n=121)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Need more information	13%*	2%	1%	4%	8%
No current financing need	10%*	1%	0%	4%	6%
Affordable financing qualifications	9%	4%	0%	17%	7%
Reputation/awareness/branding of financing organization	9%	8%	9%	4%	9%
Ease of use	8%	6%	6%	4%	7%
Fit needs	8%	2%	1%	4%	6%
Upgrade needs	8%	2%	1%	4%	5%
Interest rate	8%	14%	14%	13%	11%
Sustainability	7%	32%*	39%*	9%	18%
Savings	6%	15%	18%	4%	10%
Perceived benefits	6%	7%	5%	13%	6%
Upfront costs covered	5%	4%	5%	0%	5%
Quick approval process	4%	4%	5%	0%	4%
Financing options/terms	4%	8%	10%*	0%	6%
Financing source	4%	1%	0%	4%	3%
Program appeal	3%	4%	0%	17%	3%

	Market Sector		Multifamily Type		Total (n=221)
	Small Business (n=121)	Multifamily (n=101)	Affordable (n=78)	Market Rate (n=23)	
Loan duration	2%	2%	3%	0%	2%
Loan size	1%	2%	3%	0%	1%
Green loan	0%	11%*	12%	9%	5%
Energy upgrade financing	0%	2%	1%	4%	1%
Regulations	0%	3%	3%	4%	1%
Other deterrents	3%	2%	3%	0%	2%
Other considerations	3%	0%	0%	0%	2%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who considered financing for energy improvements in Q6.

MARKET SEGMENT

Q21. Which of the following categories describes your business or property ownership? Select all that apply.

	Market Sector		Multifamily Type		Total (n=237)
	Small Business (n=134)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
Woman-owned	40%*	8%	8%	8%	26%
Minority-owned	28%*	5%	5%	4%	18%
Owned by a person with a disability	13%*	0%	0%	0%	8%
LGBTQIA+-owned	9%	19%	23%	8%	14%
Veteran-owned	7%	6%	5%	8%	6%
None of the above	26%	61%*	58%	72%	41%
Prefer not to answer	1%	8%	9%	4%	4%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01).

Q22. Does your property belong to a property management group, or is it an independent property?

	Market Sector		Multifamily Type		Total (n=103)
	Small Business (n=0)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
We belong to a property management group	-	62%	72%*	32%	62%
The property is an independent property	-	38%	28%	68%*	38%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who were multifamily property managers or owners.

Q23. What year was the property built?

	Market Sector		Multifamily Type		Total (n=103)
	Small Business (n=0)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
Before 1989	-	24%	21%	36%	24%
1990-2009	-	50%	50%	48%	50%
2010-present	-	26%	29%	16%	26%
Before 1949	-	0%	0%	0%	0%
1950 – 1969	-	1%	0%	4%	1%
1970 – 1979	-	7%	5%	12%	7%
1980 – 1989	-	17%	15%	20%	17%
1990 – 1999	-	20%	18%	28%	20%
2000 – 2009	-	29%	32%	20%	29%
2010 – 2019	-	23%	27%	12%	23%
2020 – present	-	3%	3%	4%	3%
Don't know	-	0%	0%	0%	0%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who were multifamily property managers or owners.

Q24. What percentage of tenants at your property currently receive any form of housing assistance?

	Market Sector		Multifamily Type		Total (n=103)
	Small Business (n=0)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
0%	-	4%	0%	16%	4%
1-25%	-	27%	10%	80%*	27%
26-50%	-	32%	42%*	0%	32%
51-75%	-	27%	36%*	0%	27%
76 - 100%	-	9%	12%*	0%	9%
Don't know	-	1%	0%	4%	1%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who were multifamily property managers or owners.

Q25. What percentage of units at your property are deed restricted?

