CHEEF
CALIFORNIA HUB FOR
ENERGY EFFICIENCY FINANCING

ENERGY EFFICIENCY FINANCING PILOTS

# QUARTERLY REPORT & PROGRAM STATUS SUMMARY

**FOURTH QUARTER 2018**

CALIFORNIA ALTERNATIVE ENERGY AND
ADVANCED TRANSPORTATION FINANCING AUTHORITY
CAEATFA

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# Table of Contents

## Contents

## The State of California has ambitious goals to reduce greenhouse gas emissions and address climate change

In 2006, the Legislature passed the California Global Warming Solutions Act (Assembly Bill 32), which created a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. In the subsequent Scoping Plans, intended to describe the approach California will take to reduce GHGs, one of the primary methods identified is increasing efficiency in existing buildings.

With so many headlines about electric vehicles, rooftop solar and other renewables, it's easy to forget how important energy efficiency is to the GHG reduction mix. Billions of square feet of existing commercial and residential properties are currently in need of energy upgrades—both the structures themselves and the energy using equipment they house.

**There is simply not enough government or ratepayer funding to pay for these upgrades.**

With this awareness, the California Public Utilities Commission (CPUC) allocated funds to launch several financing pilot programs designed to attract private capital to finance energy efficiency upgrades[1]. In its decision, the CPUC acknowledged that energy efficiency(EE) measures are the important tools for addressing greenhouse gas emissions, and that lowering the barriers to energy efficiency retrofits and financing—particularly in underserved market sectors—is critical to reaching the state's goals of reduced energy consumption and spreading benefits to all Californians.

## Background

The California Public Utilities Commission Decision 13-09-044 (D. 13-09-044) authorized a series of financing programs, designed to attract private capital to finance energy efficiency upgrades, and established the California Hub for Energy Efficiency Financing (CHEEF) to administer the new programs. The CPUC requested the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) assume the administration of CHEEF, and directed the Investor Owned Utilities (IOUs) and CPUC staff to assist CAEATFA with implementation.

A core feature of the new financing programs is to incentivize private finance companies to improve terms or expand credit criteria for the financing of energy efficiency projects by providing a credit enhancement, funded with IOU energy efficiency ratepayer funds. This credit enhancement helps remove the upfront cost barrier for Californians to undertake energy efficiency retrofits. A key objective is to test whether transitional ratepayer support for credit enhancements can lead to self-supporting energy efficiency finance programs in the future.

In a separate document,[2] the CPUC further clarified the goals under which the financing programs would be evaluated.

The financing pilots should:

1. Be scalable
2. Be leveraged by private capital and able to support energy efficiency upgrades
3. Reach underserved Californians who would not otherwise have participated in EE upgrades
4. Produce energy savings

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[1] Decision 13-09-044

[2] Resolution E-4900, published December 14, 2017

This report is prepared in response to D. 13-09-044, which directs CAEATFA, in conjunction with the IOUs, to issue quarterly reports on the progress of the CHEEF financing pilots. It contains quarter highlights and other informational items to keep interested parties informed as to program challenges and successes.

## Program Participants

CAEATFA is working with the CPUC, IOUs, finance companies and several other key partners to develop a series of energy efficiency financing programs.

The following table describes the primary program participants and their roles. A complete list of organizations who make up the CHEEF infrastructure can be viewed in Appendix 1.

| ENTITY | ACRONYM | PRIMARY ROLE |
|---|---|---|
| California Public Utilities Commission | CPUC | The CPUC authorized the financing programs and set guidelines for program design. |
| California Alternative Energy and Advanced Transportation Financing Authority, housed in the CA State Treasurer's Office | CAEATFA | CAEATFA is responsible for details of program design, implementation and finance company and contractor outreach and participation. |
| The Investor Owned Utilities:<br>– Pacific Gas &Electric<br>– San Diego Gas & Electric Company<br>– Southern California Edison, and<br>– Southern California Gas Company | IOU(s)<br>PG&E®<br>SDG&E®<br>SCE®<br>SoCalGas® | The IOUs contribute ratepayer funds to administer the programs and for credit enhancements, participate in program development and market the programs to their existing customers. |
| The Center for Sustainable Energy | CSE | CSE is the CHEEF Marketing Implementer, providing direct-to-end-user marketing for the programs. |

Other common acronyms used throughout this report:

| | |
|---|---|
| Residential Energy Efficiency Loan program | REEL |
| Small Business Energy Efficiency Financing program | SBF |
| Affordable Multifamily Energy Efficiency Financing program | AMF |
| On-Bill Financing | OBF |
| On-Bill Repayment | OBR |

# Quarter Highlights

## REEL Lender reduces FICO minimum

Matadors Community Credit Union, one of the two statewide lenders, lowered its minimum FICO score from 640 to 580. This provides expanded opportunity to borrowers who may benefit from financing products offered through the program for energy efficiency projects but may not have the access otherwise.

## REEL Keeps Growing

The REEL program enrolled 65 new REEL loans, totaling $1.1 million, o -par with loan volume from the previous quarter in the dollar amount of funded loans.  By the end of Q4, a total of 339 REEL loans had been enrolled, totaling $5.76 million.

## Serving Underserved Borrowers

53% of REEL loans were made to households in Low to Moderate Income census tracts, and 20% in Disadvantaged Communities, as identified by CalEPA's CalEnviroScreen[3] tool.

## IOU marketing efforts drive volume to GoGreen Financing

Marketing efforts through the IOUs' communication channels are well underway, with each IOU participating in REEL ME&O tactics in Q4 through a variety of ways. This combined effort led to over 29,000 unique visitors to the GGF website in Q4 2018, nearly 40% of whom were referred from IOU and other partners' websites.

## EM&V process for REEL begins

July 18, 2018 marked the two-year anniversary of the first REEL loan enrolled.  The CPUC began its Evaluation, Measurement and Verification (EM&V) process and selected Opinion Dynamics, Inc. to perform the evaluation. The EM&V report is expected to be finalized and submitted to the CPUC for consideration mid-2019. With the program evaluation pending, REEL continues to move forward, enrolling new loans and contractors.

## Small Business Program Regulations Approved!

After having numerous conversations with commercial project developers, contractors, consultants, manufacturers, and finance companies throughout the design and development phase of the Small Business pilot, program regulations were approved by the CAEATFA Board and went into effect on December 17, 2018. With the approval of the program regulations, finance companies are now welcome to enroll in the program. CAEATFA anticipates one to two finance companies to be enrolled by the end of Q1 2019. Contractors and project developers are expected to be able to enroll in the program starting mid-Q1 2019.

