California Hub for Energy Efficiency Financing

Supplemental Report of the 2015-16 Budget Package
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Section I: Legislative Reporting Authority

This *Supplemental Report of the 2015-16 Budget Package* describes the California Alternative Energy and Advanced Transportation Financing Authority's (CAEATFA) progress in designing, developing, and implementing the California Hub for Energy Efficiency Financing (CHEEF) pilot programs. This report provides information on the development of the CHEEF infrastructure and program activity through September 2016, as well as challenges and opportunities, and future pilot development timetables and next steps. The specific reporting language requirements from the 2015-16 Budget Package can be found in Appendix A. CAEATFA also provides Quarterly Reports to the California Public Utilities Commission (CPUC) and makes them available on its website at: http://www.treasurer.ca.gov/caeatfa/cheef/resources.asp

In addition, as requested by the Legislature during this time period, CAEATFA—in consultation with the CPUC—created a working group to identify potential criteria for a comparative assessment of energy efficiency financing programs available in California. The CAEATFA Board approved and published the working group report on July 19, 2016, and it can be found in Appendix D. Additional information on the public process and development of this report can be found on CAEATFA's website at: http://www.treasurer.ca.gov/caeatfa/workinggroup/index.asp

Section II. Overview

Through a series of pilot programs spanning the residential, multifamily, and non-residential market sectors, CAEATFA is partnering with the CPUC, the investor-owned utilities (IOUs)[1], the CPUC Statewide Marketing Implementer and the California lender market to support the development of new, *scalable and leveraged financing products for consumers to help them produce deeper and broader energy efficiency projects than previously achieved through traditional program approaches.* The pilots aim to bring broader access to private capital and will assist in removing the upfront cost barrier of financing for consumers to undertake energy efficiency retrofits.

In September 2013, the CPUC approved Decision 13-09-044 (D.13-09-044), which authorized two-year pilot programs to be supported by $66 million of IOU ratepayer funds and serving four market segments:[2]

- Single-family, with one-third of funds reserved for low and moderate income households,
- Multi-family, affordable housing with master meters,
- Small businesses, and
- On-Bill Repayment of financing by non-residential energy users, without credit enhancement.

The pilot programs were established with a myriad of goals, all of which are intended to support the State's broader energy efficiency and environmental policy goals using an innovative approach. The

[1] The IOUs consist of Pacific Gas & Electric (PG&E), San Diego Gas & Electric Company (SDG&E), Southern California Edison (SCE), and Southern California Gas Company (SoCalGas).

[2] In June 2015 the CPUC approved Decision 15-06-008, which clarified that the 24-month term for the Pilot Programs "should align with the enrollment of the first loan in each finance pilot launch." That is, each finance pilot will have an independent 24-month schedule initiated by the enrollment of the first loan in that particular finance pilot.

design of the California Hub for Energy Efficiency Financing Pilot will create a centralized and standardized platform to develop an open-market infrastructure to encourage additional private capital investment, while also lowering costs and expanding access to capital. The pilots offer various forms of credit enhancements (CEs) to provide additional security to participating financial institutions, thereby attracting more private capital to energy efficiency finance and expanding consumer access to enhanced loan terms. The pilots will also include on-bill repayment (OBR) mechanisms, which will "test whether payment on the utility bill increases debt service performance across market sectors." Both CEs and OBR are implemented across multiple sectors, as further described in the Pilot Program descriptions below. Primarily, the pilots are designed to:

(a) attract a greater amount of private capital to the energy efficiency retrofit market by reducing risk to lenders;

(b) broaden the availability of financing to individuals who might not have been able to access it otherwise; and

(c) address the upfront cost barrier to energy efficiency retrofit projects.

Under the CHEEF, CAEATFA serves as the administrator of the program for the IOUs/CPUC, operating under both CAEATFA's authorizing statute and standard state procedures, and under the governance process and requirements as established by the CPUC and further interpreted by the IOUs as regulated entities. The nature of the pilots relies on leveraging the IOU infrastructure, while establishing an incentive/risk-insurance program that works with private financing business models and the needs of the energy efficiency retrofit marketplace. This effort is anticipated to be the first open-market (multiple lenders) on-bill repayment platform in the nation.

In addition, a key component of the CHEEF requires that pilot activity data—loan, project, and energy savings—be provided to the public and to interested parties (ranging from capital markets to policy leaders), creating an information portal of statewide energy efficiency investment and financing activity. Ultimately, the database will include information from the IOUs' on-bill financing programs, local government ARRA-funded programs, and other efforts throughout the State.

Section III. Policy Context and CHEEF Pilot Structure

Achieving comprehensive and cost-effective energy efficiency in all existing buildings is state policy, and one of three primary approaches to meet California's aggressive energy and environmental targets [e.g., Senate Bill 32 (Pavley, 2016), Assembly Bill 802 (Williams, 2015), Senate Bill 350 (De Leon, 2015), Assembly Bill 758 (2009, Skinner), Assembly Bill 32 (Nunez, 2006)].

The California Global Warming Solutions Act of 2006 (AB 32, Nunez) requires the reduction of greenhouse gas emissions in the state to 1990 levels by the year 2020 (approximately a 25% reduction of 2006 levels). The September 2016 Senate Bill 32 (SB 32, Pavley) expands and extends this required reduction to 40% below the 1990 level by 2030.

According to a gap analysis prepared for the CPUC and completed by Harcourt Brown & Carey (HB&C) in July 2011, meeting California's targets requires mobilizing an estimated $50 billion of investments in energy efficiency improvements over the next 15-20 years.[3] At the time it was estimated that public or ratepayer funded investments were less than half this level and would be insufficient to meet these

[3] http://www.caleefinance.com/wp-content/uploads/2014/04/CPUC_FinancingReport_HBC_Jul8v2.pdf

goals; therefore, market-sourced capital and solutions are required. While there has been some growth in the market, these gaps and needs largely remain today.

The Need for Financing

Lack of access to affordable capital is a key hurdle to investment in energy efficiency improvements across all sectors of the economy. Homeowners, business owners and contractors have reported to CAEATFA through its outreach and workshop processes that this affordable capital access gap stands in the way of energy efficiency investments.

In 2009, Assembly Bill 758 (Skinner) recognized this dilemma and specifically directed the CPUC to explore ratepayer-supported means to finance energy efficiency retrofits. Following the passage of AB 758, the CPUC commissioned an independent study of gaps and needs for financing (completed in 2011) and held a number of public workshops. The study identified needs in specific market segments, and the CPUC ordered the utilities to hire a consultant to design pilot energy efficiency finance programs. These were to be based on private capital, using credit enhancements or other support to attract capital at favorable lending terms for borrowers.

In September 2013, the CPUC issued a Decision that authorized two-year pilot programs to be supported by up to $65.9 million of IOU ratepayer funds initially authorized through December 2015.[4] The term of the pilots was further clarified in the CPUC's June 2015 Decision 15-06-008, which ordered that each pilot program operate on its own two-year clock, commencing with the first loan enrollment in each pilot.[5]

Subsequently, the State adopted the Clean Energy and Pollution Reduction Act of 2015 (SB 350, de León) which establishes new energy efficiency and renewable electricity targets for 2030 in order to support California's long-term climate goal of reducing greenhouse gas emissions by 80 percent below 1990 levels by 2050. The statute also finds that there is insufficient understanding of the barriers for low-income and disadvantaged communities to access energy efficiency investments, solar photovoltaic energy generation, weatherization, other forms of renewable generation, and contracting opportunities.[6] The California Energy Commission has developed its initial study which has been provided to the public for input and feedback; financial barriers and access to financing have been identified as an existing gap with a need for a solutions and increased opportunities. Today, the CHEEF pilots are a component of the AB 758 Action Plan developed by the California Energy Commission.

