DOCKETED

Docket Number:	16-EBP-01
Project Title:	2016 Existing Buildings Energy Efficiency Action Plan
TN #:	214109
Document Title:	Corection to Goal 5 of the Draft 2016 Plan Update
Description:	The Energy Commission inadvertently omitted two strategies from the Goal 5 section of the Draft 2016 Existing Buildings Energy Efficiency Action Plan Update (Draft 2016 Update). This docket submittal includes the Goal 5 section of the Draft 2016 Update with the entire Goal 5 strategy table included.
Filer:	Cathy Hickman
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/19/2016 1:55:48 PM
Docketed Date:	10/19/2016

Goal 5. Affordable and Accessible Energy Efficiency Solutions

Objective: Efficiency is an integral part of routine transactions and readily financed.

The 2015 EBEE Action Plan documented the need to achieve a private capital investment in the State's energy efficiency efforts on the order of $10 billion.[32] With the SB 350 mandate to set targets to double statewide efficiency savings, financing needs will be larger yet. It is unreasonable to expect ratepayers to incur rate increases large enough to provide subsidies for the needed energy efficiency investments. Traditional finance mechanisms (e.g. home improvements loans, consumer credit cards, small business loans and leases) have only mobilized a small fraction of the cost-effective potential for energy efficiency.

There is a need to mobilize large amounts of private capital, through mechanisms and transaction structures that present scale economies, and with lower interest rates and/or longer payback periods (years) than have been traditionally offered through conventional lending products. Attracting private capital will require some protections against lender losses. Developing energy efficiency performance data streams hopefully will enable financing terms to become more attractive for efficiency investments.

Database of Finance Payment and Project Performance Histories

The California Hub for Energy Efficiency Financing (CHEEF), funded by IOU ratepayers and administered by CAEATFA, is expected to establish a database framework to record energy savings and loan repayment performance data on all transactions handled by the CHEEF. Transactions data collection would be required of all lender and contractor participants in CHEEF-supported finance pilot programs. The database might also be extended to include more limited information about PACE transactions enrolled in the CAEATFA PACE loss-reserve guarantee initiative, local government programs, and on-bill financing.

IOU Financing Pilots

CAEATFA CHEEF received budget authorization commencing in the 2014/15 fiscal year to administer a set of pilots to attract private capital-market funds for energy efficiency transactions. The finance pilots under development by IOUs and CAEATFA encompass multiple sectors (single-family, multifamily, small, and large nonresidential) and multiple finance products (loans, leases, energy services agreements). The pilots will include the option for lenders to use alternative credit criteria such as utility bill payment history. Credit enhancements are also being offered to lenders to encourage lending in energy efficiency at more competitive terms.

As of July 2016, the single-family pilot, Residential Energy Efficiency Loan (REEL) Assistance Program has been launched, targeting low to moderate income households. The remaining pilots relying on on-bill repayment functionality are anticipated to launch in 2017.

Start-up for this complex set of functions is proving to be challenging among the various stakeholders and their regulatory frameworks (IOUs and private capital), within a state government budget, recruitment, and operational structure.

As directed by the Legislature, CAEATFA, together with the CPUC and a formal advisory board, prepared a recommended evaluation approach in 2016 to compare the results of the pilots with PACE and traditional utility on-bill financing methods of supplying capital for efficiency improvements.

PACE Progress

Residential PACE transactions in California have exceeded $2 billion dollars in the last three years, primarily in the single-family residential market. There are a half-dozen program administrators, mostly private, but working in collaboration with local governments or joint action collectives. Transactions encompass energy efficiency, solar, and water

[32] 2015 Existing Buildings Energy Efficiency Action Plan, p. 3: http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN206015_20150904T153548_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf.

efficiency improvements. There is no statewide compendium to profile the allocation of funds across types of improvements.

