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2013-2015 Commercial Direct Install Process Evaluation – Phase 1 Report

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1. Executive Summary

This document presents findings from the first phase of the 2013-2015 process evaluation of the California Investor Owned Utilities (IOU) Commercial Direct Install (DI) programs. The purpose of this phase of the study is to characterize the 2013-2014 Commercial DI programs (referred to as DI programs) and understand the drivers of program performance. Overall, the Evaluation Team identified 19 Commercial DI programs, which were explored in depth for this evaluation.

DI programs are broadly defined as those that facilitate the installation of no- or low-cost energy efficiency measures (i.e., a turnkey service) for eligible commercial customers. These programs traditionally targeted hard-to-reach customers, such as small businesses, that had not participated in energy efficiency programs. However, as documented through this study, DI programs have expanded in California to reach medium and in some cases, large commercial customers.

Methodology

The findings presented in this report are based upon in-depth interviews with IOU program staff, as well as DI program implementation staff for all 19 DI programs. In addition, the Evaluation Team reviewed secondary data sources such as program implementation plans, past evaluation studies, quarterly reports, and program-tracking data.

Key Findings

The Evaluation Team presents the following key findings from the first phase of research in support of the 2013-2015 DI Process Evaluation:

- DI programs provide turnkey services that hard-to-reach customers need. According to DI program implementers, DI target customers require assistance in identifying energy efficiency measures, determining total cost and payback for recommended measures, and installing selected measures. As such, the turnkey services provided by DI programs help customers overcome barriers to participation and follow through with energy saving projects.
- DI programs are largely administered by either Third Parties (3P) or Local Government Partnerships (LGPs). Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) each offer a single IOU run DI program (referred to as Core). In addition, SCE offers a 3P administered K-12 Private Schools DI program. In contrast, Pacific Gas and Electric (PG&E) primarily relies on 3P and LGP administration to oversee 16 DI Programs. The participation process itself differs very little between Core, 3P, or LGP run programs.
- There is a large amount of variation across DI programs in terms of the incentives offered, size and types of customers served, number of customers served, marketing and outreach strategies, collaboration with outside entities, and reliance on IOUs for customer leads. Both SCE and SDG&E Core DI programs are offered territory wide to all businesses meeting the size requirements while PG&E offerings tend to be more geographically limited or targeted to specific market segments

(e.g., schools, furniture stores, casinos). SCE and SDG&E programs provide free measures while PG&E programs predominantly include a co-pay¹ (though a few programs are free).

- Installation varies by channel; some programs use in-house staff while others utilize local contractors. The Evaluation Team observed differences in program-reported conversation rates where programs using in-house staff to install measures tended to have higher conversion rates than those using local contractors.
- Program-reported conversion rates decline with increases in co-pay. The Evaluation Team observed differences in program-reported conversation rates between programs with and without co-pays. Overall, free programs tended to have higher conversion rates. However, the Evaluation Team will explore conversion rates in detail in Phase 2 of the evaluation.
- The majority of DI programs rely on the IOUs to some extent for leads. While the DI program implementation staff for most programs mentioned receiving some support from the IOUs in terms of customer recruitment, there was wide variation across program administrators. For example, most programs administered by the LGPs typically do not receive this type of support from the IOUs. The exceptions are San Francisco Energy Watch and Sierra Nevada Energy Watch, which report collaboration with PG&E on customer recruitment.
- There is variation across the 19 programs in terms of goals reached; not all programs met goals. According to self-reported values, five of the 19 programs have reached or exceeded energy saving goals. The next eight programs reached 81% to 97% of their energy saving goals, four others reached at least 50% of their energy saving goals, while two programs reached less than 50% of goals. Note that the Evaluation Team will update program performance data in the Phase 2 report.

It is also important to note that there are program changes underway in 2015 (and expected in 2016) that have the potential to alter the environment in which these programs operate and, by extension, the applicability of these findings. Changes made in 2015 include the addition of co-pays for the previously free SCE and SDG&E programs, the continued transition to a regional implementation approach for PG&E, and several administrative augmentations to measure offerings, savings calculations, and Title 24 baseline regulations. Program staff suggest that in 2016, there will also be a greater emphasis on seeking out hard-to-reach customers, including a standard definition of what constitutes such a customer.

¹ For the purposes of DI program implementation, a co-pay is the portion of energy efficiency project cost that the customer pays. Copays can range from a small percentage of the project cost (e.g., 10% for Santa Barbara Energy Watch) to a large percentage of the project cost (e.g., 75% for Marin County Energy Watch) depending on how much the program sponsor wants to subsidize participation.

2. Introduction

The 2013–2014 California Public Utility Commission (CPUC) EM&V Plan² calls for a process evaluation of the Investor Owned Utilities (IOUs) Commercial Direct Install (DI) programs. The overall goals of the evaluation are to characterize the DI programs, identify which are the most successful, engaging hard-to-reach customers, being cost efficient, and meeting other program-specific objective, as well as to understand the drivers of such performance. To accomplish this, the evaluation effort has two phases.

The first phase, and the focus of this document, leverages a mix of primary and secondary data to characterize and examine key differences in the design, outreach, and models for delivery of the various DI programs. Phase 2 will include results of a conversion rate analysis, additional in-depth interviews with IOUs and implementers, and customer surveys (see Section 6).

To identify the population of programs for this study, the Evaluation Team applied a broad definition of DI programs, including programs that offer both no-cost and low-cost energy efficiency measures and their installation for qualified customers. Programs can be administered in three ways: by a 3P, through an LGP, or by the IOU directly. Installation is facilitated by the program through program contractors, qualified local contractors, or by assisting customers in putting forth an RFP to find qualified installers.³ A more detailed description of the identification processes of all 19 programs can be found in the PY2013-2014 California Statewide Direct Install Programs Process Evaluation Research Plan, submitted to the CPUC in July 2015.⁴

This document summarizes findings from Phase 1, which are based on the following activities:

- Review of savings data from the IOU claimed savings database from Q1, 2013-Q4, 2014 for the 19 DI programs
- Review of program implementation plans for all 19 programs
- In-depth interviews with six IOU program management staff for all 19 programs (via telephone), conducted in September 2015
- In-depth interviews with 17 Implementation management staff for all 19 programs (via telephone), conducted from September-October 2015⁵

2.1.1 2013-2014 DI Commercial Programs

For the 2013-2014 program cycle, the Evaluation Team identified 19 commercial programs that either offer DI as the primary implementation approach or offer a DI component in concert with other implementation approaches. These programs are administered and/or operated by three of the four IOUs—Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E). For simplicity

² 2013-2014 Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification Plan. Version 3. April 28, 2014.

³ Some customers may wish to utilize their own contractors for installation, but the program must offer to facilitate installation as one of its services in order to be considered a DI Program.

⁴ Available at: http://www.energydataweb.com/cpucFiles/pdaDocs/1376/PY2013-

^{2014%20}Direct%20Install%20Process%20Eval%20Plan%20Final.docx

⁵ During the depth interviews, several program implementers raised concerns about revealing information that may disadvantage their competitiveness in future solicitations. We therefore present sensitive information at the aggregate level, and describe fact ual program characteristics at the program level.

throughout this document, the Evaluation Team abbreviated the program names listed on the Energy Efficiency (EE) Stats website.⁶ Table 1 shows the full program names and identification numbers for each program, as well as the abbreviated program name.

#	Program ID	Program Name in Monthly EE Program Report	Program Abbreviated Name in this Document
PG8	ε (16 programs)		
1	PGE210115	RightLights	RightLights
2	PGE210113	Energy Fitness Program	Energy Fitness
3	PGE210118	Furniture Store Energy Efficiency	Furniture Store EE
4	PGE210126	K-12 Private Schools and Colleges Energy Audit Retro	K-12 Private Schools
5	PGE210111	LodgingSavers	LodgingSavers
6	PGE210122	Casino Green	Casino Green
7	PGE210114	The Energy Alliance Association	TEAA
8	PGE211011	Kern Energy Watch	Kern EW*
9	PGE211020	Santa Barbara Energy Watch	Santa Barbara EW*
10	PGE211018	San Luis Obispo Energy Watch	San Luis Obispo EW*
11	PGE2110051	Valley Innovative Energy Watch	Valley Innovative EW*
12	PGE211009	East Bay Energy Watch	East Bay EW
13	PGE211013	Marin County Energy Watch	Marin County EW
14	PGE211016	Redwood Coast Energy Watch	Redwood Coast EW
15	PGE211021	Sierra Nevada Energy Watch	Sierra Nevada EW
16	PGE211024	San Francisco Energy Watch	San Francisco EW
SCE	(2 programs)		·
17	SCE-13-SW-002D	Commercial Direct Install Program	Direct Install (SCE)
18	SCE-13-TP-018	School Energy Efficiency Program	School EE
SDG	i&E (1 program)		
19	SDGE3226	SW-COM Direct Install	Direct Install (SDG&E)

Table 1. DI Programs Included in Study

* These four Energy Watch Programs can also be collectively referred to as the Staples Energy Efficiency Program. Implementation is the same in all four territories and performed by Staples Energy.

2.1.2 Background of DI Programs

The 2006 EM&V Protocols (Protocols)⁷ define DI programs as those that provide free energy efficiency measures and their installation for qualified customers. DI programs were initially designed to offer "instant" savings with deemed measures to hard-to-reach small and medium businesses (SMBs)—a segment many considered would not otherwise pursue energy efficiency measures on their own due to factors such as split

⁶ This is a CPUC maintained website containing statistics on 2010-12 and 2013-15 energy efficiency program savings. Accessed: <u>http://eestats.cpuc.ca.gov/Views/Documents.aspx</u>

⁷ California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals. California Public Utilities Commission. April 2006.

incentives, limited capital, lack of expertise, and lack of understanding of energy efficiency benefits.⁸ As the DI programs developed, they offered almost exclusively no-cost lighting retrofits delivered in turnkey fashion through program or installation contractors. Qualified customers had low monthly demand—through 2012 commercial DI programs served businesses with demand under 100 kW.⁹

Over time, DI program offerings and delivery channels started to evolve as market conditions changed. In the 2013-2014 program cycle, more programs offer a wider selection of measures (having expanded to refrigeration and HVAC) and more frequently require customer co-pays. Eligible customer size for some programs has doubled from under 100 kW to 200 kW and in some cases there is no size restriction.¹⁰ Government buildings and non-profits are also eligible in some jurisdictions. Additionally, DI programs now utilize a Modified Lighting Calculator (MLC)¹¹ for claiming program savings.

The 19 DI programs active in the 2013-2014 program cycle have certain implementation strategies including:

- Two distinct market strategies: (1) programs with a vertical market strategy cater to a specific sector, and (2) programs with a horizontal market strategy serve all types of commercial customers, although some focus on a certain size (i.e., small and medium businesses);
- Three program administration channels for delivery: (1) directly through the IOU (Core program), (2) through a 3P, and (3) through a LGP;
- All programs deliver free audits, but installations are done in one of the following fashions: entirely at no-cost, with co-pays, or as a combination of free and co-pay measures.

Figure 1 provides a timeline for the 19 DI programs across the IOU territories. A majority of the programs have been in place since 2006. Interviews with IOU staff confirmed that these programs were offered in 2015 and were scheduled to be operational in 2016.¹²

⁹ Decision D.0909047. Decision Approving 2010-2012 Energy Efficiency Portfolios and Budgets (Date of Issuance 10/1/2009).

⁸ CPUC Statewide Commercial Program (2013-2014) Fact Sheet, April 2013. <u>http://www.cpuc.ca.gov/NR/rdonlyres/BB0D11D4-E6AA-471B-A5BA-8A70A18B4ECB/0/201314CommercialFactSheet.pdf</u>

¹⁰ The CPUC defines customer size by annual peak demand, as follows: small customers <20 KW or under; medium 20 KW-199 KW, large >200 KW.

¹¹ The MLC combines elements of both Deemed and Custom/Measured savings approaches in determining project savings. The idea behind this approach is to allow projects to claim tailored savings without needing to go through the more complicated calculations required for custom/measured calculations. The calculator was developed in collaboration with PG&E and Ecology Action, a program implementer.

¹² Effective January 1, 2016, the LodgingSavers and Casino Green programs will be combined into one program. However, given the focus for this study, they are treated as two separate programs in this report.

Introduction



Figure 1. Launch Year and Characteristics of DI Programs Included in this Evaluation (2013-2014)

3. Evaluation Methodology

As mentioned previously, this study will be carried out in two phases, each with its own focus. Given the diversity of DI delivery strategies and program types, Phase 1 focuses on collecting background information on DI programs. Table 2 summarizes the objectives and research questions for Phase 1 of this study, which are based on a review of the 2013–2014 CPUC EM&V plan and subsequent discussions with the Energy Division and its advisory consultants.

