California Hub for Energy Efficiency Financing
Status Update, March 2021

The California Alternative Energy & Advanced Transportation Financing Authority (CAEATFA) appreciates the opportunity to provide this update on the status of the California Hub for Energy Efficiency Financing (CHEEF) programs. CAEATFA has administered the CHEEF on behalf of the California Public Utilities Commission (CPUC) since receiving budgetary authority in October 2014. While CAEATFA is not a formal party to the Clean Energy Financing Proceeding (the Proceeding), we are submitting this update on the CHEEF programs in order to provide a snapshot of the current status of each program, convey key program design criteria, describe planned modifications to each program anticipated within the next several months, and to share challenges and lessons learned through program implementation.

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I. Introduction and Background on the CHEEF

CAEATFA and the CHEEF

CAEATFA is a state agency housed in the California State Treasurer's Office that strategically leverages private capital to advance the state's goals of reducing greenhouse gas (GhG) emissions, increasing deployment of sustainable energy resources, and fostering energy efficiency. As a rulemaking agency, CAEATFA adheres to the Administrative Procedures Act, which provides a public process through which regulations are enacted. This means that all regulations for programs administered by the CHEEF are developed with thorough stakeholder and public input. CAEATFA's Executive Director was recently appointed to also direct its sister agency in the Treasurer's Office, the California Pollution Control Financing Authority (CPCFA), which leverages private capital to support small businesses, including with sustainable infrastructure like EV charging.

The CHEEF and a corresponding series of pilot programs was authorized by the CPUC in recognition that California won't meet its energy savings goals without extensive private investment in energy efficiency. The CHEEF currently operates three financing programs for behind-the-meter customer investments: the Residential Energy Efficiency Loan Assistance Program (REEL), the Small Business Energy Efficiency Financing Program (SBF) and the Affordable Multifamily Energy Efficiency Financing Program (AMF) (collectively, the Programs). On-Bill Repayment (OBR) is being developed for the Small Business Program.

The customer-facing platform for the CHEEF Programs is GoGreenFinancing.com. GoGreenFinancing.com and customer-facing marketing for the CHEEF is handled by a marketing implementer, contracted with Southern California Gas Company, per CPUC direction. CAEATFA is responsible for lender and contractor outreach. More information on CAEATFA's implementation of the CHEEF beyond what is included in this status update, including quarterly reports and data summaries, can be found at treasurer.ca.gov/caeatfa/cheef.

CPUC Policy Guidelines

D.13-09-044, D.15.06.008, D.17.03.026, and Resolution E-4900 set certain policy guidance for the Programs. Primary among those guidelines are that the Programs were to:

1) **Leverage third-party capital with a credit enhancement**
    - A loan loss reserve model would allow participating private lenders to provide better terms and broader approvals through the Programs than their standard products.
    - Finance companies[1] apply to participate in the Programs and offer financing for energy efficiency upgrades.
2) **Provide a debt product not secured by real estate**
    - Customers should not be at risk of losing their property in the event of default.
3) **Test financing as a strategy to generate energy savings**
    - Financing should complement available rebate and incentive offerings, but rebates and incentives would not be required.
    - Bill neutrality would not be required.

[1] Throughout the document, the terms "lender" and "finance companies" are used interchangeably. "Finance company" is generally a more inclusive term, since "lender" tends to be associated with "loans."

4) **Reach underserved borrowers**
   - At least one third of credit enhancement dollars should support loans to Low to Moderate Income (LMI) customers; borrowers with low credit scores may also be considered underserved.
5) **Undergo an evaluation after a two-year pilot phase**
   - A CPUC-contracted evaluator would assess the Programs' effectiveness, including ability to leverage private capital, scalability, reaching underserved customers, and energy savings.

Key Program Features

Stemming from this guidance, there are certain features common to each of the three current CHEEF Programs:

Financing is distinct from rebates and incentives

Third-party private financing is distinct from traditional rebate or incentive programs in several ways. First, ratepayer funds are used to leverage private capital in the form of a credit enhancement but are recaptured once the financing is paid off, unlike rebates and incentives, which are expensed as cash payouts and not recoverable. Second, customers repay 100% of the cost of the financed energy upgrade with interest. What the customer receives through a financing program is not an "incentive" in the form of a subsidy on their equipment or installation, but access to capital at better rates and terms than they otherwise would receive, or a credit approval where they would otherwise not qualify.

Approach to savings and project eligibility

Because rebate and incentive programs are direct expenses to ratepayers, they generally require projects with measures beyond those that are legally required. Rebate and incentive programs also limit measures based on strict cost effectiveness rules. In contrast, the use of private capital allows customers to make the types of energy efficiency investments (such as double-pane windows, HVAC systems with long paybacks, or heat pump conversions) that may only bring a building up to code or won't meet conventional Total Resource Cost (TRC) metrics, but still contribute to the state's GHG reduction goals. The CHEEF Programs allow financing for projects at code, recognizing that most California buildings were built prior to the establishment of Title 24.

The Programs also allow for projects with both comprehensive or single measure upgrades. The Programs take a portfolio approach to energy savings as opposed to ensuring savings on every project. A simple set of guidelines for energy efficiency upgrades, without complicated eligibility rules around measures, is also critical for scalability for third-party capital programs.

CAEATFA, as a financing Authority, has not been directed to calculate energy savings for the Programs. The CPUC also has not approved a mechanism for the IOUs to claim savings for a "finance-only" project that does not go through one of their core or third-party programs. Energy savings thus far have only been determined by the CPUC evaluator for a limited set of early loans as part of the REEL Program.

Complement existing IOU/REN/CCA programs

The Programs are designed to complement other ratepayer-funded programs. Customers often choose to finance an upgrade without a rebate or incentive. Financing can also help customers pay for the portion of measures that are not covered by a rebate or incentive, leveraging the efforts of the IOUs, RENs and CCAs to encourage energy efficiency upgrades. CAEATFA has designed the Programs such that any measure that is part of an IOU, REN or CCA program is eligible to be financed.