	Market Sector		Multifamily Type		Total (n=103)
	Small Business (n=0)	Multifamily (n=103)	Affordable (n=78)	Market Rate (n=25)	
0%	-	14%	0%	56%*	14%
1-25%	-	23%	17%	44%	23%
26-50%	-	33%	44%*	0%	33%
51-75%	-	25%	33%*	0%	25%
76 - 100%	-	5%	6%	0%	5%
Don't know	-	0%	0%	0%	0%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who were multifamily property managers or owners.

Q26. How would you describe the sector(s) your business is in? Please select all that apply.

	Market Sector		Multifamily Type		Total (n=134)
	Small Business (n=134)	Multifamily (n=0)	Affordable (n=0)	Market Rate (n=0)	
Professional or trade services	52%	-	-	-	52%
Retail	16%	-	-	-	16%
Personal services	14%	-	-	-	14%
Housing	9%	-	-	-	9%
Health or medical services	7%	-	-	-	7%
Warehousing, distribution, or wholesale	7%	-	-	-	7%
Restaurants or food services	5%	-	-	-	5%
Entertainment or arts	5%	-	-	-	5%
Grocery store, supermarket, or convenience store	4%	-	-	-	4%
Lodging	4%	-	-	-	4%
Agricultural	3%	-	-	-	3%
Education or childcare	2%	-	-	-	2%
Libraries, parks, or recreation, sports, or community centers	2%	-	-	-	2%
Manufacturing or industrial	2%	-	-	-	2%
Nonprofit, charity, political, religious, or advocacy organizations, clubs, and associations	1%	-	-	-	1%
Government or public administration	1%	-	-	-	1%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level ($p < .01$); n in parenthesis represents the respondents who were multifamily property managers or owners.

Q27. What year was the building where your business is located built?

	Market Sector		Multifamily Type		Total (n=134)
	Small Business (n=134)	Multifamily (n=0)	Affordable (n=0)	Market Rate (n=0)	
2000 – 2009	21%	-	-	-	21%
1990 – 1999	17%	-	-	-	17%
1950 – 1969	14%	-	-	-	14%
1970 – 1979	13%	-	-	-	13%
2010 – 2019	13%	-	-	-	13%
2020 – present	12%	-	-	-	12%
1980 – 1989	7%	-	-	-	7%

	Market Sector		Multifamily Type		Total (n=134)
	Small Business (n=134)	Multifamily (n=0)	Affordable (n=0)	Market Rate (n=0)	
Before 1949	3%	-	-	-	3%

Note: * indicates the difference between small business and multifamily, or the difference between affordable multifamily and market-rate multifamily, is statistically significant at the 99% confidence level (p < .01). N in parenthesis represents the respondents who were small business owners.

Q28. How many people, including yourself, work in your current business?

	Market Sector		Multifamily Type		Total (n=134)
	Small Business (n=134)	Multifamily (n=0)	Affordable (n=0)	Market Rate (n=0)	
1-5	54%	-	-	-	54%
6-20	28%	-	-	-	28%
21-50	10%	-	-	-	10%
51-100	4%	-	-	-	4%
101 or more	4%	-	-	-	4%

Note: * indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who were small business owners.

Q29. What is the range of annual revenue generated by your business?

	Market Sector		Multifamily Type		Total (n=134)
	Small Business (n=134)	Multifamily (n=0)	Affordable (n=0)	Market Rate (n=0)	
$50,000 – 99,999	20%	-	-	-	20%
$1 million – 4.9 million	17%	-	-	-	17%
$100,000 – 249,999	14%	-	-	-	14%
Less than $49,999	13%	-	-	-	13%
$250,000 – 499,999	12%	-	-	-	12%
$500,000 – 999,999	11%	-	-	-	11%
$10 million – 15.9 million	5%	-	-	-	5%
$5 million – 9.9 million	4%	-	-	-	4%
$16 million and more	1%	-	-	-	1%
Decline to respond	2%	-	-	-	2%

Note:* indicates the difference between market sectors or multifamily types is statistically significant at the 99% confidence level (p < .01); n in parenthesis represents the respondents who were small business owners.