Phase 1 Objectives	Data Collection Activities			
1. Compare various approaches to commercial DI program delivery, including program design, outreach, target participants, measure mix, uptake, and how they measure performance	 In-depth interviews with DI program staff (IOUs and implementers) Review of PIPs, past evaluations, annual narratives, and quarterly reports Work with Itron to identify data that will be compiled as part of the comprehensiveness analysis and identify additional data needs¹³ 			
2. Map how programs interact within the portfolio of CA commercial programs and identify areas of overlap, synergies, or where DI and other program types may be working at odds with each other	 In-depth interviews with DI program staff (IOUs and implementers) Review of implementation models and other program materials 			
3. Identify which characteristics or features of these programs may contribute to program performance	 In-depth interviews with DI program staff (IOUs and implementers) Review of PIPs, past evaluations, annual narratives, and quarterly reports 			
4. Identify key process-related questions to be explored in the second phase of this evaluation	 In-depth interviews with DI program staff (IOUs and implementers) Review of implementation models and other program materials 			
5. Perform gap analysis to determine data needs to answer the Phase 2 research questions.	 Compare data needs for analyzing likely success metrics to information from comprehensive analysis, available program tracking data maintained by program administrators and implementers 			

Table 2. Phase 1 Study Objectives and Data Collection Overview

To accomplish the objectives for this phase of the process evaluation we gathered primary data from in-depth interviews with six IOU Program Managers (PMs), and 17 program implementers for all 19 DI programs (see Table 3). For IOU PMs and implementers that run more than one program, we combined the in-depth interview such that we only spoke with them once. These in-depth interviews helped identify the critical differences between programs and to understand program-specific characteristics, how they market themselves, and how they interact. We also leveraged secondary resources such as past research and program implementation plans.

¹³ Itron will be performing a review of the ex ante data to date for commercial programs to determine the number and type of measures installed in 2013-2014.

Program	ΙΟυ	# of IOU Interviews Conducted	# of Implementer Interviews Conducted		
Energy Fitness	PG&E		1 - Richard Heath & Associates (RHA)		
RightLights	PG&E				
LodgingSavers ^a	PG&E		1 - Ecology Action		
Casino Green ^a	PG&E				
Furniture Store	PG&E		1 - Matrix Energy Services Inc. (Matrix)		
K-12 Private Schools	PG&E		- Matrix Energy Services, inc. (Matrix)		
TEAA	PG&E		1 - The Energy Alliance Association		
Kern EW	PG&E				
Santa Barbara EW	PG&E	2 - PG&E Program	1 - Staples Energy		
San Luis Obispo EW	PG&E	Managers			
Valley Innovative EW	PG&E				
East Bay EW	PG&E		2 - California Energy Services Corporation (CESC), and DNV-GL		
Marin County EW	PG&E		1 - County of Marin Community Development Agency (CDA)		
Redwood Coast EW	PG&E		1 - Redwood Coast Energy Authority		
Sierra Nevada EW	PG&E		1 - Sierra Business Council (SBC)		
San Francisco EW	PG&E		1 - San Francisco Department of the Environment		
Direct Install (SCE)	SCE	3 – SCE Program	3 – California Retrofit Inc. (CRI), FCI Management Inc. (FCI), and FESS Energy		
School EE	SCE	Managers	1 - Willdan		
Direct Install (SDG&E)	SDG&E	1 – SDG&E Program Manager	2 - Matrix and Synergy		
Total		6	17		

Table 3. IOU and Implementer Interviews Conducted

^a Notably, effective 1/1/2016, the LodgingSavers and Casino Green programs will be combined into one program. However, given the focus for this study, they are treated as two separate programs in this report.

The Evaluation Team focused the in-depth interviews with the IOU and program implementation staff primarily on the 2013-2014 cycle; however, given the timing of this research, we also inquired about any changes already in place for 2015 and any upcoming changes for 2016. Several programs have either implemented changes in 2015 or are expecting changes in 2016.

In addition to the objectives described above, the Evaluation Team has an additional Phase 1 objective, which is to develop a research plan for Phase 2. We include the research plan in Section 6. Overall, Phase 2 of the study will explore key process-related research questions relevant to implementation of DI programs.

4. Phase 1 Findings

The Evaluation Team designed Phase 1 of the evaluation to characterize the 19 DI programs offered from 2013-2014, and to develop relevant research questions to be addressed in Phase 2 of the evaluation. To help structure the summary of findings presented in this chapter, we divide our findings into three sub-sections:

- Approaches to DI programs in 2013-2014
- Program strengths and challenges
- Changes to program design in 2015 and 2016

We provide detailed program specific summaries for all 19 programs in Section 7.

4.1 Approaches to Commercial DI Programs

Despite the many ways in which DI Programs differ from each other, they do follow a consistent pathway in terms of program services and the overall customer experience. In the following subsections, we describe the various approaches to DI program implementation.

To help understand the various approaches used to implement DI programs, the Evaluation Team broke the discussion into the following sub-sections:

- Program Administration
- Program Services
- Program Participation Process
- Target Market
- Marketing and Collaboration
- Cross-Program Promotion

4.1.1 **Program Administration**

This study examined DI programs administered in three different ways: by LGPs, by 3Ps, and by the IOUs. As shown in Figure 2, approximately half of the DI programs included in this study are administered by LGPs, while another half are administered by 3Ps. Only one DI program was implemented directly by an IOU.



Figure 2: Commercial Direct Install Program Administration (2013-2014)

* While characterized as 3P programs in this Figure, it is important to note that in 2013, each program received 3P and LGP funding. As such, these 3P and LGP offerings were integrated.

Although this program delivery structure has remained relatively consistent over time, there has been some debate over who should administer DI programs. As outlined by the CPUC in D.09-09-047, "the Peer Review Group (PRG)¹⁴ in 2008 discouraged having local governments involved in direct install work unless this was

¹⁴ Each IOU is advised by a PRG for the energy efficiency program evaluation and selection process. Each PRG shall include Energy Division and ORA staff, as well as an IOU-selected group of non-financially interested members with extensive energy efficiency expertise that are willing to serve as peers. As described in D.05-01-055 and D.07-10-032, members of each PRG will be expected to (1) oversee the development of criteria and selection of government partnership programs, (2) review the IOUs' submittals to the Commission and assess the IOUs' overall portfolio plans, their plans for bidding out pieces of the portfolio per the minimum bidding requirement and (3) review the bid evaluation utilized by the IOUs and their application of that criteria in selecting third-party programs.

'fundamentally different than those (direct install programs) offered by private third party firms in ways that capitalize on the unique abilities and attributes of local governments'".¹⁵ As such, within this decision, the IOUs were asked to provide evidence showing the value of LGPs in administering DI programs and whether LGP administration should continue and why, in order to justify the higher administrative costs of this approach. In response, PG&E issued a report in 2010 outlining the benefits of continuing to use LGPs in the administration of DI programs.¹⁶ These benefits included the following:¹⁷

- The ability to leverage local government outreach and program delivery channels to reach underserved communities
- Added credibility in working with contractors or other implementers of energy audits and retrofits
- The ability to coordinate on additional efforts such as climate action plans and contractor training

As a result of the regulatory process, ultimately LGPs remained a part of DI program delivery.

4.1.2 **Program Services**

To help overcome the barriers faced by hard to reach small and medium businesses, each DI program offers financial incentives and additional services to program participants. While all programs offer free energy audits, only three programs (SDG&E's Direct Install, SCE's Direct Install, and SCE's School EE) offer both free audits and measures. The remaining DI programs have a co-pay for at least some of the measures installed. As described in detail below, all DI programs perform customer outreach, offer no-cost or low-cost direct installation of program measures, provide turnkey solutions and technical assistance, and help with incentive application processing to streamline energy efficiency upgrades.

Below we describe these services in more detail:

- Turnkey Solution: By design, all DI programs offer a complete turnkey solution for the customer, which includes equipment-purchasing, installation (either through in-house installers or through local contractors depending on the program design), clean up, and disposal. In addition, the programs also provide customers with information about the installed measures to help them understand the benefits of energy efficiency and the proper operation and maintenance practices to ensure sustained performance of the installed measures.
 - Energy Audits: All DI programs offer no-cost audits to develop recommendations for energy efficiency upgrades. These recommendations typically include a financial analysis that outlines the return-on-investment for the measures and helps customers identify and prioritize energy efficiency projects. Typically, program implementation staff conducts the energy audit activities and inspect the entire facility. However, some programs focus the audit on specific measures

ftp://ftp2.cpuc.ca.gov/PG&E20150130ResponseToA1312012Ruling/2010/01/SB_GT&S_0468736.pdf

¹⁷ Ibid.

¹⁵ California Public Utilities Commission. Decision D.09-09-047. Decision Approving 2010-2012 Energy Efficiency Portfolios and Budgets (Date of Issuance 10/1/2009). p. 226.

¹⁶ Pacific Gas and Electric Company (PG&E). Assessment of Small Business and Residential Direct Install Programs Coordinated by PG&E Local Government Partnerships. January 22, 2010. Accessed:

instead of the entire facility; these include programs with a lighting focus such as SCE's School EE program and PG&E's Furniture Store program.

- Direct Installation of Low- or No-cost Measures: Three DI program implementers offer no-cost direct installation of the program measures while the remaining 16 offer direct installations typically with a customer co-pay (nine of these programs offer a tiered incentive structure with higher incentives for customers with < 100 kW).</p>
- Incentive Application and Processing: All DI program implementers provide program participants with incentive estimates and submit project documentation for IOU approval with the intent to make program participation as simple as possible. This includes post-installation verification, which implementers schedule or conduct.
- Customer Outreach: DI program implementers actively approach eligible customers and explain the benefits and processes of energy efficiency projects in customer meetings. According to implementers, on-the-ground, door-to-door canvassing is the single most useful tactic to gain participation as many customers in DI target markets lack the time and knowledge to seek out information independently. Additionally, many DI implementers have worked in their respective target market for several years and can thus leverage existing customer- or community-level relationships to attract customers to the program.
- Technical Assistance: All DI program implementers offer some form of technical assistance to program participants. DI program implementers help customers to evaluate the recommended upgrades and develop a scope of work where necessary. From the implementer and IOU perspective, this is important as many customers lack the knowledge or time to do so themselves and require additional "handholding" from an expert who is familiar with the sector.

4.1.3 **Program Participation Process**

Based on in-depth interviews with program and implementation staff, the Evaluation Team found the program participation process to be the same across all DI programs (Figure 3).



Figure 3. Typical Customer Participation Process

In general, DI program implementers will act on customer leads provided by the IOUs, by word of mouth through other businesses or past program participants, or via referrals from contractors. Once an implementer captures a customer's attention, it will offer the free energy audit of the customer's facility—usually an energy audit focused on the measures offered by the particular program. All of the energy audits offered through DI

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programs were free to customers in 2013-2014. Many of the energy audits can be performed during the initial visit, but for more complex energy audits (or at the customer's request) an energy audit may be scheduled for a later date. Once a customer is presented with recommended measures and an estimate of their share of the cost for installation, the implementer will schedule the installation.

If a co-pay is involved, the customer would pay this amount directly to the DI program implementer. Once installation is complete, most programs will verify that measures were installed properly—a percentage of participating customers are revisited weeks or months after installation as part of the QA/QC process, either by the implementer or the IOU. Some customers are also asked to complete a customer satisfaction survey.

One key difference between 3P and LGP administered programs, which emerged during the IOU and implementation staff interviews, is who performs the measure installation (see Table 4). 3P programs generally perform at least some installations in-house with in-house contractors (i.e., employees of the 3P implementer or dedicated program contractors), although some installations can be performed by local contractors (i.e., any licensed contractor bidding for the project) or the customer's own contractor if requested by a customer. LGPs generally rely on local contractors for installation.