Unsecured financing products

Finance companies may offer unsecured loans or loans secured by the energy efficiency equipment itself. Financial products available through the CHEEF are distinct from real estate loans, home equity loans, or PACE in this regard, and work well for customers who do not want a lien placed on their property. Property renters and tenants are also eligible.

Finance companies have "skin in the game"

For each loan or lease that is enrolled in one of the Programs, CAEATFA deposits an amount of ratepayer funds into the finance company's loss reserve account, held at a trustee bank. The credit enhancement provided through the loan loss reserve pool allows finance companies to approve loans or leases that carry more risk than they would otherwise accept. However, lenders share in losses on defaults. This helps lenders align their financial interest with that of preserving ratepayer funds and issue loans where the borrower has the means to repay.

- *Shared loss on every default:* Lenders are able to recover up to 90% of the outstanding claim-eligible financed amount on any given loan in the event of a default. Lenders will absorb at least a 10% loss on any charged off loan.
- *Shared loss on the portfolio:* Lenders are only eligible to receive claim payments up to the amount of funds available in their loss reserve accounts. Even if a lender received a 20% loss reserve contribution for every loan, they would only have coverage for a fifth of their total portfolio.

Benefits to borrowers

Finance companies who wish to participate in the Programs must demonstrate how access to the loss reserve will provide benefits to customers. The benefits that customers receive through the Programs vary between Program and finance company but, in general, finance companies are able to offer some combination of:

- Broader credit approval allowing for customers with lower credit scores, early-stage businesses, or businesses in industries traditionally perceived as carrying too much risk.
- Lower interest rates.
- Extended repayment terms, which keep monthly payments low.
- Access to smaller or larger amounts of credit.
- Financing for 100% of the cost of the energy upgrade, which removes upfront cost barriers for borrowers.

II. Program Status

The Residential Energy Efficiency Loan Program (REEL)

Status Snapshot

- **1,125 loans** comprising **$18.7 million** of **private capital** have been leveraged with **$2.8 million of credit enhancement** as of Feb. 28, 2021[2].
- **8 participating** credit union **lenders[3]** and **501 participating contractors**; 133 contractors have completed more than one project financed through REEL.
- **Open to homeowners and renters** of properties 1-4 units, including single-family homes, townhomes, condos, and manufactured and mobile homes with site-built foundations.
- Customers with a credit score of 580 can access unsecured loans for 5, 10, and 15 years at rates of 3.49%, 4.49% and 5.49% respectively.
- CAEATFA is currently planning modifications to the REEL regulations to take effect in May 2021 that, among other changes, will streamline operations, support scaling, and create a microloan pathway.

REEL Program Design Considerations

CEAETFA has incorporated the following key design considerations into the Program:

1. **Reaching underserved populations**:
    - *LMI borrowers:* In order to implement CPUC guidance that at least one third of credit enhancement funds should support loans to LMI borrowers, the loss reserve contribution rates for REEL were developed to incentivize lenders to make loans to LMI borrowers. REEL launched with a larger loss reserve contribution for loans made to LMI customers (20% of loan principal, compared to 11%), based on household income. CAEATFA learned during the initial years of implementation that lenders could not consistently calculate household income because they only obtained income data for the borrower, which was often only one member of the household. Therefore, in 2018, CAEATFA modified the Program to allow lenders to determine LMI status by census tract of the property.
    - *"Credit Challenged" borrowers:* In early implementation, it was also found that lenders are much more sensitive to credit scores than income levels in their underwriting criteria. In 2018, to help lenders approve more customers with lower credit scores, CAEATFA added a "credit challenged" facility, offering the 20% loss reserve contribution if the borrower has a credit score below 640 for credit unions who needed the additional incentive.
    - *Manufactured homes:* Manufactured homes are eligible properties as long as they have a site-built foundation.

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[2] $127,841 of the credit enhancement has been recaptured for loans that had fully paid off as of June 30, 2020. The next rebalance of lender's loss reserve accounts to recapture funds will take place in Q3 of 2021 for loans paid off during the previous year. Those credit enhancement funds are returned to a Program account and can be used as future credit enhancements.

[3] Travis Credit Union was approved to join the REEL Program on March 5, 2021. Offerings from the other 7 lenders can be viewed at: https://www.treasurer.ca.gov/caeatfa/cheef/reel/resources/ggflender.pdf

- *Renters:* Renters are eligible for REEL financing, as long as they have owner permission to make renovations. (Appliances do not require owner permission.) Not surprisingly, however, only a small percentage of REEL loans have been made to renters to date.
- *Non-English Speakers:* The GoGreenFinancing.com website underwent a site-wide translation into Spanish in November 2020 to help give monolingual Spanish speakers, or those more comfortable with Spanish, access to financing information. Spanish-language flyers on REEL had previously been available.

2. **Consumer financial protections**:
    - *Interest rate caps:* Interest rates are capped at the 10-year treasury bonds rate plus seven hundred fifty (750) basis points. As of January, 2021, rates are capped at 8.43%.
    - *Debt to income ratio:* To help determine that customers have the cash flow to repay loans, the Program requires the borrower's debt to income ratio to be 55% or less.
    - *Benefits to customers*: Because of the mitigated risk that the loss reserve provides to lenders, when each lender enrolls in the Program, they must articulate benefits they will provide to customers in exchange for access to the loss reserve.