APPENDIX D. IMPACT ANALYSIS: DETAILED METHODS

This appendix provides additional detail on the data sources and our analysis approach for the impact analysis.

DATA SOURCES

GGF programs are not required to track or estimate ex-ante savings for projects, unless project costs exceed $350,000. The evaluation team relied on four sources to estimate ex-ante gross energy savings for GGB program projects, including:

- **Third-Party Custom Savings.** The program collected estimated ex-ante savings for projects where costs exceed $350,000. We applied the savings generated by the third-party licensed Professional Engineer, as we did not receive calculation files.
- **California Electronic Technical Reference Manual (eTRM).** We utilized the California eTRM to generate the majority of the savings based on the project information provided.
- **Alternate TRMs.** Several measures were not included in the California eTRM. We used alternate TRMs to calculate savings for these measures. The alternate TRMs used include the Tennessee Valley Authority (TVA) TRM and the Illinois TRM.
- **Program Tracking Data.** To determine some of the project parameters necessary to establish savings using the California eTRM, we used program tracking data from the California DEER database. The program tracking data stores information on the size and type of equipment associated with each measure. We were able to use this information to estimate these parameters for projects that did not include these details in their documentation.

SAVINGS ESTIMATION

STEP 1: REVIEW CUSTOM SAVINGS CALCULATIONS

The GGB program financed two projects that have not yet been evaluated, where total project costs exceeded $350,000, requiring third-party savings estimates for the seven installed measure types.[14] The evaluation team applied the savings estimates directly, as we did not receive calculation workbooks for these projects.

STEP 2: IDENTIFY MEASURES IN TRMS AND PROGRAM TRACKING DATA

We found savings in the California eTRM for 86% (258 of 301) of the measures and in the Illinois and TVA TRMs for 19 of the remaining measures. We found savings in the program tracking data for one additional measure and were unable to award any savings for 23 measures. Table 15 identifies the measure categories found in the various TRMs.

Table 15. Program Measure Categories by Status in TRMs

Measure Category	CA eTRM	Illinois TRM	TVA TRM
Agriculture	✓		
Appliances	✓		

[14] Custom savings included Electric Chiller, Cooling Tower, Gas Hydronic Boiler, Building Management System (BMS), LED Retrofit Kit, Wall Fan Upgrades, HVA Recommissioning, and VFD Retrofits.

Measure Category	CA eTRM	Illinois TRM	TVA TRM
Building Envelope	✓		✓
Food Service	✓		
HVAC	✓		
Industrial	✓		
Lighting	✓	✓	
Other	✓		
Refrigeration	✓	✓	
Transportation	✓		
Water Heating	✓		

The per-measure savings vary by project based on the following criteria:

- **Building Type:** The TRMs provide energy savings for multiple types of commercial buildings. The evaluation team applied TRM values that aligned most closely with each project's building type.
- **Climate Zone:** We applied TRM values based on the California climate zone for each commercial property (based on zip code).
- **Application Type:** The TRMs provide savings for application types: (1) accelerated replacement, (2) normal replacement, and (3) new construction. The program tracking dataset includes a data field that signifies whether the project was a replacement or a new installation. We applied TRM savings with pre-existing baselines for replacement projects and new construction baselines for new installations, where it was clear that the installations were new.

STEP 3: UPDATE MEASURE QUANTITIES

To calculate total energy savings, the per-measure units used in the program tracking data and the TRMs must be consistent. However, we found cases in which the program tracking data measure quantity units are unspecified and often inconsistent with the TRMs for 6 out of 12 measure categories. In these cases, we used average quantities from the program tracking data in the California DEER database for 2025, satellite imaging to determine square footage, and engineering judgment regarding the reasonable capacity of equipment to yield verified measure quantities. Table 16 identifies these inconsistencies.