## Affordable Multifamily Program Development Continues

The Affordable Multifamily Energy Efficiency Financing program closely trails the development of the Small Business program.  CAEATFA staff have consulted with a number of interested parties and participated in four Affordable Multifamily industry events to continue building relationships with Affordable Multifamily developers and finance companies and getting input on program design. Program regulations are expected to be ready for board review by the end of Q2 2019.

[3] https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 Private lenders may leverage census tract data as a proxy for specific income disclosure.  CAEATFA staff tracks project activity under CalEnviroScreen, which is a policy tool that is used by some state agencies to identify environmentally challenged communities. It includes qualities beyond income, including factors such as proximity to parks, transit, and freeways.

## www.gogreenfinancing.com

Gogreenfinancing.com, the consumer-facing website launched at the end of Q2 2018, continued to attract new customers and took on many user experience improvements to streamline access for consumers.

# Residential Program Status


Header images are those used on the gogreenfinancing website: www.gogreenfinancing.com/residential

## The Residential Program (REEL)

The Residential Energy Efficiency Loan (REEL) Assistance program provides attractive financing to owners and renters of existing residential properties who select from a broad list of energy efficiency measures intended to reduce energy consumption. Customers may upgrade a single-family home, townhome, condo, duplex, triplex, fourplex or manufactured home. Renovations for up to four units can be bundled into the same loan.

As with all CHEEF programs, eligibility requires that the property receive electric or natural gas service from at least one of the IOUs: PG&E®, SDG&E®, SCE® or SoCalGas®.

REEL Lenders receive a credit enhancement of 11% of the claim eligible amount, or 20% if the borrower is considered underserved. CAEATFA defines underserved borrowers as either:

1. *Low-to-Moderate Income (LMI) Census Tract* – Area Median Income (AMI) of the borrower's census tract does not exceed 120% of the AMI for the Metropolitan Area, County, or State. To make this determination CAEATFA selected the existing geocoding tool administered by the Federal Financial Institutions Examination Council (FFIEC) Geocoding System.[4]
2. *Low-to-Moderate Income Household Income* – Borrower's household income is at or below the current annual income limits as determined by the California Department of Housing & Community Development and accounting for county and family size.
3. *Credit-Challenged* – A borrower whose credit score is < 640 (if the lender has opted in to the Credit-Challenged facility by demonstrating additional benefits to credit-challenged borrowers).

Data regarding the number of underserved borrowers receiving REEL loans is discussed below.
REEL program regulations can be viewed here.[5]

## Progress

REEL continued to show strong performance growth during Q4, enrolling 65 loans totaling $1.1 million with an average project size of $17,107. By the end of Q4, the program had enrolled 339 loans with claim-eligible principal totaling $5.76 million since program inception.

The program is entering a new phase of maturity as many program pieces fall into place. The newest lenders are beginning to bring in loans—all seven REEL lenders enrolled loans by the end of Q4 2018. The GoGreen Financing website, which launched at the end of Q2 2018, continues to be refined from its initial rollout to meet consumer and

[4] https://geomap.ffiec.gov/FFIECGeocMap/GeocodeMap1.aspx
[5] REEL regulations are available online at https://www.treasurer.ca.gov/caeatfa/cheef/reel/regulations/2018/reel-e-regs-9-17-18.pdf

stakeholder needs; improvements emphasize user experience. The GGF website saw over 29,300 total visitors in Q4 2018!

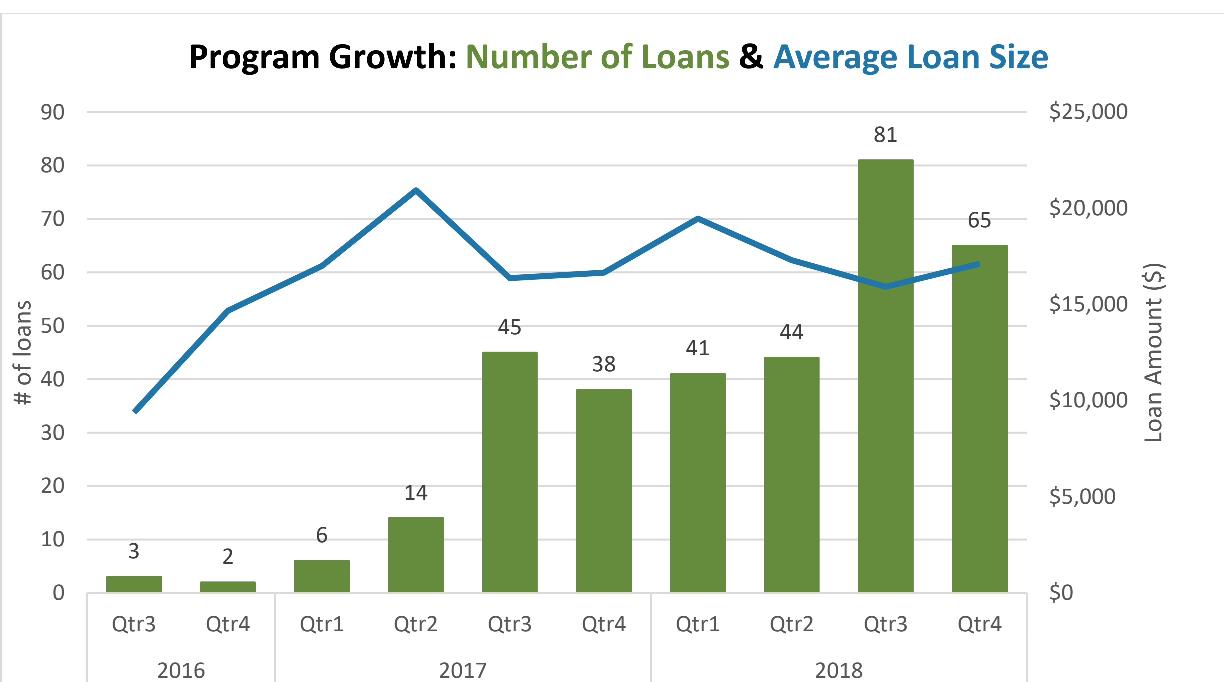
One of our two statewide lenders, Matador Credit Union, extended its reach to our underserved borrowers in Q4 2018 by lowering its minimum FICO score requirements to 580. This provides additional access to borrowers who may benefit from financing products offered through the program for energy efficiency projects but may not have the access otherwise.

In Q4 2018, the REEL pilot program evaluation period began, as administered by the Public Utility Commission. This evaluation will aid the CPUC in deciding the future fate of the program. Opinion Dynamics, Inc. was selected to perform the evaluation, measurement, and verification (EM&V) process. The report is expected to be finalized and submitted to the CPUC for its consideration mid-2019.