3. **Project requirements include flexibility for broad uptake**:
    - *Broad list of eligible efficiency measures:* CAEATFA's regulations include a broad list of energy efficiency and demand response measures.[4] In addition to these measures, customers can include legally and practically required measures, like electric panel upgrades in the case of a heat pump. Financing for distributed generation is not eligible for a credit enhancement. The Program allows for financing of single measures as well as comprehensive retrofits, as explained in the Key Program Features section above.
    - *Non-energy improvements included:* In accordance with D.13-09-044, up to 30% of the claim-eligible financed amount of each REEL loan may include non-energy efficiency improvements, such as landscaping, or energy measures that utilize fuel from a non-IOU source, such as a refrigerator in the case that the customer has a publicly-owned utility (POU) electric provider.
    - *Bill neutrality not required:* REEL does not require bill neutrality, and currently, participating lenders do not underwrite to energy savings. This flexibility allows borrowers to make upgrades for reasons that extend beyond energy savings, such as installing double-pane windows for noise reduction or to keep out dust or wildfire smoke. Customers are often motivated to make these investments even without utility bill savings.
    - *Pre-project audits are not required* and the Program allows financing for the replacement of broken or existing equipment and appliances.

[4] A list of eligible measures can be found at https://www.treasurer.ca.gov/caeatfa/cheef/reel/resources/reel_eeemsList.pdf

Program Metrics[5]

1. Benefits to borrowers:

The loss reserve has been a highly effective tool in facilitating credit unions to offer financing at terms simply not available without it[6]. Benefits that borrowers receive include:

- **Broader approvals:** Lenders have lowered their credit score minimums from 660 or 640 to 600 or 580. Borrowers with credit scores as low as 580 can currently access an unsecured loan for terms of 5, 10 or 15 years at rates of 3.49%, 4.49% or 5.49%, respectively[7].
- **Extended repayment terms**: Terms to up to 15 years are available, making monthly payments affordable. Typically, banks and credit unions do not provide personal, unsecured loans for terms beyond five years. The average REEL term length is 109 months.
- **Reduction of interest rates:** Interest rates are reduced from APRs of 14-20%, for example, for borrowers with credit scores of 600 for a 5-year term, to APRs of 3.49-8.43% with REEL.
- **Larger amounts available:** Borrowers are able to access up to $50,000 compared to a maximum of $15,000-$20,000 without REEL.

CAEATFA estimates that the 412 REEL borrowers who took loans with terms of 60 months or less saved, on average, over $2,000 in interest, compared with what they would have paid for the same credit union's non-REEL product, based on their credit score.[8]

2. Activity

- **Leverage:** $2.8 million in credit enhancement has leveraged $18.7 million in private capital, or in $6.59 leveraged for each $1 of credit enhancement.
- **"Finance-only":** 86% of loans enrolled had no associated IOU rebate or incentive.
- **Growth:** Most of REEL's growth has taken place after its evaluation. 212 loans were enrolled during the official two-year "pilot" phase (July 2016 – July 2018); 447 loans were enrolled in 2020 alone.
- **Defaults:** Lenders have charged off $281,330, or 1.5% of loan principal (1.3% of total loans enrolled). The Program has paid $210,672 in claim payments, net of recoveries.

3. Reaching underserved customers

- 57% of total loans and 53% of loan dollars have been made to upgrade properties in LMI census tracts, of which:
  - 22% of loans financed upgrades in low income census tracts (income below 80% of AMI)[9].

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[5] More statistics on REEL can be found through the Monthly Data Summaries, published at: https://www.treasurer.ca.gov/caeatfa/cheef/cheef-reports-and-additional-materials.asp

[6] All 8 of the current REEL participating lenders are credit unions. Recruitment of additional types of finance companies is planned, after making some of the regulatory and operational improvements mentioned below.

[7] Rates based on Matadors Community Credit Union's current offering for REEL: https://www.treasurer.ca.gov/caeatfa/cheef/reel/resources/ggflender.pdf

[8] Comparing interest rates between REEL loans and the equivalent non-REEL signature loan products offered by the Program's participating lenders, using a data set for loans with terms up to 60 months for borrowers who would have qualified for non-REEL loans. Data is current through the end of February 2021.

[9] CAEATFA relies on the FFIEC geocoding search tool for census income data and uses the most recently available data at the time of search.

- 17% financed upgrades in median income tracts (income between 80 and 100% of AMI).
  - 18% financed upgrades in moderate income tracts (income between 100 and 120% of AMI).
- 18% of loans went to finance upgrades on properties in Disadvantaged Communities per CalEnviroScreen.
- 28% of borrowers had a credit score of 700 or below.

While over half of REEL loans to date have been made to upgrade properties in LMI census tracts, as a debt-based program that does not guarantee bill savings, REEL is not the right financing vehicle to reach very low-income customers or those without income for debt repayments. There may be room for REEL to further extend its reach to underserved customers, particularly to those who have lower credit scores, but only to the extent that any particular customer has the cash flow to repay their loan. Additionally, data from REEL lenders shows that about half of applications are approved, indicating the need for a complementary, non-debt financing option to serve disadvantaged populations.

4. **Measures installed:**
   - **The top 5 measures** installed through REEL include:
     1. 710 HVAC projects
     2. 317 Windows projects
     3. 250 Duct Work projects
     4. 213 Insulation projects
     5. 168 Cool Roof projects
   - Project composition includes:
     - **214 "comprehensive" projects** that included HVAC or water heating equipment + an envelope measure (but excluding duct work).
     - **587 single measure projects**
     - 324 other multi-measure projects
     - 21% of customers have taken advantage of the option to finance non-energy or non-IOU fuel measures, which can comprise up to 30% of their loan principal.

Current plans and next steps

In April 2020, E-5072 approved REEL's transition from a pilot to a full program and provided short-term funding for REEL's continued operations until long-term funding needs and sources are determined as a part of this Proceeding. E-5072 permits CAEATFA to improve REEL in order to facilitate scaling, including streamlining operations for lenders, making planned IT improvements, and continuing with marketing, education and outreach (MEO) efforts.

Regulatory Improvements: CAEATFA is currently engaged in the public rulemaking process to modify the REEL regulations, with changes anticipated to take effect in May 2021[10]. Among various clarifications and updates, the modifications will:

- Add new eligible measures, including insulated siding, ECM motors for HVAC equipment, and pipe insulation.