CAEATFA's Role

CAEATFA, housed in the State Treasurer's Office, was requested to administer the CHEEF pilots by the CPUC because of its statutory and statewide authority, financial acumen, and experience with both financial and energy efficiency markets. CAEATFA's transparent processes facilitate collection of public input to support program development and ensure efficient and responsible use of ratepayer funds.

In its role as CHEEF, CAEATFA has engaged with CPUC staff, the IOUs, the Statewide Marketing Implementer, lenders and private capital providers, energy efficiency retrofit contractors and a variety of stakeholders to develop program structures and Requests for Proposals to procure third-party

[4] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M077/K182/77182202.pdf

[5] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M152/K787/152787673.PDF

[6] Scavo, Jordan, Suzanne Korosec, Esteban Guerrero, and Bill Pennington. 2016. A Study of Barriers and Solutions to Energy Efficiency, Renewables, and Contracting Opportunities Among Low-Income Customers and Disadvantaged Communities. California Energy Commission. Publication Number: CEC-300-2016-009-SD.

professional assistance in implementing the pilot programs. A status update on CAEATFA's work on the pilot programs is provided below.

The Pilot Programs

Based on the consultant gap analysis and report issued in 2011, the CPUC determined the scope of several pilot programs.[7] Each pilot was designed to encourage private lenders to develop financial products for energy efficiency projects across multiple market segments. Through these pilots, the CPUC seeks to develop "scalable and leveraged financing products to stimulate deeper [energy efficiency] projects than previously achieved through traditional program approaches."

CAEATFA launched the Residential Energy Efficiency Loan (REEL) Assistance Program in July 2016, is in the process of developing the infrastructure and regulations for the remaining pilots, and will solicit public input throughout its development and implementation of the pilot programs. As the pilots will be launched in sequence, CAEATFA staff is working to implement the first pilot while also developing subsequent programs. Further information on the status of CAEATFA's implementation and development activities is provided later in this section.

In addition, under these efforts, the pilot activity data – loan, project, and energy savings – will be provided to the public Ultimately, the database will include information from the IOUs' on-bill financing programs, local government ARRA-funded programs, and other efforts throughout the State to provide the data on the energy efficiency investment and financing activity.

This effort is anticipated to be the first open-market (multiple lenders) on-bill repayment platform in the nation. The following sections describe each pilot, in turn.

Residential

The residential pilots implement credit enhancements and limited on-bill repayment features for single-family and multi-family residences.

Residential Energy Efficiency Loan (REEL) Assistance Program. Formerly known as the Single Family Loan Program (SFLP), the REEL Assistance Program offers a loan loss reserve to participating financial institutions (PFIs) for financings of residential[8] energy efficiency upgrades. Because the loan loss reserve helps mitigate a participating financial institution's risk, lenders offer more attractive loan terms, such as lower interest rates or extended terms. One-third of the available credit enhancements is targeted to low-to-moderate income borrowers. In addition, this program allows alternative underwriting criteria – such as utility bill payment history – to be considered to further expand access to financing. The REEL Assistance Program incorporates a sub-pilot, the Energy Financing Line-Item Charge (EFLIC), to be conducted in the PG&E service area only, designed to evaluate the attractiveness of OBR to customers in the residential sector, and to identify the impact of OBR on residential loan performance. Customers participating in the EFLIC program will not be subject to utility disconnection as a result of non-payment

[7] The Program Implementation Plans submitted by the IOUs defined seven (7) pilots: (1) Single Family Loan Program (now the Residential Energy Efficiency Loan (REEL) assistance Program; (2) a sub-pilot of REEL that allows for payment on-bill in PG&E territory, Energy Finance Line-item Charge (EFLIC); (3) Master-Metered Multifamily Program; (4) Small Business Off-Bill Lease; (5) Small Business On-Bill Lease; (6) Small Business On-Bill Loan; (7) On-Bill Repayment No Credit Enhancement (non-residential). Note that CAEATFA later requested, and the CPUC approved, that the small business pilots be combined and include the provision of energy service agreements (ESAs) in both off-bill and on-bill pilots, similar to the treatment of leases.

[8] Four (4) units or fewer.

of the charge on their utility bill. In addition, the financing obligation will not transfer with the meter, from one property occupant to another.

Master-Metered Multifamily Program (MMMFP). The MMMFP will offer on-bill repayment for master-metered multifamily properties, primarily within the low-to-moderate income sector (deed restriction that requires affordable rent pricing with at least 50% of units occupied by income-qualifying households). The program includes a credit enhancement as well. Similarly to the EFLIC Program, borrowers participating in this program will not be subject to utility disconnection as a result of non-payment of the OBR charge on their utility bill. However, the financing obligation can transfer with the meter upon consent from future property owners/managers.

Non-residential

The non-residential pilots will implement on-bill repayment for the commercial sector. Unlike the residential programs, customers participating in the non-residential programs will be subject to utility disconnection as a result of non-payment of the OBR charge on their utility bill. For these programs, the financing obligation may remain and transfer with the utility meter upon consent from future property owners/customers.

Small Business with Credit Enhancement. This program will offer on-bill repayment of financings drawn for energy efficiency improvements to small businesses. The program will also include a credit enhancement (likely in the form of a loss reserve), and will support types of financing that have proven to be effective within the energy efficiency industry, such as equipment leases, energy service agreements, and loans. The Decision also authorized an off-bill version for a leases and energy service agreements.

Non-Residential OBR (without credit enhancement). This program will target medium and large businesses, and public buildings. The program serves as an opportunity to evaluate the effects of on-bill repayment as a single feature. No credit enhancements will be offered through this program.

CHEEF Infrastructure

Central to the infrastructure needed to implement the CHEEF are a Master Servicer, Trustee Bank, Contractor Manager, Data Manager, and Technical Advisor. Below are descriptions of each of these roles and information on the current status as it relates to CAEATFA's procurement processes.

- ***Master Servicer*.** The Master Servicer (MS) plays a key role in the daily administration of the program, accepting lender and loan enrollment applications, and processing on-bill repayment transactions. Through a competitive solicitation, CAEATFA selected Concord Servicing Corporation (Concord) as the MS, and entered intoa contract effective April 23, 2015. Concord began its on-boarding process, and defining its infrastructure and data privacy requirements of the pilots. Concord subsequently began the mapping and development of the REEL infrastructure process, while concurrently working with the IOUs to define the various business requirements required of the IOU billing systems to enable the flow of funds and data for on-bill repayment. The current contract with Concord Servicing Corporation is set to expire on December 31, 2016, and is eligible for one additional one-year extension before the contract is required to be re-bid.
- ***Trustee Bank*.** The Trustee Bank holds the ratepayer funds provided by the IOUs to serve as credit enhancements under the various pilot programs. CAEATFA maintains the integrity of ratepayer funding, and provides direction to the Trustee Bank to transfer credit enhancement funds between IOU program holding accounts and participating lender accounts. The

regulations developed for each pilot specify the amount of credit enhancement funds available for each enrolled financing, and also identify the processes for payment of claims under the programs. The Trustee Bank contract was initially approved by the Department of General Services on March 11, 2015, with a current term through December 31, 2016. It can be extended for an additional one-year period before the contract is required to be re-bid.