## REEL LOANS ENROLLED

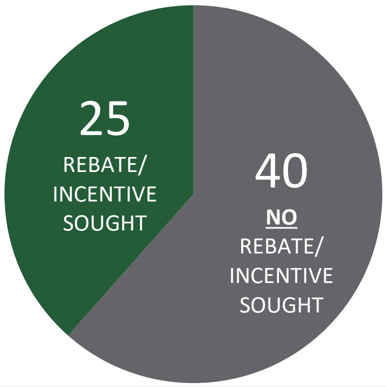
The map shows the number of REEL loans enrolled, by county, from the start of the program through the end of Q4, 2018.

The chart below shows loan growth by quarter and average loan size.



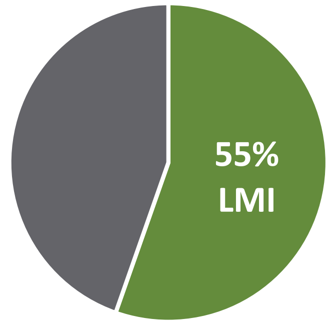
# REEL: Facts and Figures for Q4 2018

**REEL projects that sought IOU rebate/incentive***




*As indicated on Certificate of Completion

**Percentage of REEL loans made to borrowers in LMI census tracts**




LOW TO MODERATE INCOME (LMI) CENSUS TRACTS ARE DEFINED BY MEDIAN FAMILY INCOME <120% THE AREA MEDIAN INCOME

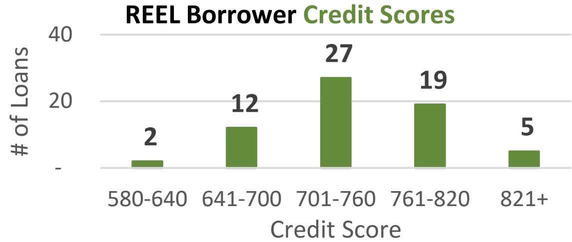
**293** REEL Participating Contractors

**$1,111,985** REEL Loans Enrolled

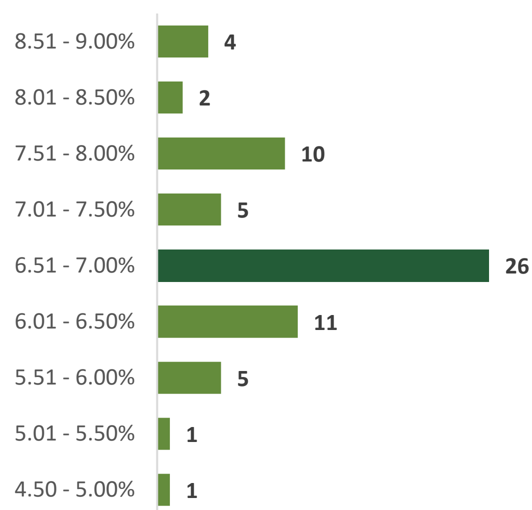
**$17,107** Average Loan Size

**$167,307** Total LLR Contributions

**REEL Borrower Credit Scores**




**REEL Interest Rates**




ALL REEL LOANS PROVIDE LOWER RATES AND THE OPTION FOR LONGER TERM LENGTHS (LOWER MONTHLY PAYMENTS) WHEN COMPARED TO THE SAME LENDER'S UNSECURED PRODUCT

# Top 3 Measure Types Installed During Q4 2018

**HVAC**

HVAC equipment and ductwork

**BUILDING ENVELOPE**

Air sealing, insulation, cool roofs, windows, etc.

**WATER HEATING**

Water heaters and low-flow fixtures

## Outreach

Gogreenfinancing.com – The consumer-facing website has been mentioned previously in this report, but its positive impact bears repeating. Having an easy-to-use website where consumers can learn about the types of energy efficiency projects available to install, find local REEL contractors who can install the measures, and explore the financing options provided by REEL lenders (and even apply for a loan online) has a big impact on the success of the program. CAEATFA and our partners continue to work to improve and expand this new website to make it even more helpful and intuitive for consumers.

During Q4 the site had a total of 29,348 unique visitors, of which 28,370 were new to the site, underscoring the fact that the relatively new website (it was launched at the end of Q2) is in a strong growth phase. The importance of CAEATFA's partnerships with the IOUs and lenders is highlighted by the fact that 39.96% of new users came to the site via links on other websites.

Social Media – Throughout the quarter, CSE, the REEL marketing implementer, made 64 consumer-facing social media posts regarding REEL and GoGreen Financing on Facebook and Twitter.


Contractor Outreach – Frontier Energy, the REEL Contractor Manager, continued its outreach to potential REEL contractors. By the end of Q4, borrowers could choose from nearly 300 contractors statewide.

IOU Customer Outreach – The marketing support of the IOUs is invaluable to the success of the REEL financing program. As trusted messengers, the IOUs have the opportunity to reach millions of customers with a single email. During the quarter each of the IOUs marketed REEL through a variety of channels. PG&E delivered an HVAC messaging specific campaign, SDG&E ran a REEL banner ad campaign, and SCE and SoCalGas attended a variety of local community events to raise awareness and drive traffic to GoGreen Financing. This outreach and digital marketing helps build program awareness, and increases visits to GoGreen Financing and the participating lenders.

Events – Throughout the quarter, CAEATFA, CSE and the IOUs participated in many community events at which the REEL program was represented, including the Institute of Heating and Air Conditioning Industries (IHACI) Tradeshow in November 2019.


Header images are those used on the GoGreen Financing website: www.gogreenfinancing.com/smallbusiness

## The Small Business Energy Efficiency Finance Program (SBF)

The Small Business Finance program reached its first major milestone in Q4 2018. The Office of Administrative Law approved the Small Business Energy Efficiency Financing ("Small Business Finance" or "SBF") program regulations, and they went into effect on December 17, 2018. The program is now able to enroll interested finance companies. CAEATFA staff are actively engaged in finance company recruitment and expect to have 1-2 finance companies enrolled in the program by the end of Q1 2019.

Like all the financing pilots, the SBF program seeks to address multiple challenges.

- *Provide a state-backed financing program designed to address the energy efficiency challenges faced by small business owners and tenants.* Small business owners face challenges when it comes to energy upgrades. Although energy use can account for up to 20 percent of the expenditures of a small business, business owners often don't have the expertise, time, or capital to invest in efficiency measures for their business. SBF is designed with these small business owners in mind.

- *Provide an accessible—and attractive—financing option for small businesses. F*inance companies often view small businesses as a greater credit risk than larger ones, and when small businesses do get financing, they typically pay higher interest rates. Given that the underwriting costs for evaluating, verifying, and processing a small loan is roughly the same as for a larger one, lenders are pushed to focus on larger loans to bigger businesses. SBF is designed to encourage finance companies to offer financing to these smaller businesses.