In 2014, CAEATFA initiated a loss reserve mechanism to protect all first-mortgage lenders from any direct losses associated with first-priority PACE liens on residential properties in California. As of March 2016, over 56,000 residential PACE financings with an outstanding value of over $1.2 billion have enrolled in the program, representing origination activity through December 31, 2015. To date, no claims have been made against the loss reserve.

In July 2016, the White House announced that FHA- and VA-issued or insured mortgages would accept PACE lien transactions structured akin to customary property tax liens. This opened some of the federally-supported mortgage market to eligibility for PACE transactions. However, Federal National Mortgage Association backing still does not accept mortgages with PACE liens if the liens are "senior" to the insured mortgage.

Key Barriers to Commercial Efficiency Investments

The University of California at Berkeley and the University of California at Los Angeles, with funding from Bank of America, convened a forum last year of finance, building performance, utility, government, and environmental experts. The forum explored how to tap the efficiency potential in existing commercial buildings. Much of the discussion focused on ways to attract and unleash capital to surmount both split incentives and short-term investment horizons witnessed in the commercial sector. A forum report released in March 2016 recommended four types of solutions:[33]

- Utility efficiency programs using pay-for-performance structures
- Pilot efforts to use normalized metering technologies to inform performance
- Rate designs, tariffs, or other mechanisms that encourage "bundled" solutions—efficiency, solar, demand response, storage
- Workforce development to support performance-driven business models

Subsequent to the forum, private businesses involved in financing capital transactions for commercial buildings have been exploring with PG&E how to test new contractual arrangements to deliver energy management on a performance basis and leverage private capital to overcome barriers.

Integrated and Streamlined Delivery of Efficiency Solutions, Finance, and Utility Incentives.

In 2016, PG&E received approval of its High Opportunity Projects and Program (HOPP) proposal to test a modified On-Bill Financing (OBF) program for nonresidential buildings that relies upon a market-based project origination and savings validation process developed by the Investor Confidence Project[34]. This includes meter-based energy savings tracking and eschews paying traditional utility financial incentives to the building owner. PG&E's alternative on-bill financing program (OBF AP) will not require a pre-install review by PG&E, saving time and allowing contractors and customers to get started when they are ready. If the contractor and customer choose to forego the pre-install review, they will also avoid the need for a loan modification agreement at the post-install stage, saving additional time. Since OBF_AP is not be paired with a rebate/incentive, payment to the customer can be made as soon as post-install documents have been received and approved. There is no need to wait for separate rebate/incentive processing.

Several private firms, including Noesis and Joule Assets, have formed their business models around providing support to contractor-initiated energy management transactions so as to expedite and close higher percentages of transactions for small and medium business establishments.

---

[33] Berkeley Law, Center for Law, Energy & the Environment and the Emmett Institute on Climate Change and the Environment, UCLA. "Powering the Savings: How California Can Tap the Energy Efficiency Potential in Existing Commercial Buildings", March 2016

[34] The Investor Confidence Project was introduced in the 2015 EBEE Action Plan and details can be found here: http://www.eeperformance.org/.

Government Building Finance Mechanisms

Government buildings continue to be eligible for zero-interest on-bill financing loans from IOUs at higher maximum loan amounts than offered to private businesses.

In 2015, the California Infrastructure Bank initiated its California Lending for Energy and Environmental Needs (CLEEN) Center.[35] The CLEEN Center offers financing to state and local governmental subdivisions and certain nonprofit entities for projects that help the state meet GHG reduction goals or result in other environmental benefits within California. Eligible projects may include energy efficiency, renewable energy, water efficiency, clean transportation projects, energy storage, and other alternative technologies and fuels. The first transaction was a $7.7 million lease arrangement to the City of Huntington Beach for a project to convert street lighting to LEDs.

Establish Deeper Subsidies for Full Participation by Low-Income Households

In August 2016 the CPUC issued alternative proposed decisions to guide expenditures for the IOU low income Energy Savings Assistance (ESA) program. A final decision is expected in late 2016. The CPUC decision is expected to address modifications to implementation rules on eligible efficiency measures; coordination across multiple programs and leveraging funds under various regulations; decisions on what expenditures are allowable for common areas of multifamily buildings with low income households; and direction for achieving improved program effectiveness.