Program Name	Sponsor	Administration	In-House Staff or Local Contractors	Details on Installer				
Direct Install a	SCE	IOU	Both	Majority by In-House Staff				
Direct Install	SDG&E	3P	Both	Majority by In-House Staff				
San Francisco EW	PG&E	LGP	Both	Majority by In-House Staff				
Energy Fitness	PG&E	3P	Both	Mix (No Majority)				
School EE	SCE	ЗP	Both	Majority by Local Contractors				
LodgingSavers	PG&E	3P	Both	Local Contractors				
Casino Green	PG&E	3P	Both	Local Contractors				
RightLights	PG&E	3P	Both	Local Contractors				
Redwood Coast EW	PG&E	LGP	Both	Local Contractors				
K-12 Private Schools	PG&E	3P	In-House					
Furniture Store EE	PG&E	3P	In-House					
Kern EW b	PG&E	LGP	In-House					
Santa Barbara EW b	PG&E	LGP	In-House					
San Luis Obispo EWb	PG&E	LGP	In-House					
Valley Innovative EW ^b	PG&E	LGP	In-House					
TEAA	PG&E	3P	Local					
East Bay EW	PG&E	LGP	Local					
Marin County EW	PG&E	LGP	Local					
Sierra Nevada EW	PG&E	LGP	Local					
^a Direct Install (SCE) utilizes three program DI program implementers one of which (CPI) uses least contractors. The other								

Table 4. Use of in-House Versus Local Contractors

^a Direct Install (SCE) utilizes three program DI program implementers one of which (CRI) uses local contractors. The other two (FESS and FCI) only use in-house staff.

^b Note that while these are LGP programs, they are implemented by a 3P implementer (Staples Energy)

4.1.4 Target Market

There are distinct differences between DI programs in terms of target market and delivery channel, and this is especially evident by IOU. The programs offered by SCE and SDG&E are service-area wide given that their service territories are geographically limited. Both offer an overarching DI program that serves all eligible small and medium business customers in their respective territories, and both have multiple DI program implementers who divide the territory regionally, but implement the program in the same way (SCE has three DI program implementers; SDG&E has two). Differences are that SCE serves any customer with <200 KW of annual peak demand while SDG&E limits eligibility to customers with <100 KW of demand. Further, SCE has an additional DI program that specializes in providing direct install services to K-12 schools. SCE's School DI Program and SDG&E's DI Program are considered 3P programs whereas SCE's DI program is not (despite having three independent DI program implementers) for reasons that are unclear but may be related to the length of time the SCE DI program has been in effect.

In contrast to SCE and SDG&E, PG&E sponsors a diverse set of 16 DI programs that reach customers through LGP and 3P administrators. Unlike SCE and SDG&E, about a third of programs target specific market segments (e.g., K-12 schools, furniture stores, casinos, hotels/motels) anywhere in PG&E territory. These programs are described as having a vertical delivery channel because they target customers within a specific business type (e.g., furniture stores only, schools only, casinos only). Vertical delivery channel programs generally have Right of First Refusal if an implementer from another program happens to reach an eligible customer first. Only 3P programs utilize vertical delivery channels.

Programs with horizontal delivery channels do not target customers of a specific business type but rather serve any customer that meets predetermined geographic and demand criteria. Most of these programs serve customers with <200 KW of annual peak demand. All LGP programs have horizontal delivery channels and a handful of 3P programs do as well. LGPs serve eligible customers located within the regions served by each local government, regardless of business type. One general observation is that the demand criteria of customers served by vertical delivery channel programs tend to be higher (or have no demand criteria at all).

Table 5, below, each of the 19 programs, including their sponsor, administrative model, delivery channel and customer size requirements.

Drogram Namo	Spapaar	Admin Dolivon/Chonnol		Demand Criteria				
	Sponsor	Aumin.	Delivery Channel	<100 KW	100-199 KW	200-499 KW	None	
School EE	SCE	ЗP	Vertical				✓	
LodgingSavers	PG&E	ЗP	Vertical				✓	
Casino Green	PG&E	ЗP	Vertical				✓	
K-12 Private Schools	PG&E	ЗP	Vertical				✓	
Furniture Store EE	PG&E	ЗP	Vertical	✓	✓			
Direct Install	SDG&E	ЗP	Horizontal	✓				
Direct Install	SCE	IOU	Horizontal	√	✓			
San Francisco EW	PG&E	LGP	Horizontal				✓	
East Bay EW	PG&E	LGP	Horizontal	✓	✓			
Marin County EW	PG&E	LGP	Horizontal	✓	✓			
Redwood Coast EW	PG&E	LGP	Horizontal	✓	✓			
Sierra Nevada EW	PG&E	LGP	Horizontal	✓	✓			

Table 5. DI Program Customer Size Requirement

Program Name	Spancar	Admin	Delivery Channel	Demand Criteria				
	Sponsor	Aunin	Delivery Ghanner	<100 KW	100-199 KW	200-499 KW	None	
Kern EW	PG&E	LGP	Horizontal	✓	✓			
Santa Barbara EW	PG&E	LGP	Horizontal	✓	✓			
San Luis Obispo EW	PG&E	LGP	Horizontal	✓	✓			
Valley Innovative EW	PG&E	LGP	Horizontal	✓	✓			
RightLights	PG&E	ЗP	Horizontal	✓	✓			
Energy Fitness	PG&E	ЗP	Horizontal	✓	✓			
TEAA	PG&E	ЗP	Horizontal	✓	✓	✓		

Hard-To-Reach Customers

The CPUC Energy Efficiency Policy Manual defines hard-to-reach business customers as those who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, income, geography, business size, or lease (split incentive) barrier. While all program implementers have some understanding of hard-to-reach customers, there is no standard definition shared by all programs. In fact, most programs generally consider all of their customers to be hard-to-reach using parameters such as location outside of a major metropolitan area, <200 kW of demand, or rate class (GS1 and GS2). Based on their respective criteria, DI programs self-report that 14% to 100% of their customers were hard-to-reach. However, none of the programs had specific goals in this area.

4.1.5 Incentive Structure and Project Conversion Rates

While all programs offer a free energy audit, only the SCE and SDG&E programs offer all program measures at no cost. All the PG&E programs required a co-pay (although some also offered some free measures). Depending on the mix of offered measures, average program co-pays varied from 10% for some of the Energy Watch programs to 29% for the Ecology Action implemented programs (RightLights, LodgingSavers, and Casino Green), to 50-75% for the East Bay Energy Watch Program. Data were not available for other programs. Further, with the <200 KW of peak demand limit, half of the 19 programs have tiered incentives where customers with usage of under 100 KW receive higher incentives compared with customers between 100 KW to 200 KW. Table 6 presents measure cost information for each program during the 2013-14 period only.

In addition, almost all programs tracked conversion rates, defined as the percentage of customers who proceed with recommended program measures after having received a program audit. Two of the three free programs have self-reported conversion rates of 90-100% while conversion rates for all the other co-pay programs vary from 30% to 80% (see Table 6). Note that Phase 2 of the evaluation will include an Evaluation Team assessment of conversion rates.

Program			Eroo	Inst	allation	Conversion Rate
Participation Cost	Program Name	Sponsor	Audit	Free Measures	Co-Pay (Average %) ª	(From Audit to Installation) ^a
	School EE	SCE	✓	✓		~100%
100% Free	Direct Install	SCE	~	✓		10%-70% b
	Direct Install	SDG&E	✓	✓		>90%
Mix of Free &	Furniture Store	PG&E	✓	✓	✓	80%-90%
Co-pay	LodgingSavers	PG&E	✓	✓	✓ (30%)	80%

Table 6. Program Incentive Structures and Program-Reported Conversion Rates (2013-2014)

Program			Free	Inst	Conversion Rate	
Participation Cost	Program Name	Sponsor	Audit	Free Measures	Co-Pay (Average %) ª	(From Audit to Installation) ^a
	Casino Green	PG&E	✓	✓	✓ (30%)	70%
	RightLights	PG&E	✓	✓	✓ (30%)	54%-55%
	K-12 Private Schools	PG&E	✓	✓	\checkmark	50%
	Redwood Coast EW	PG&E	✓	✓	\checkmark	20%
	Kern EW	PG&E	✓		✓ (10%)	75%-80%
	Santa Barbara EW	PG&E	✓		✓ (10%)	75%-80%
	San Luis Obispo EW	PG&E	✓		✓ (10%)	75%-80%
	Valley Innovative EW	PG&E	✓		✓ (10%)	75%-80%
Co pay Oply	East Bay EW	PG&E	✓		√ (75%)	Unknown
CO-pay Only	Sierra Nevada EW	PG&E	✓		\checkmark	30%-50%
	Energy Fitness	PG&E	✓		\checkmark	41%
	TEAA	PG&E	✓		✓ (<40%)	Unknown
	Marin County EW	PG&E	✓		✓ (75%)	Unknown
	San Francisco EW	PG&E	✓		\checkmark	Unknown

^a Self-reported by IOU or implementer. In cases where data was not available, the evaluation team has indicated the value is unknown.

^b The SCE DI Program has three implementers; one reports a conversion rate of 70%, another reports 10%, and the third did not report this value.

From the data collected directly from the DI program implementers, it appears that conversion rates tend to fall as co-pays increase. Falling conversion rates are a concern to most programs; however, in-depth interviews indicate that during the 2015 program cycle and for 2016, all programs will require some amount of co-pay.

4.1.6 Marketing and Collaboration

DI programs employ several different marketing and outreach methods, the most common being on-theground canvassing using a list of eligible customers (i.e., leads) provided by the IOU as a starting point for recruitment. This method was utilized in some fashion by all but one program. Additional recruitment methods include traditional direct marketing, finding leads through existing relationships (e.g., past participant referrals or repeat participants), or as referrals from contractors.

According to DI program implementers, the most productive leads (defined as leads that were more commonly converted into program participants) vary across programs, but those most commonly mentioned were word-of-mouth or through existing relationships (10 mentions), through on the ground canvassing (7 mentions), or through IOUs (7 mentions).¹⁸ In some cases, IOU leads were a precursor to canvassing and went hand in hand. Only one DI program implementer (see Table 10 matrix) utilized ride-alongs as part of its outreach strategy, but did so for all three programs it implements. DI program implementers also noted that because many have worked in their respective target market for several years, they are able to leverage existing relationships (i.e., customer- or community-level relationships to attract customers to the program).

¹⁸ Some methods were mentioned more than once by respondents.

Table 7 presents a summary of the types of marketing and outreach performed by each DI program implementer.

			Outreach Strategies Employed					
Program	Sponsor	Adm in istrator	IOU Leads	Canvassing	Contractors	Existing Relationships	Ride-Alongs	Most Productive Lead (self-reported)
Direct Install	SDG&E	3P	~	✓		✓	~	Canvassing
Casino Green	PG&E	3P		\checkmark	✓	\checkmark		Existing Relationships
LodgingSavers	PG&E	3P	~	~	~	\checkmark		Existing Relationships
RightLights	PG&E	3P	✓	✓	✓	\checkmark		Existing Relationships
Energy Fitness	PG&E	3P	✓	✓	✓			Contractors
Sierra Nevada EW	PG&E	LGP	✓	✓	✓			
East Bay EW	PG&E	LGP	✓	\checkmark	\checkmark			Contractors
Marin County EW	PG&E	LGP	✓	✓	✓			Contractors
Direct Install	SCE	IOU	✓	✓	✓			Canvassing
K-12 Private Schools	PG&E	3P	√	\checkmark			√	IOU Leads
Furniture Store	PG&E	3P	✓	\checkmark			✓	IOU Leads
TEAA	PG&E	3P	~	\checkmark		~		
Kern EW	PG&E	LGP	~	\checkmark		\checkmark		Existing Relationships
Santa Barbara EW	PG&E	LGP	✓	✓		✓		Existing Relationships
San Luis Obispo EW	PG&E	LGP	✓	✓		✓		Existing Relationships
Valley Innovative EW	PG&E	LGP	✓	✓		✓		Existing Relationships
Redwood Coast EW	PG&E	LGP	√	\checkmark				IOU Leads
School EE	SCE	3P	\checkmark	\checkmark				
San Francisco EW	PG&E	LGP	\checkmark		\checkmark			
Total Program Count			18	18	9	5	3	

Table 7. DI Program Marketing Strategies

Support from IOU Staff

DI program implementers described their relationship with IOU staff as positive and collaborative. Many highlighted that IOU program managers¹⁹ actively assist them as problems emerge. One of the main types of support provided by the IOUs is in customer identification and outreach as mentioned above. According to program staff, all but the Casino Green program receive customer leads from the IOU. However, the level of IOU involvement varies across programs. For some programs, the IOU is quite active in meeting with DI program implementers regularly to discuss strategy, conducting ride-alongs, coordinating to co-market the program, or utilizing the utility's call center to actively cold call customers. For other programs, the IOU is less involved and the implementer is self-sufficient and able to generate projects and savings on its own.

¹⁹ All IOUs assign program managers to the DI programs who serve as a point of contact for DI program implementers and oversee program performance, monitor energy savings potential, and execute fund-shifts based on over- and underperformance.

Beyond leads, seven programs leverage IOU usage data as part of the implementation process. One of PG&E's programs also relies on IOU account executives to introduce implementation staff to the customer so that the customer knows that remote building energy audits based on the customer's data is legitimate.