- *Provide a source of financing that allows deep energy retrofits in existing buildings*. An estimated 3 billion square feet of small commercial business space was built in California before statewide, energy efficiency, building standards were introduced. This leaves these and many other existing buildings in need of deep energy retrofits. Through the use of a credit enhancement, SBF is meant to attract private capital to the energy efficiency market so that less efficient buildings across the state can be upgraded to current energy standards and beyond.

### Program Timeline

The Small Business Finance program is under active development with three upcoming program milestones:

1. Milestone 1 – December 2018: Office of Administrative Law (OAL) approval of Small business Regulations.
2. Milestone 2 – February 2019: Initial finance companies enrolled with approved products. Contractor and Project Developer enrollment begins.
3. Milestone 3 – Summer 2019: Financing offered to small businesses (a limited program launch may be rolled out in Spring).

### Customer Eligibility

Financing through the program will be available to small businesses, nonprofits, and market rate multifamily properties who meet the business size requirements listed below:

- 100 or fewer employees, or
- Annual revenues of less than $15 million, or

- Meet SBA small business size requirements
  - Annual revenue limits range from $750,000 to $38.5 million depending on industry

## Loan Size and Credit Enhancement

Small business owners and renters will be eligible for SBF, and can take out loans up to $5 million. Up to $1 million of the financed amount is eligible to receive a credit enhancement for qualifying measures, as follows:

- The first $50,000 of each financing agreement will be credit enhanced at 20%
- The remainder (up to an additional $950,000) will be credit enhanced at 5%
- Maximum loss reserve contribution will be $57,500

## Financing Instruments

To best accommodate the market, the program will facilitate a variety of financing instruments potential customers could consider, including:

- Loans - Customer takes ownership of measures
- Lease/Efficiency Financing Agreements
  - Customer gets use of measures
  - Title can transfer at end of lease term or at the beginning of term (Equipment Finance Agreement).
- Service Agreements
  - Customer gets use of measures
  - Regular, ongoing service and maintenance of measures is provided to the customer
  - Title does not transfer to customer
  - Guarantee of functionality of measures or guarantee of energy savings
- Savings Based Payment Agreements
  - Savings measured and verified at least annually
  - Agreement is "cashflow positive" for customer compared to prior energy bills
  - Customer shares in benefits if savings exceed expectations
  - Customer does not bear risk if savings are less than projected

As with all CHEEF programs, eligibility requires that the property receive electric or natural gas service from at least one of the IOUs.

## Outreach

As the Small Business Energy Efficiency Financing program ramps up for finance company enrollment and expects contractor and project developer enrollment in the early months of 2019, integration efforts are underway within the IOU program channels, including Trade Professional networks and third-party program implementers.

In addition, staff attended or presented at a few outreach events during Q4, including:

- A statewide meeting for the California Green Business Network, a network of local programs operated by counties and cities throughout California committed to the conversation of energy through improvements and attention to small to medium sized businesses. (Oct. 4, 2018)
- California Efficiency + Demand Management Council (CEDMC) Fall conference, with over 200 attendees and discussion topics focused on energy efficiency and demand management as key strategies to meet California's energy savings goals. (Oct. 25, 2018)

## Challenges / Contingencies

- Micro lender – Research by the CPUC, IOUs and CAEATFA regarding the energy efficiency financing needs of small business point to the need for "micro" lenders, those who will offer loans of $5,000 or less. On-Bill Financing revolving loan programs offered by the IOUs do not offer loans less than $5,000, so this offers an important niche for SBF to fill. Based on input from the IOUs as well as the Small Business Baseline Study conducted by Opinion

Dynamics for the CPUC in the fall of 2017, CAEATFA anticipates that there are many small businesses who will require these smaller financing amounts. CAEATFA intends to start this outreach to micro lenders in 2019.

Header images are those used on the GoGreen Financing website: [www.gogreenfinancing.com/multifamily](www.gogreenfinancing.com/multifamily)

# The Affordable Multifamily Program

During Q4, CAEATFA focused on program design and outreach for the Affordable Multifamily (AMF) program, incorporating feedback from the industry into the initial program design. The team continues to work to integrate ongoing research and outreach activities into a program design. A workshop on the proposed program regulations is expected to be held in Q2 2019.

Following closely behind the rollout of the SBF program, the AMF program is able to leverage several of the processes and resources developed during the design of the SBF program, such as the Energy Savings Measures list and the data dictionary. These efficiencies put CAEATFA on schedule to meet its AMF launch goal of mid 2019.

## Initial Program Design

Please note that the AMF program design described below is the "initial" design, as it is currently envisioned by CAEATFA. The design has been the result of a public workshop process, and is subject to additional change resulting from added research and information, including stakeholder feedback.

## Program Leveraging

A key efficiency of the AMF program design is integration with existing AMF programs, specifically the Low-Income Weatherization Program (LIWP) administered by the State's Department of Community Services and Development, and the Solar On Multifamily Affordable Homes (SOMAH), administered by the CPUC, via a competitively selected team of non-profit organizations.

LIWP offers a generous incentive to qualifying AMF properties that install energy efficiency measures, and SOMAH requires the completion of an energy audit before issuing an incentive to install solar. Both programs have detailed processes and procedures already in place to encourage the installation of cost-effective energy efficiency measures, and CAEATFA is working toward integration with both programs to offer its attractive financing for the portion of the measures not incentivized.

Similarly, the AMF program will fund any energy efficiency or demand response measure approved for rebate and incentive by any IOU, Renewable Energy Network (REN) or Community Choice Aggregator (CCA), as well as any measure from its aforementioned Energy Savings Measures list.

## Key Program Features

- No minimum or maximum financing size
- The first $1 million of each financing will be credit enhanced, at 15% of the claim eligible amount
- Fixed or variable rates allowed
- No underwriting requirements imposed on the finance company. Underwriting is based on participating financier's requirements

## Customer Eligibility

Any AMF property of 5 units or more, where at least 50% of the units are income restricted to 80% Area Median Income, is eligible for financing.

## Financing Instruments

Similar to the Small Business Financing program, the AMF program intends to support varying financing product types such as loans, leases, service agreements and savings-based payment agreements.

## Outreach

CAEATFA participated in three AMF outreach events during Q4:

- November 2018 – Low-Income Multifamily Energy Savings Convening, UC Berkeley Law School
- October 2018 – Multifamily Home Energy Retrofit Coordinating Committee (MF-HERCC)
- October 2018 – Energy Upgrade California Webinar, San Diego Gas & Electric (SDG&E)
- October 2018 – San Diego Housing Federation (SDHF) Annual Conference

## Challenges/Contingencies

- Many proponents of affordable housing have been advocating in this arena for decades, and have built a cohesive group of support organizations. CAEATFA is somewhat of a "newcomer" in the affordable multifamily financing arena and must work to build awareness of both CAEATFA and the AMF program.