Table 16. Quantity Units by Data Source

Measure Category	Quantity Units	
	Program Database	Verified
Agriculture	Unspecified Unit	Horsepower
Building Envelope	Unspecified Unit	Square Feet
HVAC	Unspecified Unit	Capacity (Tons or kBtuh)
Industrial	Unspecified Unit	Capacity (Tons or kBtuh)
Lighting	Unspecified Unit	Kilo-Lumen, Unit, Fixture, or Square Feet
Refrigeration	Unspecified Unit	Capacity (Tons or kBtuh)

GREENHOUSE GAS REDUCTIONS ESTIMATION

We converted Total Energy Savings into estimated GHG impacts by funding date year, as shown in the program tracking database. We used the CPUC Refrigerant Avoided Cost Calculator - Fuel Substitution Calculator to calculate how many metric tons of CO2 (tCO2) emissions savings were achieved from energy and gas savings during the program years 2019–2025.[15]

For emissions reductions from energy savings, the calculator applies annual conversion factors (tCO2/MWh) to each year of energy savings. These annual conversion factors are developed from long-run emissions inputs from the 2022 ACC Electrical Model v1b - IRP 2021 Reference System Plan.[16]

For emissions reductions from gas savings, a single conversion factor, the carbon content of a single unit of natural gas (tCO2/therms), is applied to the total gas savings. Before combining the two to arrive at the total emissions reductions, two methane leakage percentages are applied to each emissions reduction quantity: one for upstream methane leakage from power plants (which adds approximately 5% to the emissions reductions) and one for residential behind-the-meter leakage (which adds about 4% to the emissions reductions). The sum of the resulting emissions reductions after applying the methane leakage percentages is the total emissions reduction in metric tons of CO2.

[15] https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/building-decarbonization/fuel-substitution-in-energy-efficiency

[16] We also reviewed the most recent 2024 ACC Electric Model Version V1b to potentially incorporate this into our calculations, but concluded not to include it as that file is not used in the current FSC or RACC. The expected impact on our results is minimal.

APPENDIX E. DATA COLLECTION INSTRUMENTS

Non-Participant Survey

Participant Interview

Lender Interview

Implementer Interview

IOU Interview

CAEATFA Staff Interview

APPENDIX F. PUBLIC COMMENTS AND RESPONSES

Table 17 includes all public comments received on the draft scope of work along with evaluation team responses. We received comments from PG&E and CAEATFA in June 2026.

Table 17. Public Comments and Responses

Source	Section	Public Comment	Response
PG&E	4.1 Recommendations	The Go Green Program has a structure where the operating costs do not change significantly with volume. Refocusing GoGreen Business to just Affordable Multi-family, will not significantly reduce the operating infrastructure and costs. Furthermore larger volumes and a larger available market makes GoGreen Financing, that is currently available for both business and multi-family customers, a better opportunity for partner organizations (lenders and contractors). Limiting the program to just affordable multi-family may make it harder for CAEATFA to recruit these organizations. PG&E recommends that, if the program continues to be available for Multi-Family customers, then the program should continue to be available for Business Customers.	We appreciate PG&E's perspective and agree that narrowing the program's focus would not necessarily reduce fixed operating costs, and that broader eligibility may help maintain lender and contractor interest. However, our recommendation is not primarily about reducing costs or eliminating business customers. It is about aligning ratepayer support with the customer segment where the evaluation found the clearest financing gap and greatest potential for market transformation. To date, program activity has been concentrated among small businesses, where we found some evidence of free ridership and ample alternative financing options. By contrast, affordable multifamily properties show stronger financing barriers, higher upgrade needs, and greater alignment with the program's intended value proposition, yet none have participated to date. This suggests a need to recalibrate program focus. We support continued small business participation where CAEATFA and the CPUC determine it fills a genuine market gap and helps sustain lender/contractor engagement. However, affordable multifamily should be the primary strategic priority, particularly if trade-offs arise around outreach, technical assistance, lender recruitment, or enhanced credit support (e.g., IRBDs).
PG&E	4.1 Recommendations	PG&E notes that the GoGreen program previously had a specific Affordable multi-family iteration, and that it was concluded to not be significantly different from GoGreen Business so the programs were combined. The affordable multi-family program offered did struggle to recruit projects to the program despite significant effort to do so. PG&E recommends reviewing the challenges faced by the prior iteration of the Affordable Multi-family program operated by CAEATFA to determine whether investing in a new version would generate more participation.	The challenges PG&E identifies are consistent with our findings and we do not recommend simply recreating the prior approach. The fact that the previous iteration struggled underscores the need for a more tailored strategy, one that pairs enhanced credit support with specialized lenders, technical assistance, and financing structures designed around affordable multifamily constraints.