- ***Contractor Manager.*** The Contractor Manager will enroll and manage participating contractors in the REEL Program, coordinate with the Statewide Marketing Implementer on outreach, and conduct quality control oversight of projects not participating in an IOU rebate/incentive program. The RFP for this service is under development, and is expected to be released in Q4 2016, as CAEATFA considers incorporating the commercial pilots into the Contractor Manager's scope of work.
- ***Agent Bank/Secure Flow of Funds.*** In CAEATFA Staff's research and outreach to interested lenders on the On-Bill Repayment pilots, lenders expressed the need for additional safeguards around their funds, as the IOUs remit daily payments designated for participating lenders. In working with Concord Servicing, legal counsel, and advisors, it was determined that an Agent Bank was an appropriate role to accommodate interested lender needs. The RFP for this service was advertised on May 16, 2016. Though potential bidders posed various questions regarding the RFP, CAEATFA did not receive any responses. Staff is currently re-evaluating the structure, consulting with banking professionals, the IOUs, and Concord in exploring alternatives to this structure that enables a secure stream of funds for lenders under the open-market structure of the pilots.
- ***Data Manager.*** The Data Manager will receive pilot program data from the Master Servicer and other energy efficiency finance program administrators to prepare it for public presentation and use. It will also receive project energy usage from the IOUs. The data will be aggregated and anonymized according to the combined standards and regulatory requirements of the IOUs and capital providers. The Request for Proposal (RFP) for this service has been preliminarily drafted but not released; as CAEATFA prioritizes its workload, the RFP will likely be released Q1 2017. Concurrently, CAEATFA and its agents will continue to collect the appropriate data to ultimately be transmitted to the data manager when it is under contract.
- ***Technical Advisors*****.** The Technical Advisors provide necessary expertise to assist in CAEATFA's development and implementation of the CHEEF programs. CAEATFA has contracted with Energy Futures Group, Inc. in its research and development for the commercial pilots. In addition, CAEATFA anticipates expanding its Technical Assistance support throughout the development and implementation of the CHEEF programs and administrative infrastructure. CAEATFA continues to rely on the on-going technical support of Harcourt Brown & Carey, under the implementation agreement with the Investor Owner Utilities. This has been helpful in providing continuity under the pilots.

In addition, CAEATFA coordinates with the Center for Sustainable Energy (CSE) as the Statewide Marketing Implementer.[9] Under the CPUC approved financing marketing plan, the Statewide Marketing Implementer has a substantive role with strategic partners, and carries out a scope of work that includes implementation activities, including contractor and lender collateral and co-branding efforts, and is not predominantly focused on consumer marketing. CSE has developed and administers the CHEEF website

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[9] The CPUC is currently undergoing a competitive process to select a Statewide Marketing Implementer under a new contract.

that provides an active tool for program partners -- retrofit contractors and capital providers – which includes training modules and incentives, eligibility requirements, project development and lead generation tools, and collateral marketing material and incentives. Under the plan, CSE is conducting contractor outreach, and also customizes its marketing support for participating lenders and develops regional stakeholder relationships.

Section IV. Status of Pilot Implementation and Lessons Learned

Below is a brief history of CAEATFA's implementation of the CHEEF, an update on pilot launch and development and an overview of some of the key lessons learned from the implementation process.

Establishment of CHEEF Infrastructure

As noted above, in September 2013, the CPUC approved Decision 13-09-044 which authorized two-year pilot programs through December 2015. CAEATFA requires state budget approval (reimbursement and expenditure authority) to administer the CHEEF, and received its initial budget approval as part of the standard 2014 Budget process, and was approved to administer the pilots as they were initially authorized through December 2015. Upon receiving budget authority, CAEATFA entered into a Memorandum of Agreement with the CA Public Utilities Commission (effective July 2014) and a funding contract with the combined four IOUs (effective September 2014), with SoCalGas as the IOU administrator of the contract. In September 2014, CAEATFA was able to begin recruiting and hiring staff, and to develop the scope of work for the various services provided under the CHEEF infrastructure. As CAEATFA brought on staff, it worked to concurrently develop the program design and initiate the stakeholder process of the first pilot in the sequence, the Residential Energy Efficiency Loan assistance Program (formerly single family loan program).

In August 2014, CPUC then-President Peevey issued an Assigned Commissioner's Ruling which clarified the Commission's intent for the pilots to be operational for a minimum of 24 months; this was subsequently confirmed by Decision 15-06-008, which acknowledged that the pilots would be launched sequentially -- each with an initial two-year term that begins with the first loan enrollment of each pilot.[10] Subsequently, as part of the 2015-16 Budget Act, CAEATFA's reimbursement and expenditure authority was extended through FY 2016-17.

CAEATFA developed the scope of work for the Trustee and Master Servicer, and the contracts with US Bank and Concord Servicing took effect in March and April 2015 respectively. CAEATFA staff spent the next several months with these two key contractors onboarding them on the specific structures and requirements of the pilots, including identifying the scope and flow of data and funds, and defining and building the infrastructure for the Master Servicer to administer the pilots. It should be noted that Concord Servicing had experience with developing and administering other on-bill repayment programs (e.g. New York, Connecticut, Hawaii), however, the California open-market structure was unique from the other State's approaches which resulted in little existing infrastructure and few lessons-learned to leverage.

As noted above, CAEATFA staff were concurrently working with the Master Servicer and IOUs to 1) develop the off-bill REEL program as the initial pilot to launch in the sequence, while 2) developing and mapping the requirements of IOU billing systems, which would enable the IOUs to schedule their IT resources and begin the development of their IT infrastructure to enable on-bill repayment.

[10] CAEATFA's budget authority was later extended through the state budget process through FY 2016-17.

Residential Energy Efficiency Loan Assistance Program

The Residential Energy Efficiency Loan (REEL) Assistance Program has launched, enrolling its first loan in July 2016, and is anticipated to have an initial pilot term through July 15, 2018.

CAEATFA staff began its research and development for the REEL pilot as staff were hired over Q3/Q4 2014, and initial stakeholder workshops were conducted in fall 2014. Staff proposed draft regulations – including requirements for lender eligibility, contractor eligibility, project eligibility, and underwriting criteria – in December 2015, and made modifications in response to public comment and feedback. During this time, CAEATFA also worked with stakeholders to identify the appropriate project quality assurance/quality control (QA/QC) for projects not participating in an IOU rebate and incentive program. The initial regulations were approved by the CAEATFA Board in February 2015, and enacted by the Office of Administrative Law in March 2015.

As noted above, the contract with Concord – the Master Servicer under the pilots – became effective in April 2015. During its first few months under contract Concord focused on coming up to speed on the overall pilots, identifying leverage points with its existing servicing structure, and the overall scope of work. Over subsequent months, Concord worked on defining, developing and testing modifications to its internal systems and developing the off-bill CHEEF infrastructure. CAEATFA staff worked with Concord in developing process, transaction and data flows for the REEL program, as well as procedures and checklists to operationalize REEL.

Concurrently, CAEATFA worked extensively with the IOUs on modifications to the combined list of eligible energy efficiency measures (EEEMs) to make the EEEMS portal and the four distinct lists of EEEMs more effective for its users – retrofit contractors, lenders and Concord. [11]

In response to experience gained in early REEL program operationalization with Concord, IOUs, CPUC and early lenders in Q4 2015 and Q1 2016, CAEATFA released a modified version of the proposed regulations under the required rulemaking process. The CAEATFA board approved the updated regulations on February 16, 2016 and the California Office of Administrative Law (OAL) approved them on April 13, 2016. The regulations included updates to streamline program participation and administration.[12]

In April 2016, Concord had established the operational infrastructure for REEL, testing of the loan enrollments process was completed, EEEMs list revisions had been completed and the revised regulations were enacted.

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[11] The EEMS Portal is used by contractors, lenders, and Concord to ensure project eligibility by clearly communicating the financing requirements for comprehensive/ whole house projects, and can be found at http://eeems.azurewebsites.net/. One of the most challenging aspects for implementation has been streamlining the lists of Eligible Energy Efficiency Measures (EEEMs lists) and working with each IOU to make sure that their list is accurate, up to date and easy for contractors and lenders to utilize. Contractors have had difficulty identifying their measures due to the complexity of the EEEMs lists. CAEATFA also worked with staff at the CPUC and IOUs to clarify requirements for EEEMs when a project is completed without an IOU rebate or incentive (Finance-Only Path).