## Nonresidential Program

The Nonresidential Program is not being actively developed at this time, as staff focuses on launching the off-bill programs as on-bill repayment is developed.

The Nonresidential program will be available to:

- for-profit businesses and nonprofit organizations that do not meet eligibility requirements for the Small Business Energy Efficiency Financing (SBF) Program
- public entities

Like all the financing programs, the Nonresidential program is designed to encourage growth in private market lending. Though a credit enhancement will not be provided, the program will be designed to provide financing, which will be repaid on the utility bill, for building energy efficiency, distributed generation, battery storage and demand response projects. The flexibility of the program will allow the combination of financing with IOU rebates and other incentives.

In developing the SBF program design and regulations, CAEATFA anticipated how the program would need to be modified to incorporate the Nonresidential program as well as On-Bill Repayment functionality for SBF (see below). While some of work done to establish the SBF program will be leveraged in the development of the Nonresidential program, as noted above, CAEATFA is not directing resources to this program at this time as it targets the launch of the off-bill version of SBF and AMF

## On-Bill Repayment (OBR)

Several programs will include On-Bill Repayment (OBR) as a key feature. CAEATFA staff has been working with the IOUs and the Master Servicer (MS) to establish the OBR infrastructure. The CPUC's recent Decision provided CAEATFA with the ability to offer off-bill repayment for the SBF and AMF programs. CAEATFA will research and develop OBR, while concurrently launching off-bill versions of the pilots.

The development of the finance company/MS communications was an area of focused work for CAEATFA for much of 2017 and continues through 2018. CAEATFA staff and the MS made progress identifying the information lenders will require and the reporting structure so that it will apply not only to current programs, but can be leveraged for use when upcoming programs launch.

One key component of the OBR infrastructure is the Data Exchange Protocol (DEP), which outlines the process for secure transmission of payments and repayment data between the IOUs, MS, and finance companies. After analyzing multiple complex residential and commercial customer data scenarios, the MS and the IOUs agreed on the content of the DEP and the IOUs built and tested their individual systems in 2017. The MS has brought on a new testing resources, who is working on developing a comprehensive testing for implementation in 2019.

Another key component of the OBR infrastructure involves the process by which customer payments are routed from utilities to financial institutions. The MS is currently preparing the specifications for such secure transfer of funds. CAEATFA anticipates the MS will complete its specifications for the secure transfer of funds in Q2 2019.

# Appendices

## Appendix 1: CHEEF Infrastructure

CAEATFA is creating a  statewide platform for finance companies and contractors to participate in the uptake of energy efficiency projects through increased access to financing. As the manager of the CHEEF, CAEATFA is developing uniform program requirements, standardized documentation and processes, and a central administrative entity to facilitate investment in energy efficiency projects and implementation of the programs.

Key infrastructure elements needed to implement the CHEEF include a Master Servicer, Trustee Bank, Secure Flow of Funds functionality, Contractor Manager, Data Manager, and Technical Advisors. Below are descriptions of each of these roles and information regarding their current status as it relates to CAEATFA's procurement processes.

**Master Servicer**

| | |
|---|---|
| *Organization* | Concord Servicing Corporation |
| *Duties* | The Master Servicer plays a key role in the daily administration of the program(s), accepting loan enrollment applications, and processing on-bill repayment transactions. |
| *Contract Term* | 1/1/18 – 12/31/2019 |
| *Notes* | Option for a one-year extension. |

**Trustee Bank**

| | |
|---|---|
| *Organization* | US Bank |
| *Duties* | The Trustee Bank holds the ratepayer funds provided by the IOUs to serve as Credit Enhancements under the various programs. CAEATFA provides direction to the Trustee Bank to transfer CE funds between various accounts. |
| *Contract Term* | 1/8/18 – 12/31/19 |
| *Notes* | Option for a one-year extension. |

**Contractor Manager**

| | |
|---|---|
| *Organization* | Frontier Energy |
| *Duties* | The Contractor Manager recruits, enrolls, trains, supports and manages contractors in the REEL program, and conducts quality control oversight of projects not participating in an IOU rebate/incentive program. |
| *Contract Term* | 10/24/17 – 8/31/19 |
| *Notes* | Option for a one-year extension. |

**Data Manager**

| | |
|---|---|
| *Organization* | TBD |
| *Duties* | The Data Manager will receive program data from the MS and other energy efficiency finance program administrators in order to prepare it for public presentation and use. It will also receive program related energy savings data from the CPUC. The data will be aggregated and anonymized according to the combined standards and regulatory requirements of the IOUs and capital providers. The RFP for the competitive solicitation for this service has yet to be released while CAEATFA prioritizes its workload to develop and implement the programs. Concurrently, CAEATFA and its agents will continue to collect the appropriate data to ultimately be transmitted to the data manager when it is brought under contract. |
| *Contract Term* | TBD |
| *Notes* | TBD |

**Technical Advisors**

Technical Advisors provide expertise to CAEATFA in the development and implementation of the CHEEF programs. CAEATFA currently uses the services of two technical advisors.

| | |
|---|---|
| *Organization* | Energy Futures Group (EFG) |
| *Duties* | Provides technical assistance to continue research and development, and implementation assistance for the commercial programs. |
| *Contract Term* | 3/29/17 – 2/14/19 |
| *Notes* | In Q4 2018, CAEATFA released an RFP for the next Technical Advisor contract and expects to award the candidate in Q1 2019. |

| | |
|---|---|
| *Organization* | Harcourt Brown & Carey (HB&C) |
| *Duties* | Under its implementation agreement with the IOUs, CAEATFA continues to rely on the ongoing technical support of, and anticipates additional assistance from, HB&C with regard to on-bill infrastructure implementation. HB&C's expertise and project management assistance has been helpful in providing continuity under the programs. |
| *Notes* | HB&C is contracted to SoCalGas, and jointly funded by IOUs. |

## Appendix 2: Budget and Staffing Authorization

D.13-09-044 directs the IOUs to allocate a total of $75.2 million to finance the programs over the initial period. Table 1 provides an itemized breakdown of these allocations, current expenditures and remaining balance. As of December 31, 2018, CAEATFA had expended $7,475,985 of the $15.36 million allocated for CHEEF Administration, Direct Implementation, and Marketing, Education, and Outreach.