Source	Section	Public Comment	Response
		One example of the challenges reported was the difficulty Multi-family building operators face in committing to new debt due to covenents in the existing debt structure of those buildings that prohibit it. It should be determined whether GoGreen Financing can support a financing product by a CDFI or other financial institution that Affordable Multi-Family building operaters can generally participate in before investing further in that strategy. That financing product should have a track record of success with multi-family buildings.	
CAEATFA	1.2 Customer Segment Insights	The program has seen growing volume of financing agreements not reliant on interest rate buy-downs (IRBDs). Between July of 2025 when this evaluation period ended and June of 2026, the program has enrolled an additional 58 projects, with 17 of these not using the IRBD promotion. Another 20 projects not using the IRBD have been pre-approved and are in progress. This volume of projects not using the IRBD can be partially attributed to lenders working with contractors and customers to create IRBD arrangements unsubsidized by the program.	We appreciate the progress update. We did not update the body of the report with this information in order to keep all data consistent with the evaluation period, but we recommend this information be factored into any CPUC decision-making.
CAEATFA	1.2 Customer Segment Insights	Between July of 2025 when this evaluation period ended and June of 2026, the program has enrolled an additional 58 projects totaling $4,958,160.94. Of these, 17 projects totaling $2,388,658.08 did not use the IRBD, and another 20 projects have been pre-approved and are in progress. Note that this is coming during a fiscal year when the IRBD program was fully subscribed within the first month.	We appreciate the progress update. We did not update the body of the report with this information in order to keep all data consistent with the evaluation period, but we recommend this information be factored into any CPUC decision-making.
CAEATFA	3.1 Program Performance	One program benefit that is not mentioned is acceleration of project timelines. The program's combined offering of below-market interest rates with broadened credit eligibility, rapid approvals, and pre-funding allow projects to have capital within a few days of a credit application, greatly increasing the chance that the energy installation will be realized. Another result that was mentioned but not emphasized as a benefit was expanded energy projects through enhanced financing, this is one of the intended approaches to reduce GHG emissions through larger, more comprehensive energy retrofits.	Thank you for these additions. We touch on rapid approval benefits in Section 3.2. Figure 10 shows that rapid credit approvals were of interest to 44% of small businesses and 45% of multifamily properties we surveyed.
CAEATFA	4.1 Recommendations	Referring to: Refocus the program on affordable multifamily housing as the primary target market.	We appreciate this clarification and agree that, under a loss reserve model, building lender volume across a broader portfolio can strengthen cumulative coverage and may indirectly support lending to riskier borrowers,

