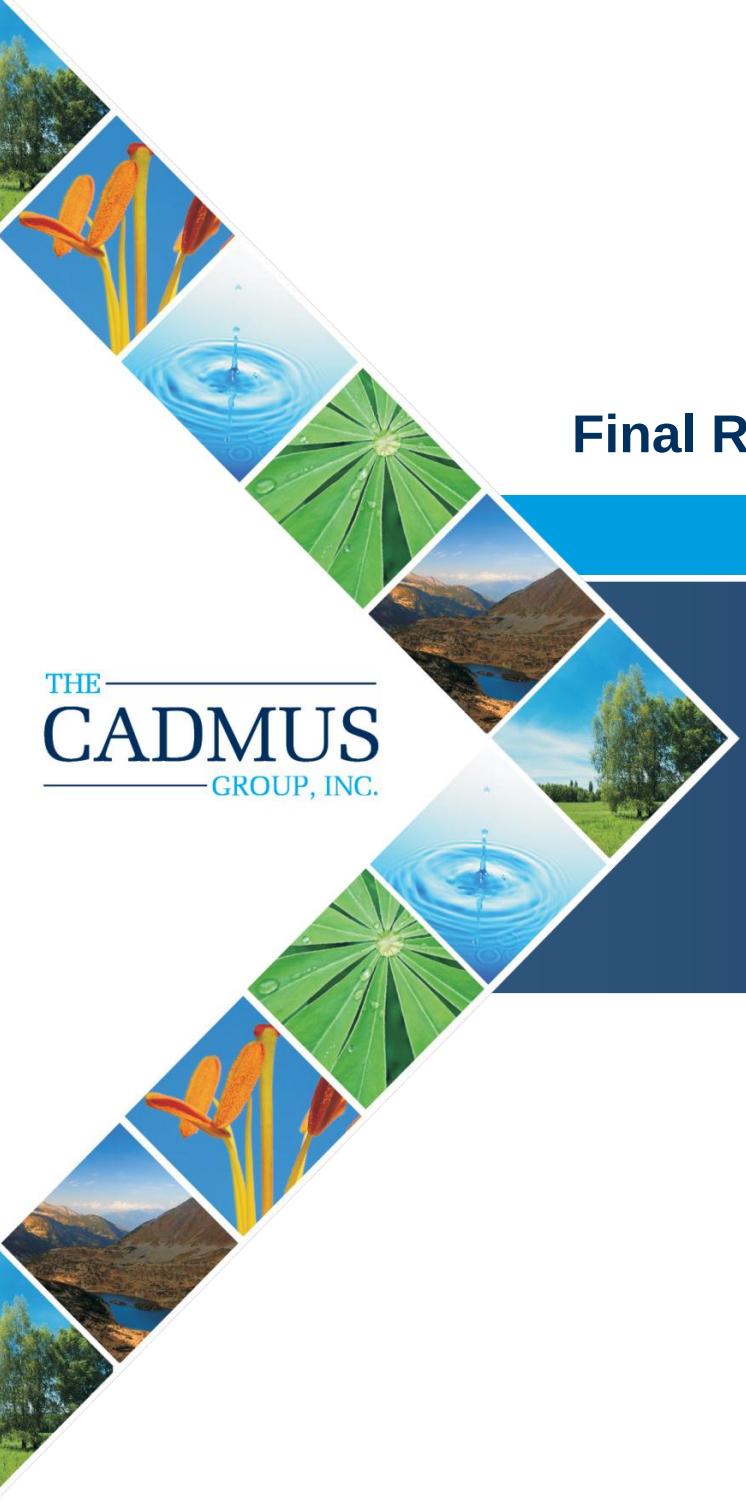

THE CADMUS GROUP, INC.

Final Report

CALMAC ID#:CPU0056.01

California 2010-2012 On-Bill Financing Process Evaluation and Market Assessment

March 2012

Prepared by:

The Cadmus Group, Inc.
Energy Services Division
720 SW Washington Street, Suite 400
Portland, OR 97205
503.467.7100

Prepared for:

California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

LEGAL NOTICE

Prepared by:
Cynthia Kan, Ph.D.
Carol Mulholland
Linda Dethman
James “Pat” McGuckin
Ryan Fox
Allie Marshall

The Cadmus Group, Inc.

720 SW Washington Street
Suite 400
Portland, OR
Tel: 503.467.7100
Fax: 503.228.3696

An Employee-Owned Company
www.cadmusgroup.com

Corporate Headquarters:
57 Water Street
Watertown, MA 02472
Tel: 617.673.7000
Fax: 617.673.7001

ACKNOWLEDGEMENTS

We thank the following persons for their time and support for this important study.

CPUC OBF Study Team

Jean Lamming, California Public Utilities Commission (CPUC)

Sharyn Barata, Itron

Christie Torok, Itron

Nikhil Gandhi, Strategic Energy Technologies, Inc.