CAEATFA management continued to engage in the budgetary process to obtain legislative approval to extend budgetary reimbursement and expenditure authority beyond fiscal year 2017-2018 (June 30, 2018). This funding extension was approved in the 2018 Budget Act. CAEATFA will be seeking additional funding for program implementation beyond 2020 to align with the current program implementation timetable.

**Budget Table for CHEEF Expenditures (September 2014 through December 31, 2018)**

| Item | Allocated | Expended/ Encumbered[6] | Balance |
|---|---|---|---|
| **CHEEF Administration** | | | |
| Includes Start-Up costs, CHEEF administrative, direct implementation, outreach and training to finance companies and contractors, and contracting costs[7] | $ 13,360,000 | $ 7,475,985 | $ 5,884,015 |
| **Subtotal CHEEF Start-Up Costs** | **$ 13,360,000** | **$ 7,475,985** | **$ 5,884,015** |
| **Marketing, Education, Outreach (MEO)** | | | |
| Statewide MEO plan | $ 8,000,000 | (TBD) | $ 8,000,000 |
| CAEATFA outreach and training to finance companies and contractors | $ 2,000,000 | $ -[8] | |
| **Subtotal Marketing, Education, and Outreach** | **$ 10,000,000** | $ -[9] | **$** |
| **Residential Pilots Credit Enhancement Funds[16]** | | | |
| Residential Energy Efficiency Loan (REEL) | $ 25,000,000 | $ 768,899 | $ 24,231,101 |
| Energy Financing Line Item Charge (Funding to PG&E) | $ 1,000,000 | (TBD) | $ 1,000,000 |
| Affordable Multifamily | $ 2,900,000 | $ - | $ 2,900,000 |
| **Subtotal Residential Pilots** | **$ 28,900,000** | **$ 768,899** | **$ 28,131,101** |
| **Non-Residential Pilots Credit Enhancement Funds** | | | |
| Small Business sector with credit enhancement | $ 14,000,000 | $ - | $ 14,000,000 |
| **Subtotal Non-Residential Pilots** | **$ 14,000,000** | **$ -** | **$ 14,000,000** |
| **Information Technology (IT)** | | | |
| IT Funding to IOUs[10] | $ 8,000,000 | *(TBD)* | $ 8,000,000 |
| **Subtotal IT Funding to IOUs** | **$ 8,000,000** | ***(TBD)*** | **$ 8,000,000** |
| **CHEEF Pilot Reserve** | | | |
| CHEEF Pilot Reserve[11] | $ 984,931 | $ - | $ 984,931 |
| **Subtotal CHEEF Pilot Reserve** | **$ 984,931** | **$ -** | **$ 984,931** |
| **GRAND TOTAL** | **$ 75,244,931** | **$ 8,244,884** | **$ 67,000,047** |

***Note**: Quarterly expenditures are based on good faith estimates due to a lag in invoice submittals.

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6 "Encumbered" refers to the credit enhancement funds reserved for enrolled loans under the Residential Energy Efficiency Loan (REEL) Loan Loss Reserve (LLR).

7 Amount of funds allocated to this section includes the additional $8.36 million that was approved by CPUC Rulemaking 13-11-005: Joint Ruling of Assigned Commissioner and Administrative Law Judge on Financing Pilots and Associated Marketing, Education and Outreach Activities issued November 22, 2016.

8 The expenses expended for this line item have been included in the expended/encumbered value presented in the CHEEF Administration line item above.

9 This table is not a comprehensive representation of the budget. It does not reflect CSE's expenditures related to ME&O, the IOUs' expenditures and additional allocations for IT and administration, or other non-CAEATFA costs.

10 IT funding to IOUs reports only the initial allocation and does not reflect current IOU expenditures.

11 This amount reflects the remaining balance after the release of funds that was approved by CPUC Rulemaking 13-11-005: Joint Ruling of Assigned Commissioner and Administrative Law Judge on Financing Pilots and Associated Marketing, Education and Outreach Activities issued November 22, 2016.

16 Actual credit enhancement dollars available less funds for operations setup by IOUs.

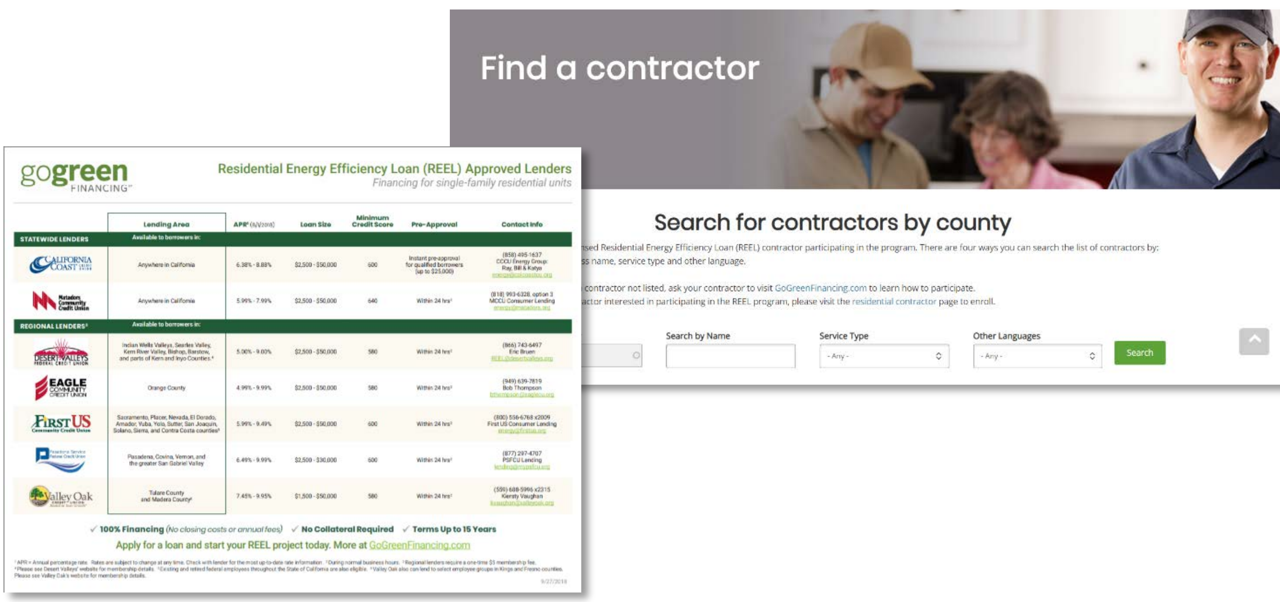
## Appendix 3: Customer-Facing Products

Customer-facing products are discussed throughout this report, but this Appendix functions as a summary.