[12] Staff incorporated less burdensome ways to administer the program, such as standardized program identifiers and project data tracking requirements. Additionally, updates to and clarification of the regulatory text were required to address implementation issues raised internally and by stakeholders, program data tracking needs of the CPUC, and the need to incorporate the ability to enroll a loan that would not receive a credit enhancement for solar installation.

Lender Recruitment and Training

CAEATFA has been recruiting Participating Financial Institutions (PFIs) and Participating Finance Lenders (PFLs)[13] throughout program development, and was able to enroll its first lender when the initial program regulations were approved. To date, CAEATFA has received lender applications from seven (7) entities; of the applications received to date, five (5) have been approved as of September 9, 2016. Currently, two (2) approved participating lenders have established their internal process modifications and infrastructure and can enroll CHEEF supported loans.

CAEATFA is continuing to recruit additional lenders, advocating the REEL lender value proposition, assisting with obtaining lenders' internal support to develop a CHEEF product within their institutions, and supporting the development of their applications. CAEATFA will be onboarding and training new lenders and anticipates five (5) operational lenders by December 2016. Table 1 below provides an overview of lenders applications received to date.

In order to create a smooth lender interface with the program, CAEATFA has invested a significant amount of time to refine the loan enrollment process and integrate with lenders' existing procedures.[14] CAEATFA staff has also created implementation tools and resource materials for lenders which include checklists, an implementation manual, fillable PDF forms and a loan enrollment workbook. CAEATFA is working with participating lenders, in coordination with the Center for Sustainable Energy, to develop marketing support that works best with their needs and business models. CAEATFA works with CSE and each lender to best communicate their product details and operational processes to the contractors that are a main marketing channel to customers.

Table 1. Lender Geographical Coverage and Lending Status

Lender Name	Approval Date	Geographical Coverage	Lending Status
Viewtech Financial Services	June 2015	Statewide	Approved, developing internal infrastructure and revamping product
Valley Oak Credit Union	August 2015	Tulare, Kings, Madera, and Fresno Counties	Active
Matadors Community Credit Union	March 2016	Statewide	Active
Desert Valleys Federal Credit Union	September 2016	Parts of Kern, Inyo and San Bernardino Counties	Approved, currently in on-boarding process
California Coast Credit Union	September 2016	Statewide	Approved, currently in on-boarding process
allU.S. Credit Union	Pending Review	Monterey, Santa Cruz, and San Benito Counties	Pending – Application Under Review
Terra Green Community Development Corporation	Pending Review	Statewide	Pending – Application Under Review (incomplete application)

[13] A PFL is a lender that operates under authority of the California Department of Business Oversight and that holds Finance Lender license. It is distinct from a Participating Financial Institution that operates under the federal Riegle Act.

[14] Some examples include working to determine the best operational flow for the lender to perform all of the required eligibility checks for the program, obtain the right documentation and provide a good use experience for the borrower and contractor; facilitating testing with Concord; creating procedures for partner notifications; conducting operations walkthroughs; and advocating that the IOUs accept e-signatures on the customer energy data release.

Each lender approaches the adoption and integration of their REEL product into their standard portfolios differently, under various timetables and with different impacts to their IT technologies/infrastructure and existing processes. The time-intensity and challenges of this process are not unique to participation in the CHEEF. Instead, they are a reflection of the decision-making and governance processes of the various lenders, multiple priorities, and the lenders' approaches to incorporating a new product into their existing infrastructures.[15]

Participating lenders are lowering their interest rates, extending loan tenors, and broadening access to financing. The table below provides an overview of participating lenders' terms of their REEL financing product in comparison to their standard unsecured financing product.

Table 2. Comparison Chart of Participating Lender's Unsecured Loan vs. REEL Program

	MATADORS COMMUNITY CREDIT UNION		CALIFORNIA COAST CREDIT UNION		VALLEY OAK CREDIT UNION		DESERT VALLEYS FEDERAL CREDIT UNION	
DETAILS	UNSECURED	REEL	UNSECURED	REEL	UNSECURED	REEL	UNSECURED	REEL
Available Areas	STATEWIDE		STATEWIDE		Tulare and Madera Counties		Some Cities in Kern, Inyo and San Bernardino Counties	
Min FICO	660	640	600	600	580	580	580	580
Min Interest Rate	9.90%	5.99%	6.85%	5.88%	8.95%	6.77%	8.49%	4.50%
Max Interest Rate	12.40%	7.99%	18.85%	7.88%	15.95%	9.27%	18.00%	8.50%
Max Term	1 year	15 year	5 year	15 year	5 year	15 year	5 year	15 year
Min Loan Amount	n/a	$2,500	$5,000	$2,500	n/a	$2,500	$2,500	$2,500
Min Loan Amount (10yr)	n/a	$2,500	n/a	$2,500	n/a	$10,000	n/a	$10,000
Min Loan Amount (15yr)	n/a	$2,500	n/a	$2,500	n/a	$25,000	n/a	$25,000
Max Loan Amount	$5,000	$50,000	$20,000	$50,000	$20,000	$50,000	$15,000	$50,000
Max Loan Amount (No FICO Score)	n/a	n/a	n/a	$35,000	n/a	n/a	$2,500	$35,000

A financial analysis that examines the expected financial savings due to these improved terms can be found in Appendix B.

Contractor Recruitment and Training

In coordination with the Center for Sustainable Energy and IOU partners, it was determined that outreach, recruitment enrollment and training for participating contractors would commence once a participating lender was operational and had the capacity to enroll a loan. CAEATFA staff developed contractor training content and toolkits, in coordination with CSE and in consultation with the IOUs. CAEATFA's contractor training is not technical; it is a compliance training that presents all of the eligibility requirements of the program, instructs in how to complete necessary documentation, provides an overview of the different products available from participating lenders, introduces contractors to marketing resources and opportunities and provides guidance on where to find additional help and resources in implementing the program. In addition, CAEATFA staff developed resources for contractors

[15] Opinion Dynamics recently presented preliminary findings of a CPUC Finance Outreach Strategy Study that confirmed that lender on-boarding is time intensive, and could take up to 6 months.

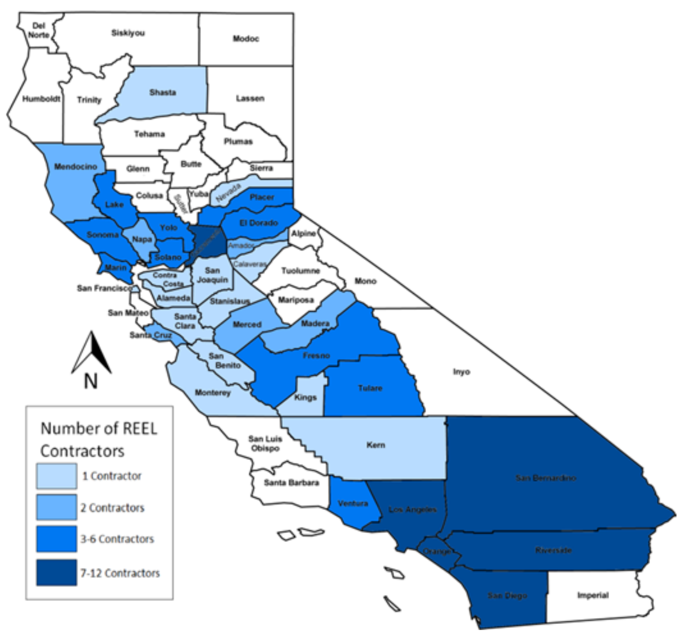
to implement the program including an implementation handbook, sample project documentation, and video tutorials.[16]

Contractor training began on April 13, 2016 with the first in-person contractor training event being held in Tulare, CA at the Southern California Edison Energy Center. Valley Oak Credit Union, the first lender prepared to enroll a loan under the REEL program, was in attendance to engage with contractors.