Program	Sponsor	Relies on IOU for Significant Portion of Project Leads	Analyzes Usage Data for Implementation	No IOU Support
School EE	SCE	\checkmark		
Direct Install	SCE	\checkmark		
K-12 Private Schools	PG&E	\checkmark		
TEAA	PG&E	\checkmark		
RightLights	PG&E	\checkmark		
Energy Fitness	PG&E	\checkmark		
East Bay EW	PG&E	\checkmark		
Sierra Nevada EW	PG&E	\checkmark		
Marin County EW	PG&E	\checkmark		
Furniture Store EE	PG&E	\checkmark		
San Francisco EW	PG&E	\checkmark		
Direct Install	SDG&E	\checkmark	\checkmark	
Redwood Coast EW	PG&E		\checkmark	
LodgingSavers	PG&E		\checkmark	
Kern EW	PG&E		\checkmark	
Santa Barbara EW	PG&E		\checkmark	
San Luis Obispo EW	PG&E		\checkmark	
Valley Innovative EW	PG&E		\checkmark	
Casino Green	PG&E			\checkmark
Total Program Count		12	7	1

Table 8. IOU Support for DI Programs

Despite reliance on IOUs, DI program implementers described the following challenges related to IOU organization and processes:

- Disconnect between IOU PMs and IOU field staff: According to two DI program implementers, the IOU field staff (including the IOU marketing department staff), are not always as well informed about program details as the IOU PMs, which leads to inconsistencies in how the program is marketed and implemented.
- More fluid transition between program cycles: DI program implementers articulated that program starts and stops and sudden changes to program terms adversely affect customer service. However, the Evaluation Team expects that this challenge will no longer be an issue going forward because of the adoption of the rolling portfolio.
- Not enough lead-time for program changes: While some DI program implementers said they receive sufficient notice of regulatory or programmatic changes, they acknowledged that it takes time for

information to "trickle down." Others expressed that not enough lead-time is provided to make implementation changes.

Collaboration with Outside Entities

Over half of DI programs (7/12) report collaborating with outside entities for marketing or implementation. In particular, implementation teams may collaborate with outside entities such as cities and business organizations. Table 9 below summarizes the extent to which each program collaborates with outside entities for program implementation.

Program	Sponsor	Outside Collaborations	None	Examples
Direct Install	SCE	\checkmark		Partnership Cities, Business Organizations
Direct Install	SDG&E	\checkmark		Municipalities and Chambers of Commerce
RightLights	PG&E	\checkmark		Chambers of Commerce, Business Groups
LodgingSavers	PG&E	\checkmark		Chambers of Commerce, Business Groups
Casino Green	PG&E	✓		Tribal Councils
San Francisco EW	PG&E	✓		Business Council on Climate Change (BC3), Building Owners and Managers Association (BOMA), Merchant Associations
East Bay EW	PG&E	\checkmark		Municipalities and Chambers of Commerce
Kern EW	PG&E		\checkmark	
Santa Barbara EW	PG&E		\checkmark	
San Luis Obispo EW	PG&E		\checkmark	
Valley Innovative EW	PG&E		\checkmark	
Marin County EW	PG&E		\checkmark	
TEAA	PG&E		\checkmark	
Energy Fitness	PG&E		\checkmark	
Redwood Coast EW	PG&E		\checkmark	
Sierra Nevada EW	PG&E		\checkmark	
K-12 Private Schools	PG&E		\checkmark	
School EE	SCE		\checkmark	
Furniture Store EE	PG&E		\checkmark	
Total Program Count		7	12	

Table 9. DI Program Collaboration with Outside Entities

4.1.7 Cross-Program Promotion

In addition to a review of general marketing and outreach strategies used to promote DI programs, we explored how much and where DI programs cross-promote one another, as well as promote other IOU program offerings. Based on interviews with program staff, we learned that there is no systematic process for cross referrals. Where cross-promotion occurs it is infrequent, informal, and ad hoc. For example, there is no full service handoff from implementer to implementer. The referral consists of simply giving the customer a name and number (or website) for where to seek additional assistance through another program. First, it is noteworthy that only four of the 19 programs we studied claim to have benefitted from some type of cross-promotion. According to program staff, six of the 19 programs provide at least some referrals. As shown in Table 10,²⁰ eight programs provide some type of referral to other programs with the majority referring customers to Core programs or On-Bill Financing (OBF) options.

Brodrom	Spancar		No Peferrale			
Fillgrain	эропьог	Core	OBF	Demand Response	Other 3P	NO Referrais
Energy Fitness	PG&E	\checkmark		\checkmark	\checkmark	
Direct Install	SDG&E	\checkmark	\checkmark	\checkmark		
Direct Install	SCE	\checkmark	\checkmark			
Furniture Store	PG&E	\checkmark	\checkmark		\checkmark	
K-12 Private Schools	PG&E	\checkmark	\checkmark			
TEAA	PG&E	\checkmark	\checkmark			
RightLights	PG&E		\checkmark			
Sierra Nevada EW	PG&E				\checkmark	
School EE	SCE					\checkmark
LodgingSavers	PG&E					\checkmark
Casino Green	PG&E					\checkmark
East Bay EW	PG&E					\checkmark
Marin County EW	PG&E					\checkmark
San Francisco EW	PG&E					\checkmark
Redwood Coast EW	PG&E					\checkmark
Kern EW	PG&E					\checkmark
Santa Barbara EW	PG&E					\checkmark
San Luis Obispo EW	PG&E					\checkmark
Valley Innovative EW	PG&E					\checkmark
Total Programs	19	6	6	2	3	11

Table 10. Referrals to Other Programs

Where cross-promotion or referrals take place, the following themes emerged:

First Right of Refusal by 3P programs can impact rural DI program implementers. 3P programs have first right of refusal if another program touches a qualifying customer first. For example, if an Energy Watch – PG&E brand for LGPs -- program touches a lodging customer, the Energy Watch implementer is required to first ask the LodgingSavers program implementer for permission to serve that customer.

²⁰ Programs refer customers to OBF when a customer's project cost exceeds \$5,000.

During in-depth interviews, two DI program implementers suggested that exclusions like this led to lost opportunities because of an urban-rural divide. One implementer served a rural Energy Watch Program, four to six hours outside of a major city center. When this Energy Watch implementer informed an implementer of a DI 3P Boiler Program of projects in their territory, the Boiler Program implementer was reluctant to come out to serve a customer given the distance to travel. To try to mitigate this, the Energy Watch now bundles several boiler projects together to encourage the Boiler Program to visit the remote region. However, according to CPUC staff, the EW lead reports that he is still rebuffed on such requests at times.

4.2 **Program Characteristics Contributing to Program Performance**

4.2.1 Program Reach

In this section, the Evaluation Team presents preliminary information on program reach. Final data for the 2013-2014 programs will be provided in the Phase 2 report upon completion of the DI Impact Evaluation led by Itron. The information will include:

- Overall program reach in terms of participants and customer sites
- Overall program cycle savings (kWh, kW and therm)
- Measure mix

In the interim, however, the Evaluation Team reviewed and compiled data for each of the 19 DI programs drawing on various data sources including 2013-2014 Monthly Energy Efficiency Program Reports,²¹ the Claimed Savings Database (Version from 11-02-2015) and LGP data from PG&E. Data from the monthly reports and the Claimed Savings Database were used to identify the savings and budget goals for the 3P and LGP programs. However, because LGP programs consist of more than just the DI component, the Evaluation Team was unable to parse out goals for the DI component alone. As a result, the savings and budget data presented below came directly from PG&E.²² For actual savings and participant counts, data for all but one program (PG&E's Valley Innovative EW) came from the Claimed Savings Database.

As shown in Table 11, overall, the 19 programs reached over 52,000 customers. Further, five of the 19 programs either met or exceeded at least one of their energy or demand saving goals and another eight were within 80% or higher of energy saving goals.

²¹ Reports submitted to EE Stats as of December 2014. Versions used include: PGE.MN.201412.2, SCE.MN.201412.4, SDGE.MN.201412.6

²² These data are program-reported and have not been verified by the Evaluation Team.

Table 11. Self-Reported Program Goals and Achievements in 2013-2014

		Budget				kWh			kW			Therms		
Program	Customers	Goal	Actual	% of Goal	Goal	Actual	% of Goal	Goal	Actual	% of Goal	Goal	Actual	% of Goal	
3P Programs (Goals data from EEStats and Customers and Actual Data from Claimed Savings Database) ^a														
SDG&E Direct Install	5,186	\$23,792,029	\$23,664,425	99%	31,820,791	36,377,117	114%	7,794	9,486	122%	(9,572)	(10,428)	109%	
SCE Direct Install	35,561	\$81,658,934	\$80,743,462	99%	63,321,507	128,450,203	203%	13,996	30,871	221%	-	(431,889)	NA	
SCE School EE	351	\$5,958,450	\$5,417,280	91%	20,345,353	16,962,032	83%	294	3,176	1080%	-	(79,990)	NA	
PG&E RightLights	838	\$9,498,276	\$9,524,667	100%	19,341,924	16,797,299	87%	2,580	2,339	91%	(117,464)	(44,473)	38%	
PG&E Energy Fitness	626	\$5,426,390	\$4,668,711	86%	14,853,645	10,223,237	69%	2,771	2,000	72%	(79,927)	(36,673)	46%	
PG&E Furniture Store	303	\$2,421,660	\$4,275,470	177%	7,232,952	11,500,372	159%	1,628	2,354	145%	(42,170)	(66,019)	157%	
PG&E K-12 Private Schools	83	\$1,695,312	\$1,884,843	111%	4,075,921	3,777,677	93%	1,031	349	34%	(54,824)	(30,926)	56%	
PG&E LodgingSavers	191	\$6,542,368	\$9,798,604	150%	13,045,130	15,469,088	119%	3,766	5,126	136%	9,592	(12,626)	(132%)	
PG&E Casino Green	12	\$2,219,365	\$2,103,560	95%	4,886,061	3,268,830	67%	1,500	434	29%	67,306	(10,724)	(16%)	
PG&E TEAA	299	\$2,417,320	\$2,645,674	109%	6,302,595	3,986,608	63%	1,224	740	60%	(28,731)	(9,816)	34%	
LGP Programs (Goals data d	irectly from F	G&E and Custo	mers and Actu	al Data	from Claimed	Savings Databa	se) ^b							
PG&E East Bay EW	4,995	\$11,777,380	\$8,475,377	72%	41,875,000	15,651,918	37%	5,600	2,019	36%	-	4,523	NA	
PG&E Marin County EW	1,178	\$1,800,000	\$1,290,823	72%	5,077,758	1,050,190	21%	756	125	17%	-	(5,512)	NA	
PG&E Redwood Coast EW	843	\$460,000	\$411,796	90%	2,019,956	2,728,972	135%	223	486	218%	-	(13,768)	NA	
PG&E Sierra Nevada EW	534	\$2,954,152	\$2,784,892	94%	8,241,287	6,706,036	81%	1,227	1,006	82%	-	(19,858)	NA	
PG&E San Francisco EW	836	\$13,100,000	\$7,930,322	61%	28,560,240	16,617,110	58%	4,319	3,368	78%	-	36,968	NA	
PG&E Kern EW	597	\$3,633,333	\$3,403,007	94%	12,976,188	11,793,595	91%	1,964	2,055	105%	-	(63,644)	NA	
PG&E Santa Barbara EW	303	\$1,040,000	\$1,037,170	100%	3,714,285	3,586,926	97%	567	610	108%	-	(22,271)	NA	
PG&E San Luis Obispo EW	378	\$1,326,667	\$1,296,309	98%	4,738,095	4,266,802	90%	718	706	98%	-	(25,127)	NA	
PG&E Valley Innovative EW ^c	90	\$630,000	\$626,337	99%	2,249,999	2,151,028	96%	345	359	104%	-	(9,598)	NA	

^a For 3P programs, we were able to obtain goals for the budget and savings from IOU Monthly Energy Efficiency Programs Report from December 2014 (EEStats) and the customer count and actual data from Claimed Savings Database, Version from 11-02-2015 (Itron's Analysis).

^b LGP programs have multiple components, including DI, and report savings for the whole programs rather than by program components. As such, to gather data related only to the DI component of the programs, we obtained these numbers from PG&E directly. Given how reporting is performed for these programs, these numbers are 'best estimates' for the DI component of the programs. Customer count and actual data is from the Claimed Savings Database, Version from 11-02-2015 (Itron's Analysis).

^c The Evaluation Team was unable to verify the customer and actual data in the Claimed Savings Database. As such, the data shown here are from PG&E directly.

4.2.2 **Program Strengths and Challenges**

To best characterize the DI programs, the Evaluation Team asked IOU and DI program implementation staff about program characteristics that either helped enhance program performance or hindered performance. All information presented in this section is self-reported and presented as described during the interviews.