Investor-Owned Utilities

Frank Spasaro, Sempra Energy Utilities

Taimin Tang, Sempra Energy Utilities

Jill McGhee, Sempra Energy Utilities

Greg Lawless, Sempra Energy Utilities

Rob Rubin, Sempra Energy Utilities

David Carrell, Sempra Energy Utilities

Michael Kung, Sempra Energy Utilities

Jesse Martinez, Sempra Energy Utilities

Frank Mateo, Sempra Energy Utilities

David Jacot, Southern California Edison

Gary Levingston, Southern California Edison

Pierre Landry, Southern California Edison

Reggie Wilkins, Southern California Edison

John Rensch, Southern California Edison

Larry Sutton, Southern California Edison

Phoebe Kimble, Southern California Edison

Danielle Schofield, Southern California Edison

Brian DiGiorgio, Pacific Gas & Electric

Josef Isaacs, Pacific Gas & Electric

Adriane Gardner, Pacific Gas & Electric

Barbara Butterfield, Pacific Gas & Electric

Eva Chu, Pacific Gas & Electric

Other Contributors

Jennifer Finnigan, CPUC

Jeanne Clinton, CPUC

Hank Ryan, Small Business California

Adam Gardels, Research Into Action

Table of Contents

Table of Tables

Table of Figures

1. EXECUTIVE SUMMARY

Introduction and Purpose

The California Public Utilities Commission (CPUC) recognizes the growing importance of financing in helping California meet its energy-efficiency goals. The CPUC directed each of California's investor-owned utilities (IOUs) to offer on-bill financing (OBF) to nonresidential customers in decision 07-10-032, and approved the IOUs' OBF programs for the 2010-2012 program cycle in decision 09-09-047.

In June 2011, the CPUC contracted, through Itron, with The Cadmus Group, Inc. (Cadmus), to conduct a process evaluation and preliminary market assessment of each IOU's OBF offering. This report details study findings about the current OBF offering and provides insight into both utility and consumer thoughts on an enhanced financing program for future program cycles. The nine main research areas, presented below, either relate to current program processes or provide insights relevant to future financing efforts.

Current Processes

1. Identify key program and participant characteristics that drive success.
2. Understand methods used to disburse limited loan funds.
3. Determine OBF's effectiveness in increasing energy efficiency-program participation.
4. Understand how OBF interacts with other utility programs.
5. Examine strengths and weaknesses of current OBF delivery channels.
6. Identify ways that OBF can support comprehensive retrofits.

Future Considerations

7. Understand how financing can help customers overcome barriers to energy efficiency.
8. Examine current OBF infrastructure and processes needed to support scale-up.
9. Explore reactions to changes in loan terms, rebates, capital provider, and debt vs. non-debt approaches to OBF.

Methodology

Cadmus conducted the OBF study between June 2011 and February 2012. Subject utilities included Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas and Electric (SDG&E), and Southern California Gas (SoCalGas). Research tasks included reviewing program documents and tracking databases, conducting two rounds of interviews with four IOU program managers, interviewing CPUC staff members and an intervener, surveying 76 OBF participants and 29 vendors who helped deliver the program, interviewing 12 account executives, and conducting six focus groups across California with 46 energy audit participants who had not participated in OBF.

Key Findings

Participation

At the time of the study (fall 2011), SDG&E had the highest number of issued loans and PG&E had the fewest, as shown in Table ES-1. Thus, statewide participant research and loan statistics are weighted toward SDG&E. Customers from different segments (government, small and large

commercial) and multiple industries (retail, education, manufacturing, food service, etc.) participated in OBF. Larger customers, on average, had larger loans.

Table ES-1. OBF Participation by Number of Loans and Dollars Loaned

IOU	Number of Loans	Dollars Loaned
SDG&E	506	$13,541,298
SoCalGas	15	$459,301
SCE	78	$2,012,717
PG&E	4	$210,140
Statewide	**603**	**$16,223,456**

Program Goals

The OBF program's stated goals are to increase participation in utility incentive programs by removing the upfront cost barrier. The CPUC and IOUs also want OBF to encourage more comprehensive projects.

Program Design

Some OBF elements are uniform across utilities. These are bill neutrality, 0% interest, ability to disburse loan proceeds directly to the customer or their vendor, repayment through the utility bill, customer account history requirements, maximum loan terms and caps, the California Department of Corporations (DoC) waiver, disconnection for non-payment or partial payment of energy and loan charges, and the program's non-resource status.

Elements which differ are OBF account structure and fund allocation approach, loan tracking system, the most prevalent delivery channel, and how applications are processed (e.g., PG&E requires a credit check in addition to checking bill payment history).