Once the first REEL lender providing statewide coverage was onboarded, a more robust contactor outreach plan was developed and implemented, with significant coordination with the IOUs and other strategic partners and industry groups. CAEATFA, in coordination with the IOUs and CSE, has been scheduling and conducting training at various Home Upgrade technical training events, leveraging the pre-existing contractor networks. This coordination is becoming more robust as the REEL pilot rolls out, and parties are evaluating outreach methodologies and their effectiveness.

CAEATFA staff is also conducting online contractor trainings on a weekly basis.[17] As of September 30, 2016, 102 contractors/contractor companies have completed the REEL required training; 44 of those contractors have enrolled in the REEL program, and at least six (6) projects have been completed. Staff continue to conduct outreach and train contractors on the REEL program. The map in Figure 1 below reflects the status of enrolled contractors as of September 30, 2016.

Figure 1. Number of REEL Enrolled Contractors by County



Ultimately, the role of enrolling and training contractors to participate in the pilot program will be shifted from CAEATFA staff to a Contractor Manager with strong subject matter expertise in the field; the Contractor Manager will also perform the relevant project quality control for the REEL Program and the other pilots as needed. The proposed scope of work for this entity has been drafted, and staff has been anticipating incorporating commercial efforts as the commercial pilot is developed.

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[16] Contractor resources can be found at thecheef.com and/or http://www.treasurer.ca.gov/caeatfa/cheef/reel/contractor/index.asp

[17] The current online contractor training schedule can be found on thecheef.com.

Early REEL Loan Portfolio

As of September 30, 2016, three (3) loans have been enrolled into the program, all funded by Matadors Credit Union. Table 3 below shows the loan amount for each project to date:

Table 3. Summary of REEL Loan Amounts

Date Enrolled	Lender Name	Loan Amount	Credit Enhancement Amount[18]	Interest Rate	Income Range	FICO BAND	D/I Ratio	Term of Loan (Months)
9/20/2016	Matadors	$ 8,385	$ 922.35	6.99%	$100,000 - $149,999	701-760	36-45%	120
7/25/2016	Matadors	$ 12,285	$ 1,351.35	6.99%	$100,000 - $149,999	641-700	25-35%	120
7/18/2016	Matadors	$ 7,500	$ 825.00	6.99%	$75,000- $99,999	701-760	46-55%	180
	Grand Total	**$ 28,170**	**$ 3,098.70**					

Matadors Community Credit Union is a statewide credit union offering financial products to pay for eligible energy efficiency to qualified single-family residential customers throughout California. Matadors did not previously offer single measure energy efficiency home improvement loans, and a member seeking this type of financing would have applied for a “Personal” loan through the credit union at a rate of 9.90% for higher FICO borrowers and at rates up to 12.40% for those with a lower FICO. With the availability of the CE they have been able to develop a loan product to cover single measures, as well as whole house retrofits, offering unsecured financing rates that range from 5.99% to 7.99%.

The lower interest rates and longer repayment terms will result in lower monthly payments and savings for credit-challenged borrowers. For example, a Matadors member who needs to take a personal loan of $5,000 for an emergency HVAC replacement would be charged at least 9.90% for a loan that has to be repaid in one (1) year. That same borrower, with the REEL product option, will pay only 5.99% and has up to five (5) years to repay the loan. A direct comparison to identify financial savings is not available, since a comparable financing product was not previously offered by the lender.

In addition, several open loans have been originated, but have not yet closed or been enrolled in the program. CAEATFA is working with its participating lenders and various contractors on accurately completing the necessary documentation and certifications for eligible loan enrollment. This is a normal stage of program ramp-up and implementation, in which stakeholders familiarize themselves with a program’s standards and processes. CAEATFA is incorporating additional early lessons learned to further improve the REEL Program.

[18] No claims on the reserve funds have been made to date.

Table 4 below shows the Eligible Energy Efficiency Measures that have been installed to date:

Table 4. CHEEF Eligible Energy Efficiency Improvements & Estimated Energy Savings

Measure Type	Measure Specification	Quantity Installed	IOU Service Territory	Estimated Energy Savings
HVAC	14 SEER Split System Air Conditioner	1	Southern California Edison	0.25 kilowatt-hours (kWh) per year
HVAC	Air conditioner with Evaporatively Cooled Condenser	1	Southern California Edison	107 kWh per year
HVAC	16 SEER Split System Air Conditioner	1	Southern California Edison	38.9 kWh per year
HVAC	Direct Evap Cooler	1	Southern California Edison	766 kWh per year
HVAC	Energy Star certified central natural gas furnace	1	Southern California Gas	34.1 Therms per year

As the on-bill-repayment infrastructure is developed, as further described below, CAEATFA will work to incorporate the PGE sub-pilot, EFLIC, into REEL. Over the last several months, CAEATFA and PGE have been having conversations with NEST/Google on a potential structure and product that leverages the EFLIC infrastructure and relies on bill payment history as alternative underwriting criteria.

On-Bill-Repayment Infrastructure and OBR Program Development

As noted above, several of the pilot programs include On-Bill Repayment (“OBR”) as a key feature. CAEATFA staff is continuing to work with the IOUs, MS, and interested lenders to lay the foundation and establish the OBR infrastructure.

Infrastructure Development and Operations

One key component of the OBR infrastructure is the Data Exchange Protocol (DEP), which establishes the specific data points, file layout and frequency under which data and payments will be exchanged via secure and automated processes between the MS and IOUs. This will enable the IOUs to remit payment data securely to the MS and remit payments securely to lenders. Establishment of the DEP was a time-intensive and high workload priority once the MS was on-boarded, since it defines the requirements for the IT billing systems, and once completed the IOUs could start development. After working through multiple complex residential and commercial customer data scenarios, the MS and the IOUs signed off on the DEP in January, 2016. Though mostly significant for the on-bill pilots, the DEP is also critical for the sharing of customer energy consumption data within the REEL program. The completion of the DEP was a result of numerous meetings and hundreds of hours of work by the MS, IOUs and their IT teams, and CAEATFA staff. This effort was taking place concurrently with the development of the CHEEF infrastructure and REEL.

The Master Servicer, PG&E, SDG&E, SoCalGas, and SCE then worked independently, and in close coordination to build their individual, customized IT systems to accommodate the data exchange and, in the case of the utilities, modify their billing systems to accept energy efficiency financing charges on their bills. In March of 2016, CAEATFA, the MS and the IOUs launched into the planning and testing of the data exchange protocol and the OBR infrastructure. The parties identified several information technology risks and gaps related to testing plan that had been initially developed, and addressed them by developing several mitigation strategies to ensure a robust testing plan approach and process. In April 2016, the MS brought on a systems integration/ project management resource with experience in testing and developing OBR programs. The parties then worked together to finalize and complete the testing plan and testing schedule for the IOU-MS functionality. The testing plan and testing schedule documents were finalized and accepted in early June. With these items completed, CAEATFA has been able to determine the anticipated timeframes to complete the IOU-MS IT infrastructure for OBR, and project a reasonable timetable for the OBR pilots.