Cap and Trade Funds

About $75 million has been appropriated in each of the last two fiscal years to fund the installation of energy efficiency and renewable energy projects in single- and multifamily low-income housing units within disadvantaged communities. In 2015, CSD launched its Low Income Weatherization Program (LIWP), which is funded by the California Cap and Trade program. The first operationalized components of LIWP were designed to provide weatherization and energy efficiency services to single-family and small multifamily buildings, as well as single-family solar photovoltaic systems to residents living in disadvantaged communities[36].

LIWP's initial single-family and small multifamily weatherization program relied heavily upon leveraging federal Low-Income Home Energy Assistance Program (LIHEAP) funds to provide assessment, diagnostics, and health and safety measures to qualified homes. It also utilized LIWP funds solely to install energy GHG reducing measures. Because LIHEAP funds are available only to a limited number of community-based organizations and public agencies, CSD is currently redesigning LIWP in an effort to broaden the pool of energy weatherization providers that may compete to provide services under the 2015 to 2016 LIWP allocation. This may include utility contractors that can participate and potentially leverage both ESA program funding and low-income energy usage information that will help target services to homes where energy efficiency measures can be installed to optimize energy and GHG reduction.

[35] For details on the CLEEN Center, see: California Infrastructure and Economic Development Bank. *Criteria, Priorities, and Guidelines for the Selection of Projects.* 2015. http://www.ibank.ca.gov/Portals/1/cleen/Criteria_%20Priorites_%20and%20Guidelines%20for%20the%20Selection%20of%20Projects-CLEEN%20....pdf

[36] Defined by CalEPA's CalEnviroScreen 2.0 tool.

Strategy	Metrics/Time Frame	Lead/Partners
Strategy 5.1 Foster Private Capital Market Establish a robust financing market infrastructure that will attract large private capital.		
5.1.1 State Finance Council: Establish a unified state council to shepherd clean energy capital offerings and identify priority needs.	*TBD*	*Infrastructure Bank*
5.1.2 Database: Develop a unified database of finance payment and project performance histories.	*Database contract to start 2016*	*CPUC/CAEATFA, LGs*
5.1.3 Pilots: Assess IOU financing pilots (credit enhancements, on-bill repayment) alongside PACE and other finance products.	*Evaluation findings in phases 2016 - 2017*	*CPUC and CAEATFA, LGs*
5.1.4 Evaluation of priorities: Review priority needs in the market and assess need to develop or promote additional products, for example, energy service agreements.	*TBD*	*Interagency Council, LGs*
5.1.5 Trigger Point Financing: Ensure availability of finance products that are matched to improvement trigger points (property sale, renovation, occupancy changes, equipment replacement).	*TBD*	*Interagency Council, LGs*
Strategy 5.2 Asset-Based Financing Foster the development of easy-to-access financing mechanisms tied to building asset.		
5.2.1 Mortgages That Value Efficiency: Advocate for energy efficiency to be incorporated into the mortgage valuation and underwriting process. Promote and expand the use of energy efficiency mortgages (EEM) by establishing a rating or value standard for underwriters. (See Strategy 1.4.)	*Ongoing*	*CEC/CA Mortgage industry; DOE, EPA, Nat'l mortgage orgs regulators*
5.2.2 PACE: Support the implementation of Property Assessed Clean Energy financing (PACE) for residential and commercial properties.	*Ongoing*	CAEATFA/ LGC,SEEC,ILG, LGs, private PACE administrators (for-profit)
5.2.3 Split Incentives: Assess and encourage new cost recovery mechanisms such as surcharge on tenant meters or "green leases" to surmount "split incentive" dilemma.	*Ongoing*	*CPUC/utilities, multifamily and commercial real estate leaders, POUs, LGs*