Application Processing

OBF processes are built upon existing incentive program processes and application requirements, which means processing times and inspection requirements are dictated by the underlying program. Adding OBF to a project increases the overall project processing time.

There are two steps in the application process when a customer or project can be disqualified: when customer creditworthiness and eligibility are assessed, and when the payback and other loan calculations are performed. Utilities require pre- and post–installation inspections on all OBF projects; no loan will be issued for equipment installed prior to the first inspection or for projects that do not meet savings requirements.

Participant Research Key Findings

Ninety-two percent of customer survey respondents had not researched other financing options outside of OBF, and 91% also said they thought the ability to pay the loan through the utility bill was a valuable feature. Nearly three-quarters of those surveyed (72%) would not have been able to proceed with an energy-efficiency project were OBF not available.

Eighty-six percent of survey respondents had no problems with the application process. Four-fifths (80%) said they would be more likely to pursue energy efficiency in the future as a result of their experience with OBF.

Vendor Research Key Findings

Eighty-six percent of vendors surveyed said OBF was important or very important in enabling them to sell energy-efficiency projects to customers who otherwise would not be able to afford to take action. However, vendors often do not properly fill out applications. For example, SDG&E returns 25% of applications for rework. Nearly three-fourths (72%) of vendors surveyed said they had to rework an application. Vendors and IOU staff members indicated rework was often caused by improper savings calculations.

Vendors do not seem to realize their application errors affect the application processing time. Half of those surveyed said it takes too long to receive OBF loan proceeds from the utility, which can cause them to have cash-flow problems. The utilities attribute the processing delays to vendors submitting noncompliant paperwork.

Finally, some vendors mislead customers, either by telling customers they represent the utility or by telling them that OBF is "free" and not a loan. This misinformation has caused problems for the utilities with their customers.

Conclusions and Recommendations

Key program and participant characteristics that drive success

Both design and implementation elements help make OBF successful. Customers, vendors, and utility staff members all commented that OBF removes upfront costs, enabling customers to complete energy-efficiency projects they otherwise would not have pursued. Zero percent interest, the loan installment on the bill, and bill neutrality also contribute to OBF's success at attracting customers.

There are two potential definitions of a "successful" OBF participant: one that qualifies for and is able to develop a project that would not otherwise have been done and one that has completed the process and repaid the loan in full. For the former, OBF has drawn customers from all eligible segments, including government and institutional (G&I), small commercial/industrial/ agriculture (CIA), and large CIA. No utility reported that OBF is meant to target one customer group over others, nor did Cadmus' research indicate that one customer segment would be better suited for OBF than another. Both SCE and PG&E expect to loan most of their 2010-2012 money to G&I customers, while SDG&E's program started by loaning money to smaller customers and was then expanded to larger customers.

SDG&E's program is the only one that has been offered long enough for customers to have repaid their loans, so it is the only one that, at this time, offers examples of that type of "successful" participant. SDG&E's screening process has resulted in an overwhelming majority of customers that pay back loans.

Recommendations:

- The utilities should continue to offer OBF in its current form for at least the next program cycle. Both customers and vendors report that the existing program offering of 0% financing and bill neutrality are what have "sold" the program; account executives and utility staff agree. All four IOUs need to concentrate on resolving the current offering's implementation issues before they can consider making significant design changes. As discussed below, Cadmus offers a number of recommendations for research that could feed into a revised program.

OBF interaction with other utility programs

To get financing from the utility, customers need to apply for both OBF and energy-efficiency program incentives. The incentive program applications are where most problems occur because customers and their vendors may calculate savings incorrectly or submit insufficient documentation. Incorrectly calculating project savings affects not only the efficiency program application, but also the OBF application because OBF uses these calculations to determine project payback and loan terms. SCE and PG&E, and to a lesser extent SDG&E, have struggled with lack of coordination between OBF and energy-efficiency program staff.

Recommendations:

- Increase coordination between OBF and efficiency staff to reduce application processing time and increase customer satisfaction.
- Any OBF vendor training offered should include training on the relevant energy-efficiency incentive programs.

Strengths and weaknesses of current OBF delivery channels

The four IOUs use two different OBF delivery channels. SoCalGas and PG&E have assigned account executives to introduce the OBF mechanism to customers and help them with the application process; SDG&E and SCE rely much more on vendors, but their account executives also do some marketing. PG&E has recently begun to work with vendors, but most of its applications still come from account executives.

Account executives are a limited resource that cannot reach all customers; most account executives are dedicated to larger customers, although the IOUs have some executives who cover unassigned smaller accounts. SDG&E's and SCE's experience shows that vendors can effectively reach smaller CIA customers. Using vendors to deliver OBF offers the utilities much greater access to eligible customers, but this also presents challenges because vendors need:

- Training to understand both OBF and the efficiency programs so that they represent the programs accurately to customers.
- Some level of oversight by the utility to make sure customers are not misled.
- To be told how long it may take for the utilities to approve completed projects and process loan payments.