Table 5. OBR Development Milestones

Milestone	Target Date
1. Finalize Data Exchange Protocol	January 2016 – completed
2. Establish Test Schedule & Develop Testing Plan	June 2016 – completed
3. Begin IOU-Master Service System Integration Testing	June 2016 – in process
4. Additional Research on Secure Cash Flow Issue	July – in process
5. Issue Secure Cash Flow RFI/Review Responses	October / Nov
6. Develop Secure Cash Flow RFP/Competitive Bid/ DGS approval	Nov 2016- Jan 2017
7. Complete IOU System Integration Testing	Dec 2016 / Jan 2017
8. Workshop OBR infrastructure for Lenders	Q4 2016 / Q1 2017
9. Secure Cash Flow/Concord IT Build Out (est. 2-6 months)	Q1/Q2 2017
10. IT Contingency (TBD)	Q3 2017
11. End-to-End Testing (includes secure flow of funds; lender testing)	Q2/Q3 2017

The MS and CAEATFA continue to work through the on-bill lender interaction process. This work includes development of communication, data flow, and a secure cash flow between the lenders and the IOUs, as facilitated by the MS. CAEATFA has been working with the IOUs, regarding its recent efforts to define the full scope of OBR implications for lenders. Ultimately, this process will inform the OBR Commercial workshops scheduled for Q4 2016/Q1 2017.

To date, in its research in the development of the OBR infrastructure and initial workshops, CAEATFA has identified the need for: (1) an operational reserve fund to smooth the funding stream to address potential anomalies in the IOU billing systems, and (2) secure cash flow to enable open-market OBR (further discussed above). CAEATFA is working with its partners, stakeholders and CPUC to further clarify these issues and propose solutions. CAEATFA will continue to troubleshoot and address issues that may continue to arise as OBR is further developed.

Program Development and Regulations

During this time staff has continued to research program design features and financial structures for the small business and non-residential projects; financing structures best suited for multifamily projects; and the incorporation of EFLIC under the REEL Program. CAEATFA conducted some initial workshops related to the OBR tariffs and lease providers in 2015, and has subsequently been meeting with interested parties to discuss key research questions on various proposals and structures. CAEATFA's regulatory process to develop these programs will begin once CAEATFA staff is able to adequately incorporate the on-bill repayment features as described above. More recently, CAEATFA began holding a series of several workshops for the Commercial, EFLIC, and Multifamily pilots beginning in July 2016. Below is a list of completed and anticipated workshops that will inform CAEATFA's regulatory process.

- January 8, 2015 – Small Business Lease Provider Roundtable
    - Initiated to assist in developing a potential Request for Proposal (RFP) for no more than four lease providers. This RFP requirement is no longer necessary, as subsequent CPUC action, D-15-12-002 provided the necessary flexibility to incorporate lease providers and energy service agreements into the general small business and commercial pilots.
- May 12, 2015 – On-Bill Repayment Workshop
    - Potential impact of OBR on lender underwriting criterial
    - Lender needs and legal provisions related to OBR flow of funds
    - Lender requirement related to on-bill presentations
    - Requirements for an operational reserve
- July 20, 2016 – Commercial Financing Program Parameters
    - Credit enhancement structure (for small business pilots)
    - Financial product eligibility
    - Finance provider eligibility
    - Borrower/Customer underwriting guidelines
- October 28, 2016 – Commercial Project Program Parameters
    - Eligible measures and eligible projects
    - Contractor requirements
    - Project Quality Assurance/Quality Control requirements
    - Data reporting
    - Finance-only (non-rebate) pathway
- Fall 2016/ Winter 2017 (date TBD) –On-Bill Repayment Program Parameters
    - On-bill customer and property eligibility guidelines
    - On-bill infrastructure and communication with the Master Servicer
    - Details and timing of cash flows and payments
    - Special situations: Late payments, disconnections, and removal from the bill
- Fall 2016 / Winter 2017 (date TBD)– EFLIC Program Parameters
    - Timeframe will be sequential to OBR development.
    - Financial product eligibility

- Finance provider eligibility
- Borrower/Customer underwriting guidelines

- Fall 2016 – Multifamily Program Parameters
  - Timeframe will be sequential to OBR development
  - Financial product eligibility
  - Finance provider eligibility
  - Borrower/Customer underwriting guidelines

- Q1/Q2 2017 – Small Business, Multifamily, EFLIC, OBR
  - Regulatory Workshops

CAEATFA staff will be developing regulations for the remaining pilots and undergoing the regulatory process for the EFLIC, Multifamily, and Small Business/OBR pilots from Q4 2016-Q2 2017, aligning with the development of the OBR infrastructure.

The table below illustrates the projected two-year pilot implementation period, based on the anticipated date for the first loan (financing) enrollment under each pilot. CAEATFA anticipates that the OBR infrastructure and pilot regulations will be completed Q2 2017, and is anticipating lenders will need additional time to develop their own IT infrastructure.

Table 6. Anticipated Pilot Implementation Schedule

Pilot Implementation Period	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20
Residential Pilot (CE)					
Small Business Pilot (CE)					
Multifamily Pilot (CE)					
Non-Residential OBR ONLY					

Section V. Challenges and Lessons Learned in Early Implementation

The pilots have taken longer than anticipated to develop and launch, largely due to the following:

- Early timetables didn't adequately incorporate:
  - The impact on the schedule of CAEATFA's required state processes, coupled with the regulatory and compliance processes of the IOUs and CPUC.
  - The time and detail required to effectively design and build the program infrastructure (data systems, processes, procedures, handbooks), nor did it incorporate the period of time to operationalize the pilots -- the phase between program development and implementation – which requires the establishment and testing of processes and procedures.
  - The time that participating lenders and other program participants would need to develop and align their internal systems (governing boards, legal, IT).

- Design and implementation of the pilots has been far more complex than anticipated and presented in initial timetables:
  - Overall complexity of integrating regulated financial institution procedures with those of regulated utilities.
  - Substantial complexity in addressing IT needs of utilities, lenders and Master Servicer in order to develop as automated a process as possible for on-bill functionality.
  - Unanticipated complexity resulting from launching multiple pilots with many different characteristics (on and off-bill, credit-enhanced and non-credit-enhanced, requiring (or not requiring) compliance with utility rebate and incentive program requirements, coverage of multiple market sectors, integrating multiple lenders).
  - The complexity of coordination and issues inherent in the pilots, including the coordination between two state entities (CAEATFA and CPUC) working to concur on policy and programmatic design issues under separate processes and workload balances. In addition, required coordination with the four private IOU companies and their staff and various divisions and the complexity of integrating with IOU rebate and incentive programs, necessitating incorporation of eligible energy efficiency measures and the related existing requirements have all contributed to the complexity of design and implementation of the pilots. Coordination with the Statewide Marketing Implementer, which handles several operational elements for the pilots, has also been more time intensive than initially anticipated.
- Understaffed resources at CAEATFA, and high vacancy rates, as well as shifts in staffing with lenders, IOUs, and CPUC. CAEATFA underestimated both the level (higher capacity/project management skills) and number of staff it would need to implement the pilots.
- Limited-term positions make it difficult to attract and retain qualified staff. Of the seven (7) CHEEF staff positions at CAEATFA, the filled position rate was 2.67 PYs in FY 2014-15, and 4.56 PYs in 2015-16. The CHEEF is currently resourced with nine (9) limited term staff, the highest classification at the Staff Services Manager I level.
- Inability to leverage learning from other states due to unique "open market" approach laid out in the Decision, requiring private lenders to intersect with the on-bill infrastructure and engagement with multiple lenders across multiple sectors.

CAEATFA has taken a number of steps to address these challenges:

- Substantial collaboration and active participation from IOU partners in attempts to address barriers, and efforts to leverage existing infrastructure.
- Retained Harcourt, Brown & Carey, in coordinated effort with the IOUs, to provide necessary expertise and continuity.
- Hired additional consulting resources (e.g., a testing oversight manager for all IT testing activity with OBR experience; technical assistance for commercial pilots).
- Sought to engage/train new staff quickly during implementation. CAEATFA requested additional staff in the 2015 Budget, but did not obtain legislative budget approval. CAEATFA subsequently received authority to administratively establish two (2) compliance positions in FY 2016-17.
- Examined ways to streamline pilots:
  - Focused on developing and launching REEL while concurrently developing the OBR structure for remaining pilots.