[10] Current regulations and details on the rulemaking can be found at https://www.treasurer.ca.gov/caeatfa/cheef/reel/regulations/

- Facilitate point of sale (POS) financing, by which customers can access REEL financing when purchasing energy efficient appliances through IOU marketplaces.
- Allow for residential equipment leases and service agreements, with appropriate consumer protections to provide customers more financing options.
- Improve the loan enrollment and reporting process for existing credit union lenders.
- Allow for "batch" loan enrollment to enable high-volume lenders to participate.
- Allow for expanded measure eligibility (e.g., non-IOU fuel-saving measures or fuel substitution when the electricity is provided by a POU), conditional upon CAEATFA securing non-ratepayer funding for the CHEEF and CPUC approval of the methodology to allocate costs to non-ratepayer funds.

Operations: The regulatory modifications will enable CAEATFA to make operational adjustments to REEL to allow the Program to scale and become more cost-effective as fixed program costs are spread over a larger base of loans. Critical planned operational improvements for 2021 include facilitating "batch" enrollment of loans, a web-based solution for contractors and credit union lenders to supply data, and solutions for more participating REEL contractors to become proficient in combustion safety testing. CAEATFA is also considering best practices for providing a functional pre-approval system to remove lenders' need to evaluate project eligibility, including potentially utilizing a "single originator" model, in which lenders have the option to buy loans after they have been originated.

Outreach and Partnership Opportunities: CAEATFA sees ample opportunity to connect REEL with local governments, as well as RENs and CCAs, as those entities increasingly offer residential energy efficiency programs and are looking for financing opportunities for their constituents. Financing for efficient appliances offered through the utility marketplaces has the opportunity to reach renters who need financing for distressed purchases. For this effort, CAEATFA plans to enroll a fin-tech company with the ability to provide instant approvals and serve a very large volume of customers. REEL is also ideally suited to help with heat pump technology adoption, since customers can finance the additional costs of electric panel upgrades as well as water heater relocations through the Program. CAEATFA plans to coordinate with the implementers of the TECH Program as well as other decarbonization efforts for this purpose.

Expansion to Distributed Generation, Decarbonization and Storage: Pending discussions as part of the Proceeding on finding the right funding source to expand existing Programs to offer other types of technologies, there is an opportunity to expand REEL to provide a credit enhancement for residential solar, solar thermal water heating, battery storage, and EV charging.[11] While there are existing market mechanisms to finance residential solar, REEL lenders report that customers frequently ask to install these systems along with energy efficiency upgrades. Several have indicated that a credit enhancement for solar would allow them to offer an attractive solar loan product beyond their current capacity. From an administrative perspective, expanding the list of eligible measures to be financed to include other technologies would be a relatively straightforward Program expansion.

[11] EV charging is currently allowable as part of REEL financing, but it must not comprise more than 30% of the loan for which lenders get a credit enhancement. Because REEL does not support solar PV, this measure is rarely installed.

Program challenges and lessons learned

CAEATFA has learned critical lessons through its implementation of the REEL Program. Consideration of REEL's future should take the following into account:

Simplicity is key for contractors and private finance companies. To the degree we were able to simplify REEL (following authority granted in D.17.03.026) by creating a simple, uniform list of eligible measures across IOU jurisdictions, allowing for single measure projects, and consolidating loss reserve accounts for lenders, we saw enrollment from lenders and uptake by contractors increase.

Even with the allowance of single measure projects, necessary requirements for compliance, such as permitting and safety testing, create operational challenges for lenders who are unfamiliar with the nuances of energy efficiency. CAEATFA is exploring ways, some mentioned above, to lessen the project eligibility screening for lenders.

Geographic complexity. Much of the complexity that remains in REEL and frustrates participants stems from the fact that the Programs are not truly statewide, but available only to IOU ratepayers. This completely logical requirement for a ratepayer-funded program leads to a web of eligibility complexity in practice. For example, financing for a cool roof, as it reduces electricity use, is eligible for a credit enhancement in West Sacramento (where PG&E provides both gas and electric service), but not in Sacramento (where PG&E provides gas service and SMUD provides electric service).[12] One result is a burden on participating lenders who must become familiar with IOU and POU jurisdictional boundaries, as well as technology and its fuel source, and/or rely on CAEATFA to pre-screen loans for their unique combinations of gas and electric service providers, measure costs, and measure fuel source use. The cost of this burden is overall fewer transactions, even in IOU territories.

To engage private capital providers and reach customers at scale, truly statewide financing solutions available to customers regardless of utility service provider are needed. To that end, CAEATFA is seeking CPUC approval of a methodology to incorporate non-ratepayer funding into the CHEEF, which will ultimately realize greater energy savings statewide and more projects within IOU territories.

The Small Business Energy Efficiency Financing Program (SBF)

Status Snapshot

- **4 participating finance companies** offer loans, leases, and efficiency service agreements[13].
- **47 participating contractors** and **15 participating project developers** enrolled.
- **7 finance agreements comprising $1.5 million** has been leveraged with **$116,538** of credit enhancement as of Feb. 28, 2021.
- First lease was enrolled in July 2019.
- Currently operating **Off-Bill.**

[12] Technically, the REEL and other CHEEF programs allow lenders to finance electric measures in POU territories; that portion of the financing is just not eligible for a credit enhancement nor for a claim unless it is limited to 30% of the total financed amount. REEL lenders have generally required that the entire amount of their loan be claim-eligible and receive a credit-enhancement. Therefore, we use the word "permissible" in this paragraph to describe what financing is practically available to customers.