Recommendations:

- The utilities should continue to use both vendors and account representatives to deliver OBF.

- All four utilities should develop a formal vendor support and monitoring function.

Ways OBF can support comprehensive retrofits

Both the CPUC and IOUs would like customers to implement comprehensive energy-efficiency equipment retrofits, rather than to focus on measures with the most rapid payback, such as lighting. Although OBF supports any type of project that can meet payback requirements, the majority of OBF loans have been for lighting retrofits. Two factors seem to be driving this trend. First, most customers reported installing lighting-only projects because that was what they were offered at the time they made the decision to implement a project. Many of the vendors that market OBF to those customers specialize in lighting, so they sell what they know. Second, both customers and vendors may not understand the OBF benefits from bundling lighting with other retrofits.

Vendors and other stakeholders mentioned that the direct install (DI) program offered by the electric utilities can compete with OBF projects. Customers who install lighting measures through DI may lose the opportunity to finance more comprehensive retrofits in the future, since other equipment tends to have longer payback periods and needs to be bundled with lighting.

Recommendations:

- Vendor training should include a module on all the energy-efficiency measures for which different customer groups might be eligible. The training also should include several case studies that show the benefits of bundling lighting retrofits with other equipment retrofits.
- The CPUC and IOUs should examine whether the DI program affects comprehensiveness goals and adjust accordingly.
- The CPUC and IOUs also should examine whether other incentive programs working with OBF support comprehensiveness.

How financing and other utility support can help customers overcome barriers

Focus group participants report two main barriers to implementing energy efficiency projects: lack of knowledge about appropriate retrofits and the initial cost of making those retrofits. Although upfront cost issues are a much greater barrier for customers than is the lack of knowledge, most focus group participants reported they had not considered financing energy-efficiency projects.

Recommendations:

- The IOUs should do more to publicize OBF's ability to remove the upfront cost barrier. While not the only barrier, first-cost is clearly the greatest barrier for many customers, and it is OBF's biggest selling point.
- Conduct additional customer research on how best to overcome the other barriers mentioned during the focus groups.

Current OBF infrastructure and processes to support participation scale-up

Scaling up OBF will require all four IOUs to make some changes. SDG&E and SoCalGas have had time to identify and address staffing and incentive program coordination issues. PG&E's and SCE's OBF programs are relatively new, so both utilities are beginning to address those issues.

Both SCE and PG&E have ceilings on their loan funds because those funds come from energy-efficiency program funding. They will need either to raise their OBF ceilings with CPUC approval or use a two-way balancing account structure.

All four IOUs have made a considerable investment in their IT and billing systems to allow loans to appear on their bills and to credit payments appropriately. Those systems can support larger OBF programs within existing program parameters.

Any significant increase in OBF will require more staff, both for OBF and for the efficiency programs, to handle the increase in applications and inspections. Because utilities have limited numbers of account executives, scaling up OBF also will require them to make greater use of vendors to market the funding mechanism.

Recommendations:
The following steps need to be taken prior to any scale-up effort.

- The CPUC needs to work with SCE and PG&E to resolve funding issues.
- The IOUs need to have strong vendor support programs in place.

Loan terms, rebates, capital provider, and non-debt approaches to financing

Interest rates: Surveyed customers were willing to pay a higher interest rate, but charging interest under the current program design would cause a number of problems: the utilities would lose their DoC exemption; fewer projects would meet payback requirements; and utilities would need to modify their billing and payment systems to handle interest charges.

Rebates vs. financing: Over half of survey respondents indicated financing to be more important than rebates.

Third-party capital: While an infusion of third-party capital would help resolve the issue of limited loan funds, it also introduces several new problems, the first of which is how utilities would need to change their systems to transfer monthly loan payment to lenders. Second, it is not clear whether the utility or the lender would be expected to deal with late loan payments and loan defaults. Third, the utilities and lenders would need to work out a streamlined process for approving projects and disbursing loans.

Most customers interviewed have no preference for what entity provides loan capital. In contrast, account executives generally thought the introduction of a third-party capital provider would make the program complicated.

Tariff approach: Based on focus group feedback, the tariff approach to financing is more attractive to renters than it is to owners; renters are enthusiastic about it, but owners worry how the tariff would be handled during property sales. Customers also are concerned about what a lien against the meter would do to their property values. Before utilities consider a tariff approach, they will need a mechanism to ensure full loan payment, even if the property changes owners.

Recommendations:

- Before making changes to rebates and financing offered to customers, consider how those changes will affect project eligibility (especially for gas-only or comprehensive projects).
- Consult with the real estate industry to determine how a tariff would affect commercial property transactions.
- Determine what legal or regulatory actions would be required to support tariff transferability