Designed and implemented by the CHEEF program marketing implementer, the Center for Sustainable Energy (CSE), with input and direction from CAEATFA and the IOUs, GoGreen Financing (www.gogreenfinancing.com) serves as the primary customer-facing website for the financing programs.

GoGreen Financing contains information for end users (customers), contractors, finance companies and partners for each of the programs. Some of the resources on the website include:

- Pages that allow potential REEL borrowers to find a local REEL participating contractor, review the rates of participating lenders and apply for a REEL loan online through the participating lender's website.
- Program descriptions and benefits for the upcoming SBF, AMF and Nonresidential programs.
- Partner resources for contractors, finance companies, local governments and nonprofits (some of which are available to these organizations to co-brand), include:
    - A customer-facing REEL flyer, available in both English and Spanish
    - Social media ads / Facebook / Twitter
    - PowerPoint Presentations
    - Partner talking points



## Appendix 4: Account Beginning and Ending Balances

### IOU HOLDING ACCOUNTS

Funds from the IOU holding accounts were originally transferred to IOU-specific REEL program accounts. After the consolidation of REEL accounts to single, statewide accounts took place in December 2017, funds were transferred to the new, statewide REEL program Account. A total of $250,000 from each IOU has been deployed from the holding accounts.

The IOU holding accounts continue to earn a (very) small amount of interest each quarter, as shown below:

| | SCG | PGE | SCE | SDG&E |
|---|---|---|---|---|
| 10/1/2018 | $699.55 | $698.93 | $694.07 | $692.51 |
| 12/31/2018 | $700.07 | $699.45 | $694.59 | $693.03 |

### REEL RELATED ACCOUNTS

| | | |
|---|---|---|
| The *REEL program* account holds a portion of the IOU ratepayer funds, used to pay the LLR each time a loan is enrolled. The IOUs hold additional funds, budgeted for the REEL program, and those funds are available to be deposited to this account when needed. | The *REEL Reservation* account holds funds set-aside in the event a loan is pre-approved. | The *REEL Interest* account accrues the interest from the following accounts: REEL program, REEL Reservation and all seven REEL Lender LLR accounts. |

| | REEL program | REEL Reservation | REEL Interest |
|---|---|---|---|
| 10/1/2018 | $396,311.26 | $2,096.38 | $1,794.51 |
| Recaptured funds from paid off Loans (Matadors and Cal Coast) | $0.00 | $0.00 | $0.00 |
| Credit Enhancement (CE) Contributions | ($167,306.87) | $0.00 | $0.00 |
| 12/31/2018 | $229,004.39 | $2,096.38 | $2,543.92 |

### REEL LENDER LOAN LOSS RESERVE ACCOUNTS

- Each time a lender enrolls a loan, the 11% or 20% LLR is paid from the "REEL program" account into the lenders Loan Loss Reserve Account. The ending balance shows the amount the lender has available to help offset a default, should they have a claim.
- There were no claims during Q4.

## Rebalance of Accounts

D. 13-09-44 directs CAEATFA to recapture funds, periodically, when loans are paid off and D. 17-03-026 gives CAEATFA the ability to true up its credit enhancement funds at its discretion. CAEATFA has chosen to do the recapture through an annual rebalancing. The rebalance will occur annually in July, for the previous fiscal year running July 1-June 30. The original CE funds will be transferred from the Lenders Loss Reserve Account back to the Program Account. Rebalancing of the CE funds allows us to develop a sustainable program. The first rebalance of all LLR accounts, covering enrolled loans from July 2016 to June 30, 2018, took place in September 2017. Two lenders enrolled in our program had their accounts rebalanced due to having paid off loans.

| | California Coast | Matadors Community | Valley Oak | Desert Valleys |
|---|---|---|---|---|
| 10/1/2018 | $411,078.37 | $153,622.63 | $5,292.98 | $24,340.74 |
| Recaptured funds from paid off loans | $0.00 | $0.00 | $0.00 | $0.00 |
| Credit Enhancement (CE) Contributions | $75,534.96 | $64,936.43 | $2,287.99 | $1,360.00 |
| 12/31/2018 | $486,613.33 | $218,559.06 | $7,580.97 | $25,700.74 |

| | Eagle Community | Pasadena Service Federal | First U.S. Community* |
|---|---|---|---|
| 10/1/2018 | $4,255.73 | $1,905.09 | $1,096.82 |
| Credit Enhancement (CE) Contributions | $8,359.11 | $0.00 | $14,828.38 |
| 12/31/2018 | $12,614.84 | $1,905.09 | $15,925.20 |

* Account opened 7/2/2018

## Appendix 5: Residential Program Participating Lender Overview

There are currently seven lenders offering REEL loans. A brief introduction to the lenders is included in this section. They are listed, chronologically, based on the date they entered the program.

Valley Oak Credit Union was the first credit union to join as a REEL lender, submitting its application in June 2015—nearly a year before the residential program started. Valley Oak has 7,300 members and serves Tulare and Madera counties.

Valley Oak is a Low-Income Designated credit union[12] and serves borrowers with credit scores starting at 580. Over the life of the program Valley Oak has enrolled 4 loans, with one enrolled loan in Q4 2018.

Matadors Community Credit Union is one of two statewide REEL lenders, meaning that it can offer loans to eligible customers anywhere in the state. Matadors has nearly 20,000 members and became a REEL lender in March 2016.

Matadors lowered its minimum credit score to 580 in Q4. It enrolled 22 REEL loans during Q4, for a total of 85 loans since the program began.

Desert Valleys has just over 4,000 members and serves customers in portions of Kern, Inyo, and San Bernardino counties. It is a Low-Income Designated credit union and has been a REEL lender since August 2016.

Desert Valleys serves borrowers with credit scores starting at 580. Desert Valleys enrolled 1 loan during Q4 and a total of 12 loans since the program began.

California Coast Credit Union is the second of two REEL statewide lenders. Joining the REEL program in September 2016, "Cal Coast" has over 173,000 members.

Cal Coast serves borrowers with credit scores starting at 600. During Q4, it enrolled 30 loans for a total of 223 loans since becoming a REEL lender.

Eagle Community Credit Union serves Orange County residents. Eagle has just over 20,000 members. Eagle opted in to the Credit-Challenged facility by demonstrating additional benefits to credit-challenged borrowers, a new opportunity made available in September 2018 when the REEL regulations were modified. As a result, Eagle, and other REEL lenders who opt in to the Credit-Challenged program receive the 20% credit enhancement for lending to borrowers with credit scores of less than 640.

Under the REEL program, Eagle serves borrowers with credit scores starting at 580. It enrolled 3 loans in Q4 2018, for a total of 5 in the program.