Program Strengths

DI program implementation and IOU management staff identified a number of strengths that helps programs gain participation, develop customer relationships, and help achieve program goals. Table 12 shows the strengths that emerged most commonly during the interviews.

Strengths	Number of Times Mentioned (n=19)
Customer service	19
Coordination/Communication with IOUs	10
Measure selection	9
Coordination/Communication with the community	7

Table 12.	Implementation	Strengths of D	l Commercial	Programs
		0		<u> </u>

The most common strengths are:

- Customer Service: By design, DI programs provide customers with turnkey solutions and provide customers with a "hand-holding" approach. In addition, several of these programs have target markets that are hard-to-reach, making this approach to customer service an important aspect of the program. All 19 programs noted that their success comes from their customer service. Some examples noted by the DI program implementation staff are: having multilingual sales representatives, training auditors to answer any/all customer questions, installing measures after business hours to have minimal disruption for the customer, etc.
 - Several implementers noted that their customer service was well-received making word of mouth recommendations, and/or repeat business their primary source for customer recruitment.
- IOU Involvement: Program implementation staff representing 10 of the 19 programs credit the success of their program to the IOU staff coordination and communication efforts, including the program manager and the field staff who accompany implementers on sales calls.
 - DI program implementation staff noted that IOU ride-alongs often helped close the deal as IOU staff brought a certain amount of credibility to the program and helped put customers at ease.
- Measure Selection: DI program implementation staff representing nine of the 19 programs noted that their ability to select the most appropriate measures for the customers and the ability to offer multiple measures has led to the success of the program. For example, two programs noted that they were able to offer their customers LEDs instead of CFLs, which encouraged customers to participate in the programs. Another example, is that a program noted their flexibility in setting incentive levels (higher incentive for high install measures) to encourage customers to participate.

Ties to the Community: DI program implementation staff representing seven of the 19 programs noted that a big part of their success is the ties to the community within which they work. Staff noted that living in and having built relationships with the community, including organizations such as the chambers of commerce, LGPs, local contractors, and non-profit organizations, has help build a reputation and recognition of the program among the customers.

Program Challenges

DI program implementation and IOU management staff identified a number of challenges that prevented programs from achieving higher energy savings. Table 13 shows the challenges that emerged most commonly during the interviews.

Challenge	Number of Times Mentioned (n=19)
Title 24	15
Reduced Claimable Savings	10
Sun setting of Measures	10
Parallel Review	4
Late Program Start	3

Table 13. Implementation Challenges of DI Commercial Programs

The most common challenges are:

- Title 24: Changes to the California Building Standards Code (Title 24) went into effect as of July 1, 2014. Title 24 now represents the new baseline for savings calculations. IOU and DI program implementation staff representing 15 of the 19 programs reported that Title 24 code changes negatively affected program performance.²³ Implementer and IOU staff pointed to the following issues with Title 24:
 - Perceived disconnect between Title 24 code assumptions and reality: DI implementation and IOU management staff said that Title 24 baseline conditions are unrealistic for their target market, which for many programs consists entirely of hard-to-reach customers or specific sectors such as schools. For several of these customers, DI program implementation staff noted that T12 fixtures are still prevalent as many of these customers lack the funds or the knowledge for replacement. Title 24 changes removed the ability to claim savings for the replacement of T12 lamps.
 - Changing implementation practices to avoid Title 24: To avoid Title 24 code, DI program implementers limited the installation of lighting fixtures to 39, since Title 24 applies when

²³ Notably, the passage of two new bills that go into effect January 2016 (AB802 and SB350) will change the way savings from high opportunity projects or programs (HOPPs) is calculated (<u>http://www.greentechmedia.com/articles/read/california-regulators-take-bold-steps-toward-a-new-energy-paradigm</u>). Instead of having savings calculated from code, for these HOPPs projects savings can be calculated using a home or building's baseline, as based on normalized meter data (including gains from equipment and operational efficiency). IOUs submit projects to the CPUC, who ultimately decides what constitutes HOPPs. Given these legislative changes, the issues raised with Title 24 may or may not be as relevant going forward.

replacing 40 or more light fixtures. This lowered potential energy savings and thus slowed participation.

- To avoid Title 24 code requirements, the programs would only serve a small share of the customer's space. Had 40 or more fixtures been replaced and code triggered, customers would be required to add several additional types of technology to meet code (e.g., two level lighting controls per luminaire, area controls, occupancy sensors, and possibly daylight harvesting)— all features that can be fairly costly without program support, especially if installed all at once.²⁴
- The IOUs had different interpretations of Title 24. SDG&E and PG&E DI program implementers were able to get participation with the 39 fixtures, but SCE DI program implementers could not service any buildings with more than 39 fixtures.
- Additionally, DI program implementers reported that it was difficult to explain to prospective participants why they could not upgrade more than 39 fixtures at a time through the program. Title 24 changes required DI program implementers to spend nonfunded additional time educating customers about why the retrofit must follow Title 24 code.
- Reduced claimable savings from mid-cycle CPUC mandated changes: Ten of the 19 programs reported that savings reductions mid-cycle presented a challenge to reaching savings targets set at the beginning of the cycle.²⁵ While DI program implementers understand why the CPUC reduces claimable savings, they explained that such mid-cycle changes cause ripple effects that disrupt program implementation (including the sun setting of certain measures). DI program implementer and IOU staff pointed to the following issues:
 - Customer dissatisfaction and lower than expected participation: As measure savings decrease, IOUs reduce available financial incentives, and the recommended upgrades become more expensive to the customer. For some programs, this resulted in customer satisfaction issues, distrust, and customer dropouts, therefore causing lower than expected program participation.
 - Programs can no longer be offered free to the customer. Reducing claimed savings for measures affects the cost-effectiveness of programs and some needed to decrease incentives so the program would still meet cost-effectiveness requirements. As such, DI program implementers noted either introducing a co-pay or increasing the amount of co-payment in 2015 or 2016.
 - Programs are installing equipment with short paybacks rather than engaging in deeper retrofits: Programs are also concerned that the cost-effectiveness requirements may lead to installing marginal, short-payback equipment instead of pursuing deeper retrofits. The Energy Efficiency Policy manual requires that each IOU's energy efficiency portfolio have higher benefits than costs. Cost efficiency is therefore one of the key screening tools for the DI

²⁴ Title 24 Building Energy Efficiency Standards (2013). Table 141.0-F Requirements for Luminaire Modifications-in-Place. Summary provided here: <u>http://www.lunera.com/the-simplest-solution-to-title-24-and-lighting-retrofits-in-california/</u> -- Table excerpt available here: <u>http://www.lunera.com/wp-content/uploads/2015/08/Table-141.0-F-Luminaire-Modifications-in-Pace.pdf</u>

²⁵ Notably, often IOUs interpret PUC guidance as immediate even if they may not be. Thus these findings are based on the implementers reaction to mid-cycle changes and not necessarily direct guidance from the PUC to make mid-cycle changes.

programs. Some DI program implementers explained that the program has to implement as many low-cost measures as possible and to get in and out of businesses quickly. These DI program implementers suggested that the cost-effectiveness metric has probably led to installations with short term savings, especially given the changes in the claimed saving calculations.

- DI program implementation and IOU staff also noted the further reduction in their claimed savings due to the requirement of using the prescribed Net-to-Gross Ratio (NTGR) to all measures and customers. The NTGR was reduced from 0.85 to 0.6 in 2013-2014.²⁶
- Time commitment from DI program implementation staff: DI program implementation staff noted the increase in time commitment to provide a preponderance of evidence for claiming savings for equipment treated as early-retirement versus replace on burnout. According to implementation staff, most measure installations are early retirement, however often they are unable to claim savings due to the time and administrative constraints to provide evidence.
- Protocols for when and how to implement mid-cycle changes are lacking: IOU staff highlighted that they find it difficult to know when to implement Energy Division dispositions,²⁷ as there are often multiple iterations of dispositions. In addition, several implementers noted a lack of protocols around how implementers should treat any customers who are mid-way through implementing a project. Often implementers complete projects at their own expense due to the mid-cycle changes.
- Sun setting Measures: Several high install measures were retired due to the changes in code or claimable savings calculations. IOU and DI program implementation staff representing 10 of the 19 programs reported that retiring certain measures negatively affected program performance. DI program implementer and IOU staff pointed to the following issues:
 - Perceived unrealistic baseline conditions: Measures such as T12 lamps, occupancy sensors, some HVAC measures, and LED exit signs were retired due to a policy directive indicating that given current code, customers are likely to already have or are likely to self-install these measures. However, DI program implementation staff and IOU management staff said that given the target market, the baseline conditions are unlikely to change without program efforts and many retrofits included the retired measures.
 - Mid-cycle retirements: In addition, these measures were retired mid-cycle causing issues with customers who were still deciding on projects and implementers complete projects at their own expense to maintain their relationship with the customer. One implementer also

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0ahUKEwj14fCfh7fKAhUW5mMKHaCiD0EQFgg2MA Q&url=ftp%3A%2F%2Fdeeresources.com%2Fpub%2F2013-

14_ExAnte%2FLtgDisposition%2F2015_Lighting_Retrofit_Guidance_memo_FINAL%2520(emailed%25202015-01-

27).docx&usg=AFQjCNFuRfCnrjhEbzf7rl94p-FJk9TKCQ&sig2=3NdQWzSp9H548lQGaybLKw&bvm=bv.112064104,d.cGc&cad=rja

²⁶ Notably, there seems to be a need for some clarifications on the use of designated NTGR and the need for clarification of definitions of hard-to-reach customers. This is noted in a proposal by the EAR team pursuant to D.14-10-046, which states that "use of direct install into hard-to-reach customer default: It appears that all PAs are assigning NTG values from the category of "direct install to hard-to-reach customers" (DI/HTR) for local government (LGP) and third-party (3P) programs. This NTG designation is NOT for activities that are either direct install OR to hard-to-reach customer, but instead they are only for direct install activities into hard-to-reach customer facilities/homes"

²⁷ Energy Division dispositions communicate any adjustments to claimable savings for energy efficiency measures upon review by the CPUC work paper group.

highlighted that DI programs generally purchase measures in bulk, which makes a fast response to policy changes/measure retirement more difficult.

CPUC Energy Division parallel review: Projects with custom measures are subject to a more detailed review by Commission staff (known as a parallel review). This review process began during the 2010–12 program cycle as ordered by D.11-07-030.²⁸ Decision D.11-07-030 Attachment B²⁹ details the adopted review process for custom projects and measures continued throughout 2013-14 as directed by Decision 12-11-015.³⁰The parallel review process is associated with the CPUC's ex ante review process, the intent of which "is to evaluate the reasonableness of the IOUs' forecasted energy efficiency program savings."³¹The parallel review process was introduced after previous program evaluations frequently reported lower ex post evaluation results compared to ex ante. This new process was introduced to ensure that individual project applications comply with CPUC policies and Program Administrator program rules, in addition to ensuring that calculation methods and measurement and verification approaches are sound and provide realistic results. According to the ex ante team, they reviewed 2-3% of all custom commercial projects in 2013-2014 including the DI, 3P and Core programs.

Although the parallel review process touched only a few projects, the implementers and IOU staff from four of the 19 programs reported that the parallel review negatively affected the DI programs due to the time taken to complete the parallel review.³² Several implementers explained that the review commonly takes several months; for some projects, the process could take up to one year.³³ In several cases customers decided to move forward with a smaller deemed upgrade, complete the upgrade outside of the program, or cancel the project altogether. This added time negatively affected program implementers who get paid on a performance-based system and take a financial loss for any time spent with a customer that does not translate into claimed savings. Additionally, according to implementers, this uncertainty in timing makes it difficult for them to effectively communicate with customers to manage customer expectations, installation contractors, and balance other implementation processes.

Late program start: Some program staff noted that a late start to the program does not give enough time for the program to ramp-up, build relationships, and generate significant energy savings.

4.3 Changes in 2015 and 2016

Many programs reported changes to their programs for 2015 and expected changes in 2016. Some of these changes will affect the relevancy of potential Phase 2 Evaluation topics, as certain program elements will no longer be implemented. A summary of these changes is presented below. Given the differences between

²⁸ <u>http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/139858.PDF</u>

²⁹ http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/139860.PDF

³⁰ http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M034/K299/34299795.PDF

³¹ CPUC Ex-Ante Review Fact Sheet #2, <u>http://www.cpuc.ca.gov/NR/rdonlyres/CF097D75-8357-42A3-A164-</u>

D714143F9D88/0/ExAnteReviewFactSheet2Exanteprocess.pdf

³² Notably, this is not a new issue, IOUs raised it in their portfolio applications, but the Commission responded that they were "not inclined to make revisions to the custom project ex ante review process at this time" p341 of the Decision.