Source	Section	Public Comment	Response
		This recommendation does not align with the current loss reserve approach. Most participating lenders will finance both commercial and multifamily properties. The cumulative nature of the loss reserve provides coverage across a lender's entire portfolio with the program, allowing lenders to take on riskier customers such as affordable multifamily. The best approach for a loss reserve program is to drive volume across all market sectors, building up lender's coverage and allowing them to expand credit approvals across their entire portfolio. Staff have also heard from affordable multifamily program implementers that even in cases where projects are highly incentivized, financing is needed to close the gap, but customers are unable to take on debt. In such cases a potential solution may be to have the contractor/project developer be the borrower. This would require commercial lending partners. The assertion that resources are spread thin across market sectors likewise does not align with the loss reserve approach. Loss reserves are cumulative and cyclical, if a customer does not default the contribution is recovered. Unlike rebate or incentive programs, resources are not spread thin but rather consolidated to provide greater coverage allowing participating lenders greater flexibility to expand portfolios to less creditworthy customers. Spreading staff time and resources between market segments is likewise not a concern. Most lenders in the program finance both commercial and multifamily. Some lenders have expanded their lending to affordable multifamily customers which they would not lend to without the coverage of a loss reserve, so combining lending across market segments increases the availability of financing for this market. In addition, most contractors will install retrofits in both market segments.	including affordable multifamily customers. We also acknowledge that CAEATFA does not view serving affordable multifamily customers as creating a resource constraint and that current lenders and contractors may be able to support multiple market segments. Restating our response to PG&E's first comment above, this recommendation is about aligning ratepayer support with the customer segment where the evaluation found the clearest financing gap and greatest potential for market transformation. To date, program activity has been concentrated among small businesses, where we found some evidence of free ridership and ample alternative financing options. By contrast, affordable multifamily properties show stronger financing barriers, higher upgrade needs, and greater alignment with the program's intended value proposition, yet none have participated to date. This suggests a need to recalibrate program focus. We support continued small business participation where CAEATFA and the CPUC determine it fills a genuine market gap and helps sustain lender/contractor engagement. However, affordable multifamily should be the primary strategic priority, particularly if trade-offs arise around outreach, technical assistance, lender recruitment, or enhanced credit support (e.g., IRBDs).

Source	Section	Public Comment	Response
CAEATFA	4.1 Recommendations	Referring to: Pursue market transformation by expanding administrative support for CDFIs. Over the past few years CDFI recruitment has been a major effort. Since this evaluation the program has approved two new CDFI lenders with three more with applications in process. Staff have spoken with over 60 lenders who have chosen not to participate under the current program structure, and have many contacts to pursue once expanded loss reserve coverage is made available. The program has also been focusing efforts on further recruitment of community lenders including member organizations such as the Opportunity Finance Network, the California Coalition for Community Investment, the Housing Partnership Network, and CAMEO Network. Program staff have heard repeatedly from lenders, both participating and non-participating, that greater protection from loss reserves is needed. Staff drafted regulations for an accelerated loss reserve approach which would both provide greater coverage for early lending in the program and would also allow for replenishment of loss reserves in the event of an early default, two common concerns from lenders. This approach has not yet been adopted due to the limited available funds for loss reserves during the current budget cycle, and is planned to be launched once sufficient funds are available.	Thank you for the update on CDFI recruitment, and our findings regarding recruitment barriers align with CAEATFA's. We support the accelerated LLR approach when future program funding becomes available.
CAEATFA	4.1 Recommendations	Referring to: Recruit CDFIs by meaningfully increasing LLR contributions for affordable multifamily loans. Staff have built relationships over the last few years with several players in the affordable multifamily energy space, with the goal toward consolidated offerings of enhanced financing, rebates/incentives, tax credits, grants, philanthropies, and other sources of funding. This has long been known to be a need in this space. Opportunities include learning from LADWP's CAMR and PG&E's SPOC programs, administering philanthropic funds as additional financial assistance and/or credit enhancements, and pre-assembled packages of financing/funding which take some of the administrative burden off of the CDFI and the customer.	Thank you for this update on CAEATFA's efforts. We recommend this be factored into any CPUC decision-making.