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[12] A designation made by the National Credit Union Administration. A federal credit union can receive a Low-Income Designation (LID) when a majority of its membership qualify as Low-Income Members.

As the name implies, Pasadena Service Federal Credit Union serves members in and around the City of Pasadena as well as federal employees statewide. With over 11,000 members, Pasadena Service Federal is a REEL credit union with a Low-Income Designation.

Pasadena opted in to the REEL Credit-Challenged facility, and accepts applications from customers with credit scores starting at 600. Pasadena enrolled its first loan in Q3 2018, and at the end of Q4 2018 has one loan enrolled with the program.

First U.S. Community Credit Union was the most recent REEL lender to join the program, submitting its initial lender application in June 2018. First U.S. serves 12 Northern CA counties, including Sacramento, Placer, Nevada, El Dorado, Amador, Yuba, Yolo, Sutter, San Joaquin, Solano, Sierra and Contra Costa.

Serving 25,000 members, First U.S. opted in to the REEL Credit-Challenged facility and considers borrowers with credit scores starting at 600. First U.S. enrolled 7 loans in Q4, for a total of 89 in the program.

## Appendix 6: The Impact of the Credit Enhancement

The Credit Enhancement **mitigates risk for lenders,** yielding **better loan terms for REEL customers** and encouraging **more energy efficiency lending** that will help California **achieve its greenhouse gas reduction goals**

Based on the CAEATFA's agreements with REEL lenders, the credit enhancement has resulted in better terms and approval rates for REEL customers.

When interested financial institutions submit an application to become a lender, CAEATFA asks them to describe their most similar loan product (typically an unsecured personal loan) and to describe their current interest rate, minimum credit scores, maximum loan amounts and maximum terms for these loans. With this information, CAEATFA is able to insure the final and approved REEL product has appropriate benefits for borrowers.

Because lenders are free to set their own underwriting criteria within the program guidelines, individual products vary from lender to lender. The table below gives some highlights of changes that resulted as a result of the credit enhancement. When a range is stated below, it generally ties back to the borrower's credit score.

| **Improvements:** | California Coast (Your best interest.) | Matadors Community Credit Union | Valley Oak Credit Union (Rooted in Your Growth) | Desert Valleys Federal Credit Union | Eagle Community Credit Union | FirstUS Community Credit Union | Pasadena Service Federal Credit Union |
|---|---|---|---|---|---|---|---|
| | STATEWIDE LENDERS | | REGIONAL LENDERS | | | | |
| **Interest Rate** | Reduction ranged from 347 – 1097 bps[13] | Reduction ranged from 391 – 641 bps | Reduction ranged from 164 - 614 bps | Reduction ranged from 749 – 1000 bps | Reduction ranged from 675 – 1075 bps | Reduction ranged from 391 - 546 bps | Reduction ranged from 300 – 650 bps |
| **Minimum Credit Score** | No change from existing 600 | Reduced from 660 to 580 | No change from existing 580[14] | No change from existing 580[14] | No change from existing 580[14] | Reduced from 640 to 600 | Reduced from 640 to 600 |
| **Maximum Loan Amount** | Increased from $20,000 to $50,000 | Increased from $15,000 to $50,000 | Increased from $20,000 to $50,000 | Increased from $2,500 to $50,000 | Increased from $25,000 to $50,000 | Increased from $25,000 to $50,000 | Increased from $20,000 to $30,000 |
| **Maximum Loan Term** | Increased from 5 years up to 15 | Increased from 5 years up to 15 | Increased from 5 years up to 15 | Increased from 5 years up to 15 | Increased from 5 years up to 15 | Increased from 5.5 years up to 15 | Increased from 5 years up to 15 |

[13] bps = Basis point, a common unit of measure for interest rates. A single basis point is equal to 1/100th of 1%, so 100 bps = 1%

[14] 580 is the REEL program minimum

The provision of a credit enhancement is at the heart of CHEEF's financing program design. As the table on the previous page shows, REEL lenders have made improvements to their existing underwriting criteria, as a result of the loan loss reserve, that significantly benefit potential borrowers. But to put these changes in perspective, it's important to be reminded of the lending landscape in the *absence* of a program like REEL, and to see how the credit enhancement helps achieve the goals for the financing programs.

## Interest Rates *without* REEL

Though lenders traditionally look at a number of factors when determining if an applicant will receive a loan, and—if so—what rate they will pay, a borrower's credit score is one of the largest factors in determining the annual percentage rate for a personal loan. In general, the higher one's credit score, the lower the rate.

Nationwide Average APR for Personal Loans, 2018[15]

| Rating | Credit Score | Average Unsecured Personal Loan APR |
|---|---|---|
| Poor | 300 – 639 | 28.5% - 32.0% |
| Average | 640 – 679 | 17.8% 19.9% |
| Good | 680 - 719 | 13.5% - 15.5% |
| Excellent | 720 – 850 | 10.3% - 12.5% |

The data in the chart at left comes from a finance website that conducts in-depth research and analysis on a variety of financial topics, in this case, the average 2018 annual percentage rate for unsecured personal loans (where property is not used as collateral).

Note the impact a borrower's credit score has on the interest rate paid, with rates ranging from 10.3% to as high as 32%.

Now consider that REEL Q3 interest rates range from 4.99% to a high of 9.99%[16], and that several REEL lenders accept applications from borrowers with credit scores as low as 580.

## How the Credit Enhancement Helps Achieve Program Goals

The Credit Enhancement is more than just a financial mechanism. For the CHEEF programs, it means the difference between achieving program goals—or not. Consider these potential outcomes for a borrower wishing to access $25,000 to upgrade their home's energy efficiency.

| BORROWER WITH . . . | Without REEL | With REEL |
|---|---|---|
| …a lower credit score of 600 | Borrower would be unlikely to qualify for a personal loan.<br><br>**No program goals achieved.** | Borrower may qualify for a REEL loan for a term of 10 or 15 years, paying 9.99% or less.<br><br>**PROGRAM GOALS ACHIEVED!** |
| …a higher credit score of 700 | Borrower could likely take out a personal loan, paying the nationwide average of 13.5%. Since lenders seldom make unsecured personal loans for longer than 5 years, the resulting payment on a $25,000 loan would be $575. Borrower may not be able to afford the high monthly payment. **No program goals achieved.** | Borrower could likely take out the necessary REEL loan, paying the REEL average 7% interest for 15 years. The resulting monthly payment would be a manageable $225.<br><br>**PROGRAM GOALS ACHIEVED!** |

[15] https://www.valuepenguin.com/personal-loans/average-personal-loan-interest-rates#by-credit-score

[16] REEL interest rates are capped at the rate on new 10-year treasury bonds plus seven hundred and fifty (750) basis points