³³ Notably, the Commission staff also noted having experienced challenges in the parallel review process due to incomplete or missing documentation and supporting material that causes delays in parallel review process, difficulty in scheduling follow-up calls during the review process, and not having clarity on action taken after a review (i.e. if a review was undertaken what action was taken due to the review and how the results of past related reviews were taken into account in the current project – as often Commission staff reviews contain identical issues found in past reviews issued one or more years previously).

programs administered by SCE and SDG&E versus those administered by PG&E, we have divided this section into changes affecting all programs, changes affecting SCE and SDG&E programs only, and changes affecting PG&E programs only.

Changes to All Programs

- Changes to measure offerings: Many programs reported changes to measure offerings, with the primary change being LEDs. In 2015, new LED technologies were added to several programs, including linear LEDs. In 2016, more LED technologies are expected such as LED high bays and LED tubes. In addition, in 2015, measures such as plug-loads and refrigeration were also added to some programs to allow for more comprehensive upgrades. In contrast, some measures such as programmable thermostats, sunset and are no longer eligible for rebates through IOU programs.
- Changes to saving calculations: Several program staff reported that in 2015, measures received different claimable saving amounts than in 2013-2014. For example, in 2015, PG&E is requiring implementers to provide a preponderance of evidence that measures are 'early retirement' to receive early retirement claimable savings amounts. If evidence is sufficient, PG&E will allow full rebates for T12 to T8 replacements. Otherwise, all projects are considered 'replace on burnout,' a much lower level of claimable savings.
- Develop a standardized definition of hard-to-reach to be used across all programs and offer tiered incentives for hard-to-reach customers: PG&E will define specific criteria for what constitutes a hard-to-reach customer and authorize programs to offer higher incentives to customers who meet this definition. There will no longer be tiered incentives based on annual peak demand of <100 kW and <200 kW as there were in 2013-2014.</p>
- Changes to Title 24: A handful of DI program implementers mentioned that they have heard that Title 24 will undergo changes in 2016 that will go into effect January 1, 2017.³⁴ Based on the outcome of this rulemaking, changes may affect claimable savings or the number of bulbs implementers decide to replace in a given building. However, it is too early to determine what changes will take place.
- Increasing paperwork requirements: Several program staff reported increasing levels of paperwork that are causing program administrative costs to increase. One DI program implementer reported that projects have gone from requiring three documents to 12 for each project pursued. Program staff for one program reported that as of 2015, a Net-To-Gross (NTG) survey must be filled out for every single project. Projects that undergo a QA/QC review or apply for ER will require even more evidentiary support.

Changes Specific to SCE and SDG&E Programs

Addition of a co-pay: Rising program costs are resulting in both IOUs requiring co-pays for measures. The SDG&E Direct Install program has added a co-pay for 2015, and the SCE Direct Install program and Schools EE program implementers have reported that the programs will likely include a co-pay in 2016. The addition of a co-pay to these previously free programs may affect the currently high conversion rates.

³⁴ California Energy Commission. "Rulemaking on 2016 Building Energy Efficiency Standards." Accessed: <u>http://www.energy.ca.gov/title24/2016standards/rulemaking/</u>

Changes Specific to PG&E Programs

- Regional delivery approach in 2016: PG&E PMs reported that PG&E is continuing to shift towards a regional delivery approach, with different implementers focused on specific counties with little or no overlap (except by vertical sector-specific 3P programs).³⁵ As part of this shift, PG&E program staff reported an integration of 3P and LGP programs on their side of the program implementation function which is a change from the distinct 3P and LGP teams they previously had internally.
- Changes to incentive structure in 2016—standardized incentive amounts across all programs: DI program implementers have been told that in 2016, PG&E will standardize incentive levels across 3P, LGP, and Core programs so that the same incentive amount is offered for the same measure, regardless of which program a customer goes through. The Evaluation Team learned from implementers that the impetus for this was to level the playing field for local contractors, who indicated that they were losing market share to 3P programs that in many cases offered higher incentives than Core and LGP programs. With a standard incentive across programs, local contractors can reach individual customers directly without needing to be affiliated with a program, complete a project, and encourage customers to apply for rebates through the Core program.
- Increasing reliance on local contractors for installation (in LGP programs): Although LGP programs perform installations using both in-house (e.g., Kern EW) and local contractors (e.g., East Bay EW), in 2015 and 2016, PG&E is putting more emphasis on local contractors to fulfill project demand

³⁵ This approach is outlined in PG&E's Regional Direct Install Programs Overview, which was provided to the Evaluation Team in September 2015.

5. Phase 1 Conclusions

The following are key conclusions based on Phase 1 of the DI process evaluation:

DI programs provide turnkey services that hard-to-reach customers need. DI programs provide turnkey solutions for hard-to-reach small business customers for whom energy efficiency is not a priority. For these customers, assistance to help identify measures, develop measure recommendations alongside total cost and payback, and actually install measures has proven effective in getting customers to cross the barrier of inertia and actually follow through with energy saving projects. According to DI program implementers, these are projects and energy savings that would otherwise not occur for lack of customer knowledge to complete projects on their own or unwillingness to payfor the full cost of (or inability to afford) upgrades without program assistance.

There is little difference in the program participation process between programs run through a 3P and through an LGP. Although the delivery channels and outreach strategies may differ, program incentives, offerings, and the participation process varies very little between DI programs implemented by 3Ps versus LGPs. Regardless of who implements the program, customers still generally receive low-cost turnkey services via the same general process (audit, recommendations, installation, QA/QC).

There is a fair amount of variation across DI programs. As noted above, the 19 DI programs follow a similar participation process from the customers' perspective. However, there is fairly wide variation across DI programs in terms of the measures and incentives offered, the types of customers served, the eligibility criteria used to select eligible customers, and the implementation strategies employed.

Installation practices can vary with some programs using in-house staff while others utilize local contractors. DI program implementers install energy efficiency measures in one of two ways: using program in-house staff or contractors (i.e., in-house) or via local contractors. Preliminary evidence from in-depth interviews shows a difference in conversion rates (in-house programs seem to have higher conversion rates) between the programs using in-house installers and those using local contractors.

Program-reported conversion rates fall with increases to co-pay. The Evaluation Team observed that program conversion rates tended to fall as co-pay amounts increased, potentially reflecting customers' price sensitivity to investing in energy efficiency retrofits given their other business demands. As part of the Phase 2 research for this evaluation, the Evaluation Team will perform an independent assessment of program conversion rates to determine the extent of this trend.

Not all DI programs have achieved their goals and there is variation between the 19 DI programs in terms of goals reached. According to self-reported values, five of the 19 programs have reached or exceeded energy saving goals (Table 14). The next eight programs reached 81% to 97% of their energy saving goals, four others reached at least 50% of their energy saving goals, while two programs reached less than 50% of goals. Note that the Evaluation Team will update program performance data in the Phase 2 report.

Brogram		% of Goal					
	Program	kWh	kW	Therm			
1	SCE Direct Install	203%	221%	NA			
2	PG&E Furniture Store	159%	145%	157%			
3	PG&E Redwood Coast EW	135%	218%	NA			
4	PG&E LodgingSavers	119%	136%	(132%)			
5	SDG&E Direct Install	114%	122%	109%			
1	PG&E Santa Barbara EW	97%	108%	NA			
2	PG&E Valley Innovative EW	96%	104%	NA			
3	PG&E K-12 Private Schools	93%	34%	56%			
4	PG&E Kern EW	91%	105%	NA			
5	PG&E San Luis Obispo EW	90%	98%	NA			
6	PG&E RightLights	87%	91%	38%			
7	SCE School EE	83%	1080%	NA			
8	PG&E Sierra Nevada EW	81%	82%	NA			
1	PG&E Energy Fitness	69%	72%	46%			
2	PG&E Casino Green	67%	29%	(16%)			
3	PG&E TEAA	63%	60%	34%			
4	PG&E San Francisco EW	58%	78%	NA			
5	PG&E East Bay EW	37%	36%	NA			
6	PG&E Marin County EW	21%	17%	NA			

Table 14. Program-Reported Performance Against 2013-14 Goals

Note: Please see footnotes from Table 11 for source information.
6. Phase 2 Research Activities

While Phase 1 focused on identifying and characterizing the DI programs, Phase 2 will delve deeper to help understand drivers of performance and identify barriers – both from the program and customer perspectives. In Table 15, we outline a set of proposed research questions. For each question, we briefly outline the relevant findings from Phase 1, the proposed analytical task(s) to address the question, and the value of the research. As outlined in Table 15, a number of research questions will be addressed through more than one analytical task. The proposed analytical tasks include (1) Interviews with IOUs program management staff and Implementation management staff³⁶, (2) Conversion Rate Analysis, and (3) Customer Surveys. Following Table 15, we provide a more complete description of the proposed Phase 2 analytical tasks, the order in which they would be completed, as well as the budgets associated with each task.

³⁶ The Evaluation Team will interview the same IOU and Implementation staff as the Phase 1 study, which includes im plementation staff for both 3P-run and LGP-run DI programs.

Table 15. Research Questions to Explore in Phase 2

#	Phase 2 Research Questions	Relevant Phase 1 Research Findings	Proposed Analytical Task(s)	Value of Research
-	Are there program attributes that appear to influence customer willingness to participate and, ultimately, customer willingness to install (either through the program or on their own) recommended actions?	 There is some evidence that the rate at which customers agree to audits/installations is influenced by the co-pay amount There are myriad potential reasons associated with program design and delivery as to why customers do not agree to audits/installations Falling conversion rates (the rate at which targeted customers fully participate) is a concern to most programs 	 Conversion Rate Analysis Customer Surveys Interview IOUs and implementers 	Provide information to program planners and implementers regarding key drivers of participation and action (as well as aspects of program design and delivery that may hinder this)
2	Are there any advantages or disadvantages associated with performing DI installations "in- house" versus through local contractors?	 There is some evidence that utilizing local contractors may slow down the process and/or have an adverse effect on customer satisfaction levels 	 Customer Surveys Interview IOUs and implementers Conversion Rate Analysis 	Provide a clearer understanding of the impact of the "installation process" on customer satisfaction, and reasons for lag time between sign up and completion (and, potentially, the rate at which recommendations are acted upon)
	Why do some programs lack comprehensiveness and what does this mean in terms of lost savings opportunities?	 Most programs are focused on lighting measures and only a few pursue more comprehensive or custom measures 	 Interview IOUs and implementers Secondary research on lost savings opportunities within small and medium businesses 	Identification of the barriers to comprehensiveness will allow program planners to more systematically address them
4	How do customers perceive the program, what aspects of the program are working well, and what areas need improvement?	 There is limited knowledge of how customers hear about the programs, perceive the programs, what motivates them (or not) to participate, what are the important factors in the decision to purchase energy- efficient equipment, and the barriers to participation There is also limited information on opportunities for program improvement from the customer perspective 	Customer Surveys	Provide feedback to program designers and implementers about important factors in customer decision making with respect to both participation and, ultimately, taking energy efficiency actions
Ę	Why is there so little cross- program participation?	• There is limited cross-program marketing, with 11 of 19 programs making no effort to market other energy efficiency programs	 Interview IOUs and implementers 	Determine whether or not cross-program participation is viewed as valuable. And if so, identify changes in program delivery and the incentive structure that implementers operate within that may be necessary to successfully market other energy efficiency programs.

As highlighted in Table 15, the Phase 2 research questions will be addressed through three main analytical tasks: (1) Interviews with IOUs and Implementers, (2) Conversion Rate Analysis, and (3) Customer Surveys. Where needed, we will perform secondary research to either help build our understanding on a particular research area or to help supplement findings. However, to determine whether or not, and the extent to which, key research questions can be addressed, we are proposing an initial exploratory research process, outlined below.

Exploratory Research

When looking across the five research questions outlined in Table 15, it becomes clear that our ability to address the key research questions is highly dependent on the level of program-related detail tracked by implementation contractors. Therefore, we are suggesting that the first step of the Phase 2 research consist of contacting the various IOUs (and, potentially, their respective implementation contractors) to address data availability. The emphasis would be on understanding the type, quantity, and quality of information available as well as the logistical issues/challenges associated with receiving it. Our inquiries would focus on the following information:

- Customer Contact Information: Does the program implementer track which businesses have been approached by a DI program? Do program tracking records include contact name(s) and contact information (e.g., phone number, email address, etc.)? Is the requisite information available for both those who ultimately participated (agreed to an audit) and those that did not?
- Audit Detail: Does the program implementer track the specific measures that were recommended for a particular business and which ones were actually installed? Ideally, audit information will include all recommended measures and the tracking system would indicate if a given recommended measure was ultimately installed.