[13] See Finance Companies' current offerings at https://www.treasurer.ca.gov/caeatfa/cheef/sblp/resources/featuresChart.pdf

- CAEATFA anticipates regulatory modifications through the public rulemaking process to add **On-Bill Repayment**, as well as a **streamlined microloan pathway**, to take effect in August 2021.
- **Open to small businesses** 1) with fewer than 100 employees, *or* 2) whose annual revenue is less than $15 million, *or* 3) that qualify as a small business as determined by the U.S. Small Business Administration standards.

SBF Program Design Considerations

CAEATFA has incorporated the following key design considerations in the Program:

1. **The Program should fill a need that is not currently being met**:
   Several financing options exist for small businesses engaged in energy efficiency retrofits: On-Bill Financing (OBF) offered through the IOUs, Commercial PACE (C-PACE), the State Loan Guarantee Program (SLGP) and Small Business Administration loans. SBF is designed to fill in the gaps:

   - **Tenant occupants** can receive SBF financing, unlike with C-PACE. It is also challenging for some tenant occupants to use OBF as they may lack the required bill-pay history.
   - **Service agreements and savings-based payment agreements**, in which customers experience positive cash-flow from day one, are offered in addition to traditional loans and leases.
   - Customers can finance upgrades under the OBF threshold of $5,000 and over the OBF limit of $100,000-$250,000 per premise.[14] Customers can also use SBF along with OBF as part of a single project after they have exhausted the OBF limit for their premise, or to finance measures that don't meet OBF requirements. Qualifying for OBF via lists of rebated measures can be challenging due to frequent changes in these lists, and the flexibility of SBF allows a simplified way to qualify measures that have been removed.
   - **Rapid underwriting approvals** through private finance companies accommodate customers who do not want to wait for payment through OBF.
   - **No strict payback and no bill neutrality requirements** means customers can finance measures that typically cannot be financed through OBF such as HVAC equipment, windows, or gas measures.

2. **The Program should support existing ratepayer-funded programs:**
   Similar to REEL, in addition to a pre-qualified list of measures[15], SBF is designed to finance any measure that qualifies for an IOU, REN or CCA program, whether implemented by the entity or a third party. Unlike with REEL, where customers initiate projects to make their homes more comfortable or aesthetically pleasing, small business owners are unlikely to take on energy efficiency projects on their own. They tend to require the incentives or education that comes from a customer-facing program. Therefore, SBF will be most effective in spurring energy efficiency projects when it is presented as an option for customers to pay for the portion of measures not covered by rebates or incentives.

[14] Program rules have allowed this since inception and all participating finance companies offer amounts greater than $250,000. CAEATFA is currently recruiting microlenders to offer loans under $5,000.

[15] View a list of Energy-Saving Measures for SBF at https://www.treasurer.ca.gov/caeatfa/cheef/sblp/resources/esmlist.pdf

3. **The Program must be streamlined and easy to use:**
   Business owners, contractors and finance companies expect online tools and smooth digital processes, not paper forms or PDFs. To that end, CAEATFA invested in the development of a user-friendly web-based interface for contractors and finance companies to supply enrollment data to the Program. While the initial investment in this tool was significant, CAEATFA anticipates leveraging it for On-Bill Repayment (OBR) and possibly for REEL.

4. **The Program should incentivize finance companies to reach underserved businesses:**
   Small dollar loans and leases are very difficult for finance companies to offer, as they require a similar amount of due diligence as larger financing amounts with lower profit and likely increased credit risk posed by the borrower, which is often a very small business. SBF attempts to fill this gap in the market by contributing a higher loss reserve contribution of 20% of the first $50,000 of the claim-eligible financed amount.

5. **The Program should accommodate a variety of finance company business models and financial products:**
   Unlike the residential market, commercial financing can involve numerous entities performing different industry roles such as lead generation, origination, servicing, and investing. SBF is designed to accommodate many different finance company models and support financial products such as loans, leases, and several varieties of service agreements.

Benefits to Customers

The credit enhancement has also allowed finance companies to extend benefits to small business customers that are not available without SBF, including:

- **Reduced rates and extended payback terms**: Interest rates reduced by 50-400 basis points and terms extended from 5 to 10 years, lowering monthly payments so that projects “pencil out” for businesses.
- **Broadened eligibility criteria**: Finance companies can approve credit for businesses with lower credit scores, industries they typically exclude from commercial lending (such as restaurants, market-rate multifamily buildings, houses of worship, and cannabis growers/operators), and for businesses that have only been in operation for a short time.
- **Expanded measures**: The loss reserve allows for financing of affixed equipment and efficiency measures with longer payback.

Activity

The effects of COVID-19 restrictions have been devastating for small businesses. Businesses that have been able to remain open have prioritized financing for basic operations, not for energy efficiency. This and the pause of IOU EE programs in reaching small businesses, first because of COVID and second due to the timing of shifts to third-party implemented programs, has led to very slow uptake of financing through the Program.

That said, the small business market is beginning to show some signs of life. Since February 2021, three projects were submitted for pre-approval in the Program and are anticipated to be completed in the coming months. CAEATFA also held a well-attended virtual “Meet and Greet” with a newly-enrolled finance company offering efficiency as a service. Several enrolled contractors and project developers are now working with the finance company on potential projects.

Thus far, the Program has been able to leverage $12.69 in private capital for every $1 of credit enhancement.

Current plans and next steps

Regulatory modifications

CAEATFA is streamlining certain aspects of the Program and adding new features that will help efforts to reach more small businesses:

- On-Bill Repayment (OBR) as feature of SBF *(see section below for more detail)*
- Simplifying requirements around self-installation to meet the needs of smaller businesses
- Updating the Energy-Saving Measures List, including addition of large commercial laundry measures, updated HVAC measures, and several measures relating to the agricultural sector, and
- Facilitating a microloan pathway.

CAEATFA plans to hold a regulatory workshop in late June seeking public comments, followed by consideration by the CAEATFA Board at the July Board Meeting, anticipated approval of the regulations by the Office of Administrative Law (OAL), and subsequent enactment in early August. As the regulations are considered by both the CAEATFA Board and OAL, CAEATFA will begin working on implementation and launch of OBR.