- Collapsed the small business lease off-bill/on-bill pilot into a broader pilot for continuity and efficiencies.
- Advocated for streamlined EEEMs list, streamlined data requirements for finance-only path, as able, and developed processes to streamline implementation (electronic signatures)

- Implemented new project planning tools to more effectively track interdependencies, project plans and schedules.
- Continued to identify and mitigate risks to the timetable and implementation, specifically as it related to the IT build-out of the IOUs and Master Servicer, and the secure flow of funds for open-market OBR.
- Developed new budget proposal for FY 2017-18, which: (a) requests additional expenditure and reimbursement authority consistent with updated projected timetable of the pilots, (b) right-sizes staff for CHEEF scope of work by increasing the level of staff, (c) establishes a senior project manager, and (d) requests a few select permanent staff to better ensure continuity throughout pilot implementation.

Next Steps

CAEATFA is excited to have launched REEL – which has been positively received by the market in providing alternative options for homeowners to undertake energy efficiency improvements – and focus on its early implementation and growth. Concurrently, CAEATFA continues to work with its partners and stakeholders to develop and operationalize on-bill repayment, and the pilots that rely on the OBR infrastructure. As additional research is conducted to establish on-bill repayment, CAEATFA will work with the CPUC and its partners to assess challenges that may arise, and potential modifications to structure.

In addition, CAEATFA and the CPUC are exploring ways to streamline the pilots to ensure their effectiveness and responsiveness to market changes since 2013. Concurrently, CAEATFA is working to extend the funding and budgetary authority to address the extended timetable to implement the pilots. Based on current projected program development schedules, CAEATFA anticipates that the series of pilots, each sequentially launched for a two-year period, will run into FY 2019-20.

Appendix A
Reporting Requirements from the *Supplemental Report of the 2015-16 Budget Package, Item 0971-001-0528*

California Hub for Energy Efficiency Pilot Projects. On or before November 1, 2016, California Alternative Energy and Transportation Financing Authority (CAEATFA) shall report, in consultation with the California Public Utilities Commission (CPUC), to the Senate and Assembly Budget Committees on the degree to which the California Hub for Energy Efficiency Financing Pilot Programs have increased the availability of lower-cost financing for energy efficiency investments throughout the state. For each program, where applicable and available, the report shall include the following items:

- Number of lenders participating.
- Financial products supported.
- Number of project financings supported.
- Total loan/financing amounts.
- Aggregated data on average, median, maximum, and minimum loan amounts.
- Terms of financial products, such as interest rates and benefits to borrowers, and how those terms compare to other loan products in the marketplace.
- Credit enhancement contributions and claim rates.
- Summary of energy efficiency improvements made.
- Aggregated borrower information, including data on average, median, maximum, and minimum for income, credit score, and debt-to-income ratio.
- Aggregated estimated financial and energy savings.
- Average, median, maximum, and minimum actual energy savings resulting from this program.
- Any additional information about the performance of the programs that it considers useful when evaluating the success of the program.

CAEATFA, in consultation with the CPUC, shall also create a working group that will include key stakeholders to develop criteria for a comparative assessment of energy efficiency financing programs available in California, including Property Assessed Clean Energy financing and legacy utility on bill financing for short-term lending. CAEATFA shall publish summaries of the issues discussed with and recommendations made by the working group. Relevant Senate and Assembly policy committee staff shall be invited to observe meetings of the working group.

The following table provides a map key to locations in this report which correspond to the specific data requested in the 2015-16 Budget Package. CAEATFA has prepared the preceding report to better inform the legislature of program progress to date, but submits these responses to provide context and reference the original request.

Data Requested	Program **REEL** (residential only)	**EFLIC** (residential only)	**Small Business**	**Multifamily**	**OBR – No Credit Enhancement**
Number of lenders participating	7 applications received, 5 lenders enrolled; 2 lenders operational.	NA	NA	NA	NA
Financial products supported	Loans and Retail Installment Contracts (RIC)	Loans and RICs	Loans, Leases, Energy Service Agreements	Loans, Leases, Energy Service Agreement	Loans, Leases, Energy Service Agreements
Number of project financings supported	3	NA	NA	NA	NA
Total loan/financing amounts	$28,170	NA	NA	NA	NA
Aggregated data on average, median, maximum, and minimum loan amounts	See Table 3.	NA	NA	NA	NA
Terms of financial products, such as interest rates and benefits to borrowers, and how those terms compare to other loan products in the marketplace	See Table 2, and Appendix B.	NA	NA	NA	NA
Credit enhancement contributions and claim rates	$3,098.70 in credit enhancement, no claims to date.	NA	NA	NA	NA
Summary of energy efficiency improvements made	See Table 4.	NA	NA	NA	NA
Aggregated borrower information, including data on average, median, maximum, and minimum for income, credit score, and debt-to-income ratio.	See Table 3.	NA	NA	NA	NA
Aggregated estimated financial and energy savings	Not available at this time.	NA	NA	NA	NA
Average, median, maximum, and minimum actual energy savings resulting from this program	Not available at this time.	NA	NA	NA	NA
Any additional information about the performance of the programs that it considers useful when evaluating the success of the program	See attached.	NA	NA	NA	NA

Appendix B
REEL Lender Profiles

As of June 30, 2016, three lenders—Viewtech Financial Services, Valley Oak Credit Union and Matadors Community Credit Union—have enrolled in the Residential Energy Efficiency Loan Assistance Program. CAEATFA is currently recruiting other Eligible Financial Institutions, and conducting additional outreach.

Valley Oak Credit Union is a regional credit union offering financial products and services in California's Central Valley, a region dominated by low-to-moderate income households according to the CA Department of Housing and Community Development. Valley Oak serves borrowers in Fresno, Kings, Madera, and Tulare counties and is eager to offer energy efficiency financing to its members in order to help them to reduce their energy consumption, improve their homes, and ultimately lower their cost of living expenses.

While Valley Oak did not previously offer an energy efficiency home improvement loan, a member seeking this type of financing would have applied for a "Personal Loan" through the credit union at a rate of 8.95% for high FICO borrowers and at rates up to 15.95% for those with a lower FICO. With the availability of the CE, they have been able to develop a loan product offering rates that were reduced from 8.95% - 15.95% to 6.77% - 9.27%.

Valley Oak – Rate (Personal Loan compared to REEL Loan)		
Borrower FICO	**Personal Loan Rate**	**REEL loan Rate**
730+	8.95%	6.77%
680-729	9.95%	7.27%
640-679	11.95%	7.77%
600-639	13.95%	8.27%
580-599	15.95%	9.27%

Valley Oak – Term & Loan Amount (Personal Loan compared to REEL Loan)		
Term (Years)	**Personal Loan Amount**	**REEL Loan Amount**
1 – 5	$2,500 - $20,000	$2,500 - $50,000
6 - 10	Not Offered	$10,000 - $50,000
11 - 15	Not Offered	$25,000 - $50,000

The lower interest rates will result in significant customer savings for credit-challenged borrowers. For example:

- A Valley Oak customer with a FICO score of 580, taking out an $8,000 7-year loan, would save $2,203.41 in interest over the life of the loan.
- A Valley Oak customer with a FICO score of 600, taking out a $20,000 12-year loan, would save $8,668.91 in interest over the life of the loan.

Matadors Community Credit Union is a statewide credit union offering financial products to pay for eligible energy efficiency to qualified single-family residential customers throughout California.