We are proposing to summarize and present this information to the CPUC, including the implications on the ability to perform the proposed research analytical tasks. It may be, for example, that sufficient tracking data exists for some, but not all, programs. Regardless, the absence of key tracking data may cast doubt on the team's ability to complete Task 2 and/or 3. Therefore, this exploratory research is an important precursor to a "go, no-go" decision with respect to the subsequent research tasks.

Task 1: Interviews with IOUs and Implementers

IOU and implementation staff interviews will give important insight into two of the five research questions. In particular, implementation staff would appear to be in the best position to address (1) why audit recommendations lack comprehensiveness and how this translates (or not) into lost opportunities, and (2) why there is so little cross-program marketing.

In these interviews, we will focus on the environment/incentives that IOUs and implementers perceive themselves operating within and how this impacts comprehensiveness, targeting, and cross program marketing. As part of the discussion, we will solicit ideas on what aspects of the programs (and the corresponding incentive structure in which they operate) would need to change in order for them to put more emphasis on these outcomes. In addition, to better understand the type of lost opportunities that may exist, we will conduct secondary research on lost savings opportunities within small and medium businesses.

Task 2: Conversion Rate Analysis

During Phase 1, we obtained conversion rate information (self-reported) from program implementers and/or IOUs. For Phase 2, we would like to take a more rigorous and reliable look at how various program attributes impact conversion rates. We would perform the analysis on as many programs as possible (i.e., those determined during the Exploratory Research to have ample customer records and adequate measure level tracking information). We envision that the conversion rate analysis will explore the impact of various attributes on conversion rates. These attributes include:

- Fee Structure free versus co-pay
- Co-Pay Percentage/Amount
- Delivery Structure 3P, LGP, IOU
- Installation Process In-House (e.g., 3P) versus local contractors
- Audit process In-House (e.g., 3P) versus local contractors
- Outreach Canvassing versus targeted
- Sales approach In-person, by phone, by email
- Measure Mix Lighting only vs. a comprehensive set of measures
- Market Strategy horizontal approach (e.g., serve all businesses) versus vertical approach (e.g., specialize with specific sectors such as Casinos, Furniture Stores, etc.)
- Level of IOU Involvement IOU assists with leads or not
- Co-Branding Approach program is proactively marketed as utility program
- Customer Size Requirements
- Collaboration with other entities (e.g., community organizations)

It is important to note that given the limited number of DI programs, the interpretation of conversion rate results is likely to be qualitative or directional in nature. In other words, the results are unlikely to definitely determine the extent to which a given attribute contributes to favorable (or unfavorable) conversion rates. The most significant reason for this is that programs vary in terms of the number, and combination, of attributes they include (as listed above). Therefore, the analysis is likely to provide "indications" that certain attributes are associated with higher conversion rates.

Task 3: Customer Surveys

This research would focus on customer response to DI programs and could include both participant and nonparticipant surveys. We anticipate that Task 2 will identify program attributes that seem to have a positive (or negative) impact on conversion rates. Some programs will have more of these attributes than others. We envision selecting 3-4 programs for further exploration through this survey effort because the time and complexity of including all programs is simply infeasible. More importantly, we propose to be "purposeful" in our selection process, selecting programs—for further research—where we think customer information will provide additional and important insights into the dynamics behind program satisfaction and success. We may, for example, pick a couple of programs that appear to fall within the upper echelon of high conversion rate programs and a couple that fall on the other end of the spectrum. Or we may, for example, pick a program(s) with multiple implementers with varying levels of conversion rates to better understand implications of implementation processes.

In summary, there may be other important factors—beyond those explored in Task 2: Conversion Rate Analysis—related to a given customer's program experience that may impact program success. It is only through customer surveys, that a more complete and fuller understanding of such factors can be secured. Our suggested survey efforts fall into two groupings, as follows:

- Participant Surveys: Participant surveys would focus on key process-related outcomes, toward the goal of identifying those programs (and program attributes) that appear to lead to higher levels of satisfaction and uptake of measures. If sufficient audit details are available, we would anticipate asking participants to articulate the reasons they acted upon (implemented) certain measures but not others. We would also ask about overall satisfaction and satisfaction with various processes, spanning from recruitment through to measure installation. We would ask about barriers to implementation, missed savings opportunities, and reactions to co-pays.
- Non-participant Surveys: This set of surveys would be highly dependent upon the information available from program implementers. If non-participants can be identified through program records, these surveys would focus on (1) customers approached about DI who did not receive an audit (the survey would focus on why they did not agree to an audit), and (2) customers who received an audit but did not agree to the direct installation of measures (the survey would focus on why they did not agree installation).

Once the Conversion Rate Analysis is completed, the Evaluation Team will combine all findings (including findings from Phase 1) into a single comprehensive report for a June 2016 delivery. The findings from the Customer Surveys (Phase 2 – Customer Perspectives report) will be reported separately to be delivered in October 2016.

7. **Program-Specific Summaries**

For each program, the following section details the program characteristics, implementation strategy, and program delivery. All findings are based upon summarizing information gathered from depth interviews with IOU management staff and implementation staff in addition to information found in the 2013-2014 program implementation plans, 2013-2014 Monthly Energy Efficiency Program Reports submitted to <u>http://eestats.cpuc.ca.gov/</u> as of December 2014³⁷.

Multiple acronyms are used throughout this section. Below is a list of all acronyms and their definitions:

Acronym List

3P	Third Party Programs
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
CE	Cost effectiveness
DEER	Database for Energy Efficiency Resources
DI	Direct Install
DR	Demand Response
EE	Energy Efficiency
ES&S	Energy Solutions & Services
EW	Energy Watch
EMS	Energy Management System
HTR	Hard-to-Reach
HVAC	Heating, Ventilation, and Air Conditioning
IDSM	Integrated Demand Side Management
IOU	Investor Owner Utility
LGEAR	Local Government Energy Action Resource
LGP	Local Government Partnership
MF	Multi-family
MLC	Modified Lighting Calculator
NTG	Net-to-Gross
OBF	On-Bill financing
PG&E	Pacific Gas & Electric
PTAC	Package Terminal Air Conditioner
PTHP	Package Terminal Heat Pump
SCE	Southern California Edison
SDG&E	San Diego Gas & Electric
SMB	Small & Medium Businesses
QA/QC	Quality Assurance/Quality Control
VFD	Variable Frequency Drive

Additional Definitions

Conversion RatePercentage of customers who undergo a program audit and proceed with a program-
sponsored projectRide-alongsWhen IOU representatives accompany implementers for on-the-ground, door-to-door
canvassing to add credibility to the implementer and to the program

³⁷ Versions used: PGE.MN.201412.2, SCE.MN.201412.4, SDGE.MN.201412.6 opiniondynamics.com

7.1 SDG&E's SW-COM Direct Install Program (SDG&E 3226)

Program Summary. The SW-COM Direct Install Program is the only Commercial DI Program offered by SDG&E. There are two program implementers, Matrix Energy Solutions and Synergy Companies, who operate in separate zip codes. The program offers a wide range of deemed measures (lighting, refrigeration, HVAC) and appeals to a broad range of customer types. Any non-residential customer (including commercial businesses, corporate owned franchises, schools, etc.) may participate provided they meet size requirements (<100 kW of annual peak demand in 2013-2014). Essentially, the program is the go-to efficiency program for commercial customers to identify energy saving opportunities and available rebates. According to the program implementers, most participants are <20 kW in size – which are considered a HTR segment.

Program Delivery. The program recruits through a mixture of on-the-ground canvassing by implementers, referrals by SDG&E or past participants, and via LGPs such as the Chula Vista Chamber of Commerce, who promotes the program to SMBs who participate in the Chamber's Green Business Program. Starting in 2014, the program was one of few that gave the option of the more comprehensive ASHRAE Level 2 audit, although few were conducted by Program Cycle close. After the no-cost audit is performed by one of the two program implementers, customers must sign an authorization form to proceed with installation, which is performed at a later date by program contractors (mostly in-house installers; some are outsourced). In 2013-2014, about 70 types of deemed measures were offered through the program at no-cost to program participants. The program is quite agile and can incorporate almost any measure on the deemed program list; in 2015 all deemed measures were made available through the program. Notably, the program is helping to pilot a new LED Tube technology which, if successful, will be included as a deemed measure offering.

Program Activities in 2013-2014. According to self-reported data, the program exceeded its goals in the 2013-2014 cycle. There is high demand for the program from customers, and SDG&E self-reports a conversion rate of over 90% (i.e., from audit to installation). Program successes included adding LEDs (instead of CFLs) as measure offerings, and concentrating efforts in specific regions to reduce transaction costs and increase productivity. The program was able to learn from experience to successfully tap into previously non-responsive customer segments, such as liquor stores, by customizing their outreach approach to the audit and installation. Key challenges were the impact of Title 24, which reduced the number of lighting fixtures that could be retrofitted. Continual changes to claimable savings, lack of coordination with SDG&E's marketing department, and customer's perceived hassle factor of having auditors enter their business to perform the installation, were additional barriers the program faced. Because of electric rate increases of 20-30% in 2014, customers did not experience bill savings as promised; the program then adjusted its marketing message on how the program can help reduce the cost and payback period of energy efficiency projects. Although the program pushes for comprehensive measures, the majority of projects still tend to be low-hanging fruit measures, such as lighting (~75% of program savings in 2013-2014).

Changes in 2015. Starting July 1, 2015, customer size requirements were increased to <200 kW and most program measures require a co-pay. All deemed measures, around 230, were first offered through the program this year at the same rebate amounts as offered through Core, and eligibility was expanded to local government buildings. The program also built in referrals to the OBF program (and forthcoming SW financing pilots). Finally, in 2015 Willdan replaced Synergy as an implementer and the program also added a third implementer, Staples Energy, who focuses exclusively on food service customers.

SW-COM Dir (SDG&E322	rect Install	SDGE	Cos	its	Target Market Customers SMB <100 kW per month - 80% of customers			
Since 2010	A & Si	empra Energy utility®	Audit Installation	Free Free	HTR	are <20 kW No Soft Goals	s - 25%-30% are HTR	
2 Implementers -	Synergy		Avg. Co-pay NA (Co-pay introduced in 2015)		 Delivery Model			
Matrix Energy Solut	tions	Matrix Energy Services			Audit (up to ASHRAE Level 2) provides recommendations for direct install and other measures; Customer signs			
	Program Per	formance (20	13-2014)		authorization installation; I	form; An appoint mplementer ra	intment is set for equipment ndomly inspects 25% of projects	
	Spending	k	Wh kW	Therms	i toi QAy Qo ai		ustomer reeuback survey	
Goal	\$23,792,028	3 31,82	20,791 7,794	-9,572	Services	Offered	Measures	
Actual	\$23,664,42	5 36,37	77,117 9,486	-10,428	➤ Energy Audit	1	➤ Lighting (>75% savings)	
% Goal Achieved	99%	11	122%	109%	(up to ASHR	AE Level 2)	 Duct Coll Cleaners Refrigeration > Filters 	
# of Participants	5,186		Conversion Rate:	>90%	 Measure Ins 	stallation	Same as Core; Deemed impacts	
Collabora	ation		IOU support		Stre	engths	Challenges	
 City of Chula Vista Chambers of Commerce Green Business Program Partnerships (LGPs) Ride-alo Marketing Saliling D Customer Leads Adudit To 			 Staying in concentrated areas (spreading out diminishes productivity) Adding LEDs (instead of 		 Lack of coordination with the marketing arm of SDG&E want more help 			
 City of Chula Vis Chambers of Co Green Business 	sta ommerce s Program	 ≻Partnershi ≻Marketing ≻Customer >Communic 	ps (LGPs) ≻Ride-a	alongs g Data Access Tool lequirements	 Staying in a areas (spread diminishes pi > Adding LEE 	concentrated ding out roductivity) Os (instead of	Lack of coordination with the marketing arm of SDG&E want more help	
 City of Chula Vis Chambers of Co Green Business Market	sta ommerce s Program e ting Strategies	 >Partnershi >Marketing >Customer >Communic 	ps (LGPs) →Ride-a >Billing Leads →Audit ating Regulatory R Coordin	alongs (Data Access Tool equirements ation	 Staying in a areas (spread diminishes pi > Adding LEE CFLs) Can custor 	concentrated ding out roductivity) Ds (instead of pize installation	 Lack of coordination with the marketing arm of SDG&E want more help T24 limited measures and made cost of 	
 City of Chula Vis Chambers of Co Green Business Market Direct & indirect: I and Faith Based a Organizations; ma door campaigning 	sta ommerce s Program eting Strategies Leverage local go and Community B arketing materials ; past participant	>Partnershi >Marketing >Customer >Communic >Communic	ps (LGPs) >Ride-a >Billing Leads >Audit ating Regulatory R Coordin > Referrals to Co > Referrals to OE > Coordination w program	alongs 5 Data Access Tool requirements ation ore BF vith DR	 Staying in a areas (spread diminishes prise Adding LEE CFLs) Can custor to specific buist Success in historically no segments 	concentrated ding out roductivity) Ds (instead of nize installation siness type reaching out to on-responsive	 Lack of coordination with the marketing arm of SDG&E want more help T24 limited measures and made cost of compliance prohibitive Savings is a moving target - lasts only 1-2 months 	
 City of Chula Vis Chambers of Co Green Business Market Direct & indirect: I and Faith Based a Organizations; ma door campaigning 	sta ommerce s Program eting Strategies Leverage local go and Community B arketing materials ; past participant	 >Partnershi >Marketing >Customer >Communic vernments ased ased ased to referrals 	ps (LGPs) > Ride-a > Billing Leads > Audit ating Regulatory R Coordin > Referrals to Co > Referrals to OE > Coordination w program Other Intere	alongs 5 Data Access Tool dequirements ation ore 3F <i>i</i> th DR sting Program	 Staying in a reas (spread diminishes pread diminishes pread diminishes pread control of the second se	concentrated ding out roductivity) Ds (instead of nize installation siness type reaching out to on-responsive	 Lack of coordination with the marketing arm of SDG&E want more help T24 limited measures and made cost of compliance prohibitive Savings is a moving target - lasts only 1-2 months 	