Outreach and Partnership Opportunities:

- Microloans: CAEATFA is currently in discussions with a finance company in Southern California that would offer loans under $5,000, in coordination with a third-party implemented IOU small business program. CAEATFA has been reaching out to Community Development Finance Institutions (CDFIs) that have the capacity to make very small loans, and staff are hopeful that after regulatory modifications, there will be microloan options made available via SBF in most parts of the state. Multiple IOU third-party implementers are interested in connecting their customers with an SBF microloan product.

- Coordination with IOU third-party energy efficiency programs: CAEATFA's relationships with implementers and their programs extend through all four IOU territories. CAEATFA staff have conducted SBF overviews and training sessions for several program implementers whose energy efficiency programs align with a need for financing for small businesses. As contracts awarded in 2020 move toward launch and activity in 2021, SBF is well-positioned to be support those programs.

Program Specific Challenges

Program growth in both the current and post-COVID economy:

The majority of SBF's two-year pilot timeline, between July 2019-July 2021, will have occurred during the COVID-19 pandemic and the corresponding effects on the economy, particularly for small businesses. SBF was just starting to gain momentum with contractor and project developer enrollments as COVID hit, small businesses shut down and IOUs paused energy efficiency program outreach. As mentioned above, there are real opportunities for SBF over the next year, particularly as third-party implemented EE programs begin to reach customers. However, any program activity that occurs in the coming months will likely be too little, too late in terms of demonstrating the Program's potential in a formal evaluation, though there will be plenty of lessons learned to share from implementation thus far.

Post-evaluation timeline and Decision timeline: SBF is currently in its two-year pilot phase, which runs through July 30, 2021. After the pilot phase, a third party will perform an evaluation of the Program's overall effectiveness. The nature of the evaluation process and subsequent CPUC deliberation means the risk of a long period of uncertainty, inability to make significant modifications to the Program and inability to reassure potential finance companies of the Program's durability. REEL's post-pilot evaluation required 18 months and was completed in January 2020. At its completion, the CPUC processed the evaluation's results and recommendations and determined to transition REEL from a pilot to a full Program in April of 2020. However, direction on REEL's long-term funding source was deferred to this Proceeding, with a Decision expected in July 2021.

CAEATFA acknowledges and appreciates the importance of the EM&V process and welcomes a formal evaluation of the SBF Program. However, this Proceeding presents an opportunity to realize efficiencies and potentially resolve some questions with regard to SBF. CAEATFA is hopeful that this Proceeding can resolve some of the long-term viability and funding questions for SBF, should it be continued, in addition to REEL.

The Affordable Multifamily Energy Efficiency Financing Program (AMF)

Status Snapshot

- **2 participating finance companies** offer leases and efficiency service agreements[16].
- Currently operating **Off-Bill.**
- Deadline to launch (enroll the first financing agreement) was extended by the CPUC at CAEATFA's request through June 30, 2022, or as determined through this Proceeding.
- Open to **affordable multifamily properties with 5+ units, at least 50% of units are income restricted** and at least 5 years of deed restriction remaining.

Design Considerations

AMF is designed to:

1. **Be compatible with the complex financing structure of affordable multifamily properties**: Affordable multifamily properties have complicated financing structures with multiple lienholders and tax equity investors, making it very challenging to assume additional debt. The Program facilitates unsecured or equipment secured leases and efficiency service agreements that, depending on the circumstance, may be considered off-balance sheet.

2. **Fill gaps in other state programs and work with rebate and incentive programs, including:**

[16] See AMF Finance Companies' current offerings at https://www.treasurer.ca.gov/caeatfa/cheef/multifamily/resources/amf-finance-company-options.pdf

- Financing any **energy-saving measures of a Low-Income Weatherization Program (LIWP) project** that are not eligible to be financed through LIWP.
- Financing any identified energy-saving measures prior to installing solar **as part of the state-administered Solar on Multifamily Affordable Housing (SOMAH) program**.
- Allowing energy-saving measure installation **in units or tenant-occupied spaces**, which is not currently allowed with OBF.
- Financing the non-subsidized portion of **any measures eligible for an IOU, REN or CCA rebate or incentive**.

Current plans and next steps

In August 2020, AMF was able to bring on a second finance company, offering "small-ticket" leases from $10,000-$250,000. Since that time, CAEATFA staff have worked diligently on outreach to see if the Program's offerings match the needs of the market. CAEATFA held a well-attended virtual "Meet the Lenders" forum in November 2020, in which the participating lenders shared their financing offerings with property owners and program implementers from the IOUs, RENs, CCAs and other State programs.

CAEATFA staff continue to receive inquiries from property owners who have identified preliminary projects in their portfolios for financing. Property owners with projects that meet the Program criteria for financing are in active discussions with lenders and gathering necessary energy data.

Pending guidance through the Proceeding, CAEATFA will explore a subordinate debt or co-lending option in order to bring interest rates down (see Program Specific Challenges below). Staff is also considering changing the Program's regulations to potentially extend the credit enhancement from 10 to 15 years to better support measures with long payback periods. Further considerations include allowing eligibility for community land trust and limited equity properties which retain permanent affordability, but are cooperatively owned and not rented.