Matadors – Rate (Personal Loan compared to REEL Loan)				
Borrower FICO	**Signature Loan Rate (1yr)**	**REEL Loan Rate (5yr)**	**REEL Loan Rate (10yr)**	**REEL Loan Rate (15yr)**
740+	9.90%	5.99%	6.99%	7.99%
690-739	10.90%	5.99%	6.99%	7.99%
660-689	12.40%	5.99%	6.99%	7.99%
640-659	Not Offered	5.99%	6.99%	7.99%

Matadors – Term & Loan Amount (Personal Loan compared to REEL Loan)		
Term (Years)	**Personal Loan Amount**	**REEL Loan Amount**
1	\$500 - \$5,000	\$2,500 - \$50,000
2 - 5	Not Offered	\$2,500 - \$50,000
6 - 10	Not Offered	\$2,500 - \$50,000
11 - 15	Not Offered	\$2,500 - \$50,000

Matadors did not previously offer single measure energy efficiency home improvement loans, and a member seeking this type of financing would have applied for a “Personal Loan” through the credit union at a rate of 9.90% for higher FICO borrowers and at rates up to 12.40% for those with a lower FICO. With the availability of the CE they have been able to develop a loan product to cover single measures, as well as whole house retrofits, offering unsecured financing rates that range from 5.99% to 7.99%.

The lower interest rates and longer repayment terms will result in lower monthly payments and savings for credit-challenged borrowers. For example, a Matadors member who needs to take a personal loan of \$5,000 for an emergency HVAC replacement would be charged at least 9.90% for a loan that has to be repaid in one (1) year. That same borrower, with the REEL product option, will pay only 5.99% and has up to five (5) years to repay the loan.

California Coast Credit Union is a statewide credit union offering financial products to pay for eligible energy efficiency to qualified single-family residential customers throughout California.

California Coast – Rate (Signature Loan compared to REEL Loan)		
Borrower FICO	**Signature Loan Rate**	**REEL Loan Rate**
700+	9.85%	5.88%
675-699	12.85%	6.88%
640-674	15.85%	6.88%
600-639	18.85%	6.88%

California Coast – Term & Loan Amount (Signature Loan compared to REEL Loan)		
Term (Years)	**Signature Loan Amount**	**REEL Loan Amount**
1 – 5	\$5,000 - \$20,000	\$2,500 - \$50,000
6 - 10	Not Offered	\$2,500 - \$50,000
11 - 15	Not Offered	\$2,500 - \$50,000

California Coast did not previously offer any energy efficiency home improvement loans. A member seeking unsecured financing (5-year term) would have applied for a “Signature Loan” through the credit union at a rate of 9.85% for higher FICO borrowers and at rates up to 18.85% for those with a lower FICO. With the availability of the CE they have been able to develop a loan product to cover single measures, as well as whole house retrofits, offering unsecured financing rates that range from 5.88% to 7.88%.

The lower interest rates and longer repayment terms will result in lower monthly payments and savings for credit-challenged borrowers. For example, a California Coast member who needs to take a personal loan of \$5,000 for an emergency HVAC replacement would be charged at least 9.85% for a loan that has to be repaid in five (5) years. That same borrower, with the REEL product option, will pay only 5.88% and has up to 15 years to repay the loan.

Desert Valleys Federal Credit Union is a regional credit union offering financial products and services in California's eastern deserts, a region dominated by low-to-moderate income households according to the CA Department of Housing and Community Development. Desert Valleys serves borrowers in parts of Inyo, Kern and San Bernardino counties and is eager to offer energy efficiency financing to its members in order to help them to reduce their energy consumption, improve their homes, and ultimately lower their cost of living expenses.

While Desert Valleys does offer an energy loan called "Alternative Energy Loan", it is only for solar projects. A member seeking an energy efficiency home improvement loan (5-year term) would have applied for a "Signature Loan" through the credit union at a rate of 10.99% for high FICO borrowers and at rates up to 18.00% for those with a lower FICO. With the availability of the CE they have been able to develop a loan product offering rates that range from 4.50% to 8.50%.

Desert Valleys – Rate (Signature Loan compared to REEL Loan)				
Borrower FICO	Signature Loan Rate (5yr)	REEL Loan Rate (5yr)	REEL Loan Rate (10yr)	REEL Loan Rate (15yr)
700+	10.99%	4.50%	5.50%	6.50%
640-679	12.99%	5.50%	6.50%	7.50%
600-639	15.99%	6.50%	7.50%	8.50%
580-599	18.00%	7.50%	8.50%	Not Available

Desert Valleys – Term & Loan Amount (Signature Loan compared to REEL Loan)		
Term (Years)	Signature Loan Amount	REEL Loan Amount
1 – 5	$2,500 - $15,000	$2,500 - $50,000
6 - 10	Not Offered	$10,000 - $50,000
11 - 15	Not Offered	$25,000 - $50,000

The lower interest rates and longer repayment terms will result in lower monthly payments and savings for credit-challenged borrowers. For example, a Desert Valleys member who needs to take a personal loan of $5,000 for an emergency HVAC replacement would be charged at between 10.99% - 18.00% for a loan that has to be repaid in five (5) years. That same borrower, with the REEL product option, will pay between 4.50% - 8.50% and has up to 10 years to repay the loan and up to 15 years if their FICO is 600 or higher.

Appendix C
Pilot Budget

The Decision directs the IOUs to allocate a total of $65.9 million to the finance pilots over the initial pilot period. The table below provides an itemized breakdown of expenditures through September 30, 2016.

Finance Pilot Budget with CAEATFA Expenditures from September 12, 2014 through September 30, 2016*		
ITEM	**FUNDING AMOUNT**	**Expenditures Through 9/30/2016***
1. **CHEEF start-up cost (includes CAEATFA administrative and contracting costs)**	**$ 5 million**	**$ 1,865,575.82**
2. **Marketing, education, outreach**	**$ 10 million**	
a. **Statewide MEO plan**	$ 8 million	**NA**
b. **CAEATFA outreach and training to financial institutions and contractors**	$ 2 million	**$ 210,974.58**
3. **Residential pilots**	**$28.9 million**	
a. Single family loan loss reserve	$ 25 million	**NA**
b. Energy Financing Line Item Charge ($ to PG&E)	$ 1 million	**NA**
c. Multi-family debt service reserve fund	$2.9 million	**NA**
4. **Non-residential pilots**	**$ 14 million**	
a. **Small business sector OBR with credit enhancement**	$ 14 million	**NA**
i. Sub-pilot: OBR for lease providers		
ii. Sub-pilot: Off-bill for lease providers		
b. **Non-residential OBR without credit enhancement**		
5. **Information Technology ($ to IOUs)**	**$ 8 million**	**NA**
TOTAL FUNDING FOR EE FINANCING PILOTS	**$ 65.9 MILLION**	
TOTAL CAEATFA EXPENDITURES		**$ 2,076,550.40**
TOTAL CAEATFA FUNDING BUDGET REMAINING	**$ 4,923,449.60**	

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

To date, CAEATFA has expended approximately $2,076,550.40 of the $7 million allocated for CHEEF start-up costs, education, outreach, and training for lenders and contractors.[19] This funding covers CAEATFA's expenditures from September 12, 2014 through September 30, 2016. As of September 30, 2016, $495,322.05 of the funds had been expended on contracts with third parties – specifically the Master Servicer (Concord Servicing Corporation) and the Trustee Bank (US Bank).

As of July 1, 2015, CAEATFA received extended legislative budget authority to carry out the services of the CHEEF within the initial existing $7 million budget through June 30, 2017 (FY 2016-17). As the timeframe for development of the IT infrastructure for the OBR pilots is determined, CAEATFA will work with the CPUC to identify the appropriate level of future budget augmentations.

[19] These expenditures were under review by the IOUs during the time of this report.

Appendix D
Working Group Report
Criteria for a Comparative Assessment
of Energy Efficiency Financing
Programs Available in California