Source	Section	Public Comment	Response
		Collaboration with CDFI organizations such as OFN, CalCCI, and CAMEO has shown great interest from community lenders in climate lending, as well as desire to collaborate with each other, CAEATFA, and other organizations in this space. Cross-program/cross-entity efforts at consolidation are needed.	
CAEATFA	LLR Structure	The program LLR contribution is on a per loan basis, not on a portfolio basis. The contribution described here is for each individual loan. A single $1MM loan receives $57,500. $1MM comprised of 20 loans at $50k each would receive $200k.	Thank you for clarifying, we have corrected this.
CAEATFA	LLR Structure	The contribution rate does not change. The contribution is calculated for each loan, not for the lender's total portfolio.	Thank you for clarifying, we have corrected this.
CAEATFA	LLR Structure	There is also a Retroactive Claim feature, so as not to discourage future participation. Subsequent claims may be made against the same default after more LR funds are available.	Added.
CAEATFA	Key Terms and Definitions (Table 3)	Program regulations specify that AMF must be restricted to occupancy for at least 50% of the total units to households meeting the requirements of the income limits no greater than "moderate,"	Corrected.
CAEATFA	Key Terms and Definitions (Table 3)	GGB regulations state: "Eligible Small Business Financing Customer": A business or non-profit entity (other than a public entity) meeting at least one of the following size requirements: (1) 100 or fewer employees; (2) Annual revenues of less than $16 million; or (3) Meets the U.S. Small Business Administration's size standards for a Small Business matched to the North American Industry Classification System found in Part 121.201 of Title 13 of the Code of Federal Regulations.	Edited to match this definition exactly.
CAEATFA	Participation and Loan Characteristics (*Equity Status* above Table 5)	The summary at the beginning of this section states that there is no meaningful difference in lending between DACs and non-DACs. However, the text here only describes rates, terms, and financed amounts. One of the primary considerations of credit enhancements in DACs is improving customer creditworthiness, measured by metrics such as years in business, credit score, borrowing history, debt service coverage ratio, profitability, etc. A primary objective of the loss reserve approach is to qualify more customers for credit.	Our findings were limited to the data available in the program tracking database: loans in DACs and non-DACs had generally similar interest rates and terms, while DAC loans were smaller on average. We did not have borrower-level underwriting data, such as credit scores, years in business, borrowing history, debt service coverage ratio, or profitability, to determine whether the program improved access to credit for customers who would otherwise have been unable to qualify. This outcome could have occurred in a DAC or non-DAC, but this analysis was purely geographic in nature.

Source	Section	Public Comment	Response
CAEATFA	GGF Program Estimated GHG Impacts (Table 10)	This number would likely be much higher if factoring in the full year of enrollments	We agree that the 2025 GHG impact is smaller because only a partial year was included.
CAEATFA	Financing Options	GGF also does not charge fees to contractors, lenders, or customers, and requires significant borrower benefits to be offered by participating lenders. Fees to participate in IBank and CalCAP loan guarantee programs are passed on to the customer. This results in loan guarantees which are easier for lenders to approve but financing that is more costly for the customer.	Added.
CAEATFA	Example California Financing Program (Table 12)	The $5MM cap on loan size has been removed	Noted in a table note.
CAEATFA	Example California Financing Program (Table 12)	The program will pay out claims up to 15 years, or 20 years for solar loans. Loan length is dependent upon lender.	Included in a table note.
CAEATFA	Awareness and Interest in GoGreen Financing	Correction - Loans can be any amount, but will only be credit enhanced based on eligible measures. The loan does not have to be 70% or more eligible energy measures, the credit enhanced amount does. Multifamily rehabs are likely to be from $1 million to $30 million, where maybe 30% is energy related. This is acceptable in the program. Our maximum claim-eligible amount is $1 million per project so anything $4 million or higher is likely to exceed this amount.	Clarified.
CAEATFA	Impacts of Recent Design Adjustments	As of May 2026, thirty-eight projects have enrolled in OBR. Some participating contractors are making this a major part of their sales process.	We appreciate the progress update. We did not update the body of the report with this information in order to keep all data consistent with the evaluation period, but we recommend this information be factored into any CPUC decision-making.

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