Program-Specific Challenges

While the AMF Program has been able to mitigate the risk to lenders and remove the need for a secondary source of repayment through a credit enhancement, other challenges still include:

1. **Debt structure of properties**: Most affordable multifamily properties have complex capital stacks with creditors who need to provide approval for additional debt. Even with equipment secured through only a UCC-1 filing and no lender need for existing lienholder subordination, the property owner may need to contact each creditor/stakeholder in the capital stack to seek permission to make upgrades, which can be burdensome and take up to 6 months.
2. **Credit enhancement as an incomplete tool**: The credit enhancement enables some lenders to lend to AMF properties, but for this particular market, it is not an effective tool to sufficiently lower interest rates. Because AMF properties have very tight operating margins, cash flow generated from savings usually needs to cover monthly financing repayments. Interest rates can be a major difference as to whether or not projects can "pencil out." To that end, CAEATFA believes that an interest-rate buy-down, subordinate debt, or a co-lending option with below-market-capital will be necessary to allow for lower interest rates that will render some projects feasible.
3. **Need for technical assistance:** Time-strapped property owners face a heavy upfront administrative lift of navigating rebate and incentive programs, obtaining energy data and an

investment-grade energy audit, agreeing to a scope of work and getting financing approved internally and by lienholders.

On-Bill Repayment (OBR)

Status Snapshot

- **Loans or leases from private capital providers**, repaid through a utility bill.
- Authorized per D.13.09.044 for Small Business, Affordable Multifamily, Non-Residential/Public Buildings and a sub-pilot of REEL in PG&E territory.
  - **No residential disconnection for non-payment**.
- CAEATFA has been working with the IOUs and a Master Servicer to develop and test infrastructure.
- Modified OBR tariffs filed with the CPUC for 3 IOUs in February 2021.
- Proposed regulations to add OBR as a feature to the SBF Program will be workshopped in June and take effect in July. OBR will be offered through the SBF Program in August 2021.

Program Design Considerations

On-Bill Repayment of loans and leases, not tied to the meter: This Proceeding has featured discussion of potential future "Tariffed On-Bill" (TOB) financing programs. The Tariffed On-Bill concept is unrelated to the CHEEF's OBR Program. OBR allows a utility customer to repay private, third-party capital financing charges when they pay their monthly utility bill. If a building occupant leaves the premises, a new occupant may voluntarily assume the loan or lease; the financing is not tied to the meter.

Statewide consistency for multiple lenders: OBR is designed to provide private finance companies with a centralized hub to receive repayments through bills of all four of the state's IOUs. While other states have implemented OBR programs, the CHEEF will run the first-of-its-kind open market approach to OBR, utilizing multiple finance companies and multiple utilities. The open market nature of the Program, combined with the need to accommodate four unique IOU billing systems, requires a highly complex infrastructure to ensure customer payments are processed and routed quickly and accurately.

No residential disconnection for non-payment: CAEATFA is currently working through the rulemaking process to add OBR functionality to the SBF Program. However, if OBR were to be added to the AMF Program or to REEL in PG&E territory, systems have already been designed to remove financing charges from the bill after missed payments, such that missed financing payments do not lead to disconnection.

Balancing finance company and IOU risk tolerance: Some Program design elements have taken a long time to work through to balance finance company business and operational needs and IOU risk management around customer billing. For example, CAEATFA and the IOUs coordinated extensively to develop rules around eligibility, documentation, and authorization required to connect a particular customer's financing agreement to their bill that would be acceptable to both IOUs and finance companies.

OBR Infrastructure

OBR infrastructure provides the means to ensure the timely and successful routing of customer payments through an IOU to a finance company, which is an essential requirement of the Program. Complicating the issue, however, is the fact that each of the four IOUs has their own unique billing system with varying requirements and interfaces. Hence, the buildout of the infrastructure needed to support OBR has been significant and the result of extensive coordination between CAEATFA, its contracted Master Servicer, and the IOUs. Each of the IOUs has successfully performed Data Exchange Protocol (DEP) integration testing, and CAEATFA anticipates each IOU will likewise test operation of Cash Flow Protocol (CFP) systems prior to OBR launch. The OBR infrastructure that has been built includes:

1. **Data Exchange Protocol (DEP)**: The Data Exchange Protocol describes a collection of file layout specifications and transmission sequencing protocols used to communicate OBR-related data between the IOUs and the Master Servicer, through specific files, relevant at various stages in the OBR process. The DEP governs the mechanisms by which the Master Servicer and the IOUs communicate information about on-bill loans and leases at all stages of OBR, from enrolling financing agreements in the Program to updating monthly financing charges, communicating delinquencies, and other information relating to ongoing servicing needs. Each IOU has undertaken significant programming of their billing systems to match the DEP.

2. **Cash Flow Protocol (CFP)**: The process by which funds and related data are reliably transferred from the IOUs to each respective finance company is referred to as the Cash Flow Protocol (CFP). The CFP was developed by the Master Servicer for CAEATFA and provides for intricate processes and the software to timely and accurately process and remit funds from each IOU to each finance company's bank account and to validate the data corresponding to those remittances.

OBR Tariff updates
On-Bill Repayment Tariffs (OBR Tariffs) were previously filed as Advice Letters by the IOUs with the California Public Utilities Commission in 2015 and became effective in 2016. The OBR Tariffs were drafted prior to the development of OBR functionality by CAEATFA. Several aspects of the current design of OBR differ from those envisioned in 2015, rendering some language of the OBR Tariffs inaccurate, obsolete, or otherwise out of date. Updated OBR Tariffs were filed in February 2021 by most of the IOUs through Tier 2 Advice Letters and are expected to be approved in the coming weeks.

Upcoming OBR timeline
CAEATFA plans to release proposed regulations to modify the SBF Program ahead of a June workshop, in which CAEATFA will present the current OBR design. Vetting of the actual regulations by interested finance companies will provide a crucial check to determine if the Program will be feasible for them from a legal and regulatory standpoint. Following the June workshop and ensuing 10-day public comment period, provided that finance companies have the ability to move forward, CAEATFA plans to submit regulations to OAL for enactment and anticipates the SBF Program to offer OBR functionality in August.