Strategy	Metrics/Time Frame	Lead/Partners
Strategy 5.3 Borrower-Based Financing Obtain attractive terms and broader eligibility for unsecured (residential projects < $25K, equipment replacement) owner/occupant loans. • Develop alternative credit criteria (for example, bill payment history). • Targeted enhanced credit support for new borrowers (for example, UCC-1 or collateral). • Potential to securitize bundled loans on secondary market at a good cost of capital.	*CPUC/CAEATFA pilot evaluations (2016+)* *2016 - 2019*	*CPUC, CAEATFA, LGs*
Strategy 5.4 Integrated and Streamlined Delivery of Efficiency Solutions, Finance, and Utility Incentives	*Phased implementation 2014 - 2016 during CAEATFA pilots*	
5.4.1 Streamlined Timing: Identify and deploy solutions for prompt processing of loans and incentives to avoid or minimize cash flow gap between loan funding and any post installation rebate payment.		*CPUC, program implementers, LGs*
5.4.2 Targeted Incentives: Reassess the role of front-end incentives once financing becomes widely and easily available at good terms. Transition incentives to selected technologies, target markets, and/or trigger points.	*Pilots evaluation 2016/ CPUC guidance for 2017+ programs/ POUs consider on own*	*CPUC / CEC*
5.4.3 Alternative Models: Explore alternative capital sources and/or turnkey efficiency services, where invested capital is repaid via (e.g.): • "Preferred resource" utility procurement mechanism (See Strategy 1.8) • Owner/occupant energy service tariff	*SCE local procurement CPUC proceeding 2015 - 2016* *TBD for tariff concept*	*CPUC, CAEATFA, LGs, utilities (IOUs and POUs)*
Strategy 5.5 Government Building Finance Mechanisms Ease funding mechanisms to support special needs of government energy efficiency improvements. (See Strategy 1.1.1.)	*Assess need, volume, credit qualities by 2015*	*Infrastructure Bank*
5.5.1 Revolving Funds: Expand existing revolving funds for local, schools, and state government building energy improvements. Determine government borrower needs, capital source, balance sheet treatment, and merits of on-bill repayment via utility bills.	*Ongoing*	*Infrastructure bank/ESCOs, Legislature, capital markets, CPUC, utilities*
5.5.2 Energy Service Agreements: Develop and promote energy service agreements (similar to solar power purchase agreements) as hybrid of utility bill plus energy improvement repayment.	*2015 and ongoing*	*ESCOs, utilities, LGs*
Strategy 5.6 Leveled Tax Playing Field Work to align federal and state tax treatments (credits and depreciation) for energy efficiency improvements with those for renewable energy.	*TBD*	*CEC/NASEO, USDOE*

Strategy	Metrics/Time Frame	Lead/Partners
Strategy 5.7 Establish More Effective Capital Mobilization for Full Participation by Low-Income Households	*Revised programs in place by 2016*	
5.7.1 Balanced Assistance Options: Work with stakeholders to assess optimal balance of assistance options across financing, on-bill repayment tied to meter, and grants or direct installation to maximize water and energy efficiency levels, using ratepayer, occupant, or other funds.	*CPUC 2014 directive to low income proceeding, CPUC pending decision may expand capital deployment on multi-family low income. New Direct Install and/or financing for MF authorized via HOPPs in 2016 for all incomes. CHEEF pilot for MF affordable housing anticipated to launch 2017.*	*CPUC/utilities/* program implementers, LGs
5.7.2 Cap-and Trade-Funds: Assess changes to or coordination between utility and cap-and-trade fund allocations to low-income households for energy improvements.	*Effective for 2016*	*CSD/ ARB/CPUC, LGs*
5.7.3 Multifamily Buildings: Integrate low-income household services with building owner eligibility for regular energy efficiency programs to increase efficiency levels in multifamily buildings with low-income occupants.	*Limited progress during 2015 - 2016 cycle low-income programs and budgets. Pending CPUC decision may spur more innovation 2017 and beyond*	*CPUC/IOUs,* POUs on own, LGs