III. CHEEF Budget and Expenditures

Current Budget Status

CAEATFA currently has legislative budgetary approval to operate the Programs through June 30, 2022. In April 2020, CPUC Resolution E-5072 provided CAEATFA authorization to repurpose up to $7.7 million in existing credit enhancement funds for CHEEF administration to operate the programs through June 30, 2022, should additional administrative funds be needed prior to longer-term CPUC direction. Thus far, CAEATFA has not needed to repurpose those funds, but anticipates needing to do so by Q4 2021 unless new direction comes from the CPUC sooner.

D.13-09-044 provided funding for each Program for a two-year period. In D.17-03-026, the CPUC authorized CAEATFA to continue operations of the Pilot Programs while each Pilot undergoes evaluation. This authorization allowed CAEATFA to administer the pilots without interruption for lenders and contractors during the 19 month REEL evaluation process. However, it has also meant that funding originally provided to CAEATFA for two years of Program implementation has had to be stretched to cover additional periods of administration. The budget table below includes expenses related to the operation of SBF and AMF as pilot programs, and of REEL during its 2-year pilot phase, the evaluation process, through CPUC deliberation leading to Resolution E-5072, and until now.

CAEATFA's Budget Timeline

In order to continue operating the CHEEF Programs beyond June 2022, CAEATFA requires CPUC approval of either additional funding or extended authorization to repurpose credit enhancement funds. Additionally, CAEATFA will need to submit a Budget Change Proposal (BCP) to the state legislature in September 2021 seeking budgetary approval to continue administering the Programs for fiscal year 22/23 and beyond. Therefore, the forthcoming summer Decision (as part of Track One in this Proceeding) needs to resolve the issue of CAEATFA's continued administration of REEL. The Decision also needs to at least partially resolve the funding questions related to the continued administration of SBF and AMF, even though CPUC evaluations will not yet have been completed, in order to prevent a lapse in Program delivery. Receiving clarity on long-term budget will also help provide lenders with confidence that the programs will continue to operate as they contemplate an investment of time and operational integration.

CHEEF Budget Table

A recap of the original $75 million authorized for the CHEEF's budget and the spending to date is captured in the table on the next page.

CHEEF Budget and Expenditures: September 2014 - December 31, 2020

Budget authorization information and end notes follow on the subsequent page.

Item	Original Authorized Budget
CHEEF Administration (CAEATFA) ***Start-up costs, CHEEF admin, direct implementation, outreach and training***	
Allocation per D.13.09.044 for CAEATFA implementation	5,000,000
CAEATFA outreach and training to finance companies and contractors	2,000,000
Reserve fund allocation to CAEATFA in November 2016 [1]	8,360,000
Credit Enhancement funds allocated for FYs 20-22, if needed, per Res E-5072	7,700,000
Subtotal Allocated to CHEEF administration costs (CAEATFA)	23,060,000
Expended through 12/31/20 [2]	(12,534,522)
CHEEF Administration funds remaining	10,525,478
Marketing, Education, Outreach (MEO)	
Statewide MEO plan initial allocation [3]	8,000,000
Expended through 9/30/20 [4]	(7,954,727)
ME&O funds remaining	45,273
Credit Enhancement	
Initial allocation per D.13.09.044	42,900,000
Earmarked by IOUs for Admin and Direct Implementation per PIPs [5]	(9,863,976)
Funds allocated to CAEATFA for admin, if needed, for FYs 20-22, per E-5072 [6]	(7,700,000)
Subtotal Credit Enhancement funds after administration	25,336,024
Funds expensed as claims payments to lenders (less recoveries)	(175,902)
Credit enhancement funds remaining in budget	25,160,122
Currently encumbered as of 12/31/20 [7]	(2,440,864)
Unencumbered Credit Enhancement funds available	22,719,259
IOU Administration ***Start-up costs, On Bill Repayment (OBR) build-out, direct implementatio*****n**	
Admin, general overhead and direct implementation per PIPs	9,863,976
IT costs	8,000,000
Subtotal allocated for IOU Administration	17,863,976
Expended [8]	(17,863,976)
IOU Administration funds remaining	-
CHEEF Pilot Reserve	
Initial Allocation	9,344,931
Allocated to CAEATFA for administration in November 2016	(8,360,000)
Reserve remaining after administrative allocation	984,931
Total Original Pilot Budget	**75,244,931**
Total of Original Budget Expended	**(38,529,127)**
Original Budget Remaining	**36,715,804**

Budget End Notes

1. Funds were authorized per the Joint Ruling of Assigned Commissioner and Administrative Law Judge on Financing Pilots and Associated Marketing Education and Outreach Activities, November 2016.
2. Quarterly expenditures are based on good faith estimates due to a lag in invoice submittals.
3. The initial allocation for ME&O also included $2 million to CAEATFA for outreach to finance companies and contractors, and is depicted in the Subtotal Allocated to Hub Administration Costs (CAEATFA).
4. The contract for the statewide Marketing Implementer is administered by SoCalGas, and numbers reflect data reported to CAEATFA. The previous contract for the Marketing Implementer ended on 9/30/20. Resolution E-5072 permitted a new contract to be issued, keeping spending at current levels with funding from energy efficiency funding already approved and unutilized. From October 1, 2020 through December 31, 2020, the Marketing Implementer spent $174,582.40.
5. Program Implementation Plans (PIPs) were filed by the IOUs and CHEEF in 2014 and 2015.
6. Resolution E-5072 allows CAEATFA to re-allocate up to $7.7 million of Credit Enhancement funds for administrative purposes should funding become exhausted before a new long-term budget is allocated by the CPUC.
7. Credit Enhancement funds are allocated to Lender Loss Reserve accounts and recaptured when loans are paid off. They may also be paid out if a lender submits a claim for a default. For more detail, see tables 9-13.
8. CAEATFA does not have access to IOU expense details and assumes that all originally allocated administration funds have been spent. Decision 17.03.026 approved additional expenditures of up to $500,000 per year, per IOU (and $800,000 for SoCalGas) from 2017 through 2020, using funding from energy efficiency funding already approved or for incremental funding, subject to the Advice Letter process.