Figure 4. SDG&E's SW-COM Direct Install Program Fact Sheet

7.2 SCE's SW-COM Direct Install Program (SCE-13-SW-002D)

Program Summary. The SCE SW-COM Direct Install program is a Core commercial DI program offered by SCE. There are three program implementers, California Retrof it Incorporation (CRI), FCI Management Incorporated (FCI), and FESS Energy (FESS), who work in separate counties to cover SCE's entire territory. The program offers primarily lighting measures with some refrigeration measures at entirely no-cost to customers, although will start requiring a co-pay in 2016. The program is available to any SMB provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). There are some exceptions: FESS excludes customers already served by other programs, and FCI sets an incentive cap for customers based on size (\$10,000 for customers <100 kW, and \$15,000 for customers <200 kW). Only CRI reported having soft goals to reach the HTR segment: they target customers in a specific HTR rate category (GS1 or GS2).

Program Delivery. Each implementer approaches marketing differently. All utilize door-to-door canvassing, but only FCI relies heavily on SCE for support via lead generation, utilization of SCE's call center, and provision of co-branded marketing materials. FCI also collaborates with LGPs to market the program to city and commercial customers, and notably because of such efforts, was successful in serving several churches who were otherwise unaware of the program. Once recruited, a customer must sign an authorization form to proceed with the no-cost audit, and sign a second form to authorize the installation by program contractors who performs this at a later date.

Program Activities in 2013-2014. Overall, according to self-reported data, the program exceeded its kWh and kW goals in the 2013-2014 cycle by more than double (203% and 221%, respectively). There is some variation in conversion rates across implementers: CRI self-reports the highest conversion rate of the three implementers, of 60-70% (FESS's conversion rate fell from 25% to 10% and FCI does not track this information). Program successes included no-cost measures, multilingual sales staff, partnerships with LGPs, and flexibility to select the most efficient measures for each customer. Key challenges were the impact of Title 24 which prevented implementers from serving buildings with more than 39 lighting fixtures, changes to the claimed savings calculations (this caused FCI to have to sign up twice as many customers to make up for lost savings), and the sun setting of some measures such as LED exit signs.

Changes in 2015. Starting 2015, the program will be able to offer new measures (plug loads). However, two factors are expected to have a negative impact on the program. First, the NTG ratio applied to the program will fall from 0.85 to 0.6, which is expected to significantly reduce claimed savings. Secondly, projects are being defaulted to 'replace on burnout' instead of 'early replacement', which will also affect savings and affect the program's ability to meet savings goals.

SW-COM Direc		IRNIA	Cos	sts	Target Market			
(SCE-13-SW-0)	02D) EDISC	DN" mpany	Audit	Free	Customers	SMB; <: GS2	200 k\	W, with tiered incentives; GS1,
Since 2003			Installation	Free	HTR	No soft	goals;	however majority are HTR
3 Implementers – California Retrofit In	nc., 🧑 FCI		Avg. Co-pay	NA			Deliv	very Model
FCI Management Ine FESS Energy	c., 🕴 🗧 FESS				Direct Install: Implementer and Account Rep meet customer to explain program offerings; Customer signs Customer Authorization Form to enroll in the program; audit performed by implementer upon which the			
	Program Performance	(201	13-2014)	customer sign SCE approve	ns Authoriza s the project	ation Su t, the in	immary form for SCE's review. Once	
	Spending	kW	/h kW	Therms	and submits approval. Pos	the Project (st inspection	Comple n by imp	tion Report for SCE's review and blementer and utility for 65%-75% of
Goal	81,658,934 63	3,321	1,507 13,996	6 0	projects. Cus	tomer feedb	back su	rvey.
Actual	80,743,462 12	8,45	0,023 30,871	1 -431,889	Services Of	ffered		Measures
% Goal Achieved	99%	203	3% 221%	NA	 Energy Audi Direct Instal 	t Ilation	 Ligit Ref 	hting (linear, LED, cooler case) frigerator film, solar film
# of Participants	35,561		Conversion Rate	: 10%-70%	Directinista	nation	> Do	or strips
								de cere, beenned impacte
Colla	aboration		IOU sup	oport	Stre	ngths		Challenges
Colla LGPs	aboration	À	IOU sup Customer leads	oport	Stre	ngths ect the mos	st	Challenges T24 eliminated majority of
Colla LGPs ≻ City of Palm De	aboration esert	λÀ	IOU sup Customer leads Project verificat	o port Sion	 Stre Able to sel efficient m (depending) 	ect the mos easures	st	Challenges T24 eliminated majority of program's CE measures
Colla LGPs ➤ City of Palm De Marketin	aboration esert ng Strategies	A A	IOU sup Customer leads Project verificat Coordin	pport sion ation	 Able to sel efficient m (depending customer) Partnershi 	ect the mos easures g on the	st	Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated
Colla LGPs ≻ City of Palm De Marketin Direct & indirect:	aboration esert ng Strategies Leverage local	A A 	IOU sup Customer leads Project verificat Coordin Referrals to C	pport sion ation ore	 Stre Able to sel efficient m (depending customer) Partnershij create jobs 	ngths ect the mos easures g on the ps with LGF s and help	st Ps	Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and	aboration esert ng Strategies Leverage local Community Based		IOU sup Customer leads Project verificat Coordin Referrals to C Referrals to O	pport ion ation ore BF	Stre > Able to sel efficient m (depending customer) > Partnershi > create jobs meet state > Free meas	ect the mos easures g on the ps with LGF s and help g oals ures	st Ps	Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED avitations
Colla LGPs > City of Palm De Marketin Direct & indirect: governments and Organizations; ma to door campaign	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing	A A	IOU sup Customer leads Project verificat Coordin Referrals to C Referrals to O	ation BF	Stre > Able to sel efficient m (depending customer) > Partnershi > create jobs meet state > Free meas > Trained sa > Multilingua	ect the mos easures g on the ps with LGF s and help g goals ures les reps al sales reps	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and Organizations; ma to door campaign	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing		IOU sug • Customer leads • Project verificat Coordin • Referrals to C • Referrals to O	pport ion ation ore BF	Stre > Able to sel efficient m (depending customer) > Partnershi > create jobs meet state > Free meas > Trained sa > Multilingua	ngths ect the mos easures g on the ps with LGF s and help g goals urres les reps al sales rep:	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and Organizations; ma to door campaign	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing		IOU sup Customer leads Project verificat Coordin Referrals to C Referrals to O Other Intere	pport ion ation ore BF esting Program	Stre > Able to sel efficient m (depending customer) > Partnership > create jobs meet state > Free meas > Trained sa > Multilingua	ect the mos easures g on the ps with LGF s and help g goals ures les reps al sales rep:	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and Organizations; ma to door campaign ≻ Synergy between	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing en city and commercial c	usto	IOU sug Customer leads Project verificat Coordin Referrals to C Referrals to O Other Interest mers; helped pr	pport sion ation ore BF esting Program	Stre > Able to sel efficient m (depending customer) > Partnershi > create jobs meet state > Free meas > Trained sa > Multilingua	ect the mos easures g on the ps with LGF s and help e goals ures les reps al sales rep:	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and Organizations; may to door campaign > Synergy betwee > New measures	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing en city and commercial c introduced in the 2015 ()) usto progr	IOU sug Customer leads Project verificat Coordin Referrals to C Referrals to O Other Intered mers; helped pr ram cycle, inclu	pport sion ation ore BF esting Program rogram serve c iding plug loads	Stre > Able to sel efficient m (depending customer) > Partnershi > create jobs meet state > Free meas > Trained sa > Multilingua Elements hurches and T24 light	ect the mos easures g on the ps with LGF s and help e goals sures les reps al sales rep:	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs
Colla LGPs ≻ City of Palm De Marketin Direct & indirect: governments and Organizations; ma to door campaign > Synergy betwee > New measures > Additional meas > Most likely inter	aboration esert ng Strategies Leverage local Community Based arketing materials; door ing en city and commercial c introduced in the 2015 p sures in 2016; LED high pduping on page	usto progr	IOU sup Customer leads Project verificat Coordin Referrals to C Referrals to O Other Intere mers; helped pr ram cycle, inclu s, LED tubes, Lir	esting Program rogram serve cling plug loads hear LEDs	Stre Able to sel efficient m (depending customer) Partnershi Create jobs meet state Free meas Trained sa Multilingua Elements hurches and T24 light	ect the mose easures g on the ps with LGF s and help g goals ures les reps al sales reps al sales reps	st Ps s	 Challenges T24 eliminated majority of program's CE measures Reduction in claimed savings Market is getting saturated leading to more overhead costs Sunsetting of measures such as LED exit signs

Figure 5. SCE's SW-COM Direct Install Program Fact Sheet

7.3 SCE's School Energy Efficiency Program (SCE-13-TP-018)

Program Summary. The School Energy Efficiency program is a 3P program implemented by Willdan Energy Solutions for SCE. The program targets K-12 schools in the SCE territory with primarily free lighting measures. The program targets both public and private schools, and is open to universities and colleges although none has participated thus far.

Program Delivery. Willdan collaborates with SCE to approach schools together as they have found utilizing the utility adds legitimacy to the program. Willdan will meet with schools to go over what the program offers and explain what would be requested of the school if they were to participate (e.g., access to the school, access to the school is operations & management staff person to shadow during the audit and installation). If a school is interested, Willdan will perform a lighting specific audit and schedule a time to perform the installation. Willdan reports that almost 100% of schools who undergo the audit end up doing a project (they had one school that did not go through with the installation).

Program Activities in 2013-2014. According to self-reported data, the program met 84% of its energy savings goals and highly exceeded its kW goals (>1,000%) in the 2013-2014 cycle. Program successes included a strong relationship with SCE to outreach to schools, proactively communicating the program and program needs to schools, flexibility to work around a school's schedule to perform the installation (often installation are done during the evening hours to avoid disruptions), and, specific to this program cycle, targeting schools in the hottest climate zones in order to maximize peak demand savings³⁸. Key challenges revolved around Title 24. Title 24 eliminated the majority of the program's cost-effective measure savings, and the program was not allowed to admit new participants after Title 24 passed which led to the program running out of projects before 2014 ended.

Changes in 2015. Starting 2015, the programs are adapting to the changing policy and market landscape by working more with trade allies to market the programs and recruit customers.

³⁸ This strategy will not work going forward as rules for calculated peak demand savings have changed. opiniondynamics.com

The School En	ergy Efficiency		}	Cost	ts		Target Market			
Program (SCE Since 2010	-13-TP-018)	UTHERN CALIFORNIA DISON RAATIONAL® Company	Audit Free Installation Free Avg. Co-pay NA		Customers SMB; Vertical market expertise; Pre-schools, K- 12 schools; Public or private. HTR No soft goals					
Implementer – Willdan Energy Solutions		DAN			Delivery Model Direct Install: Implementer and Account Rep meet customer to explain program offerings; Customer signs Customer Authorization Form to enroll in the program. Lighting-specific audit by implementer upon					
	Program Perform	ance (20	13-2014)			which the custor review. Once SC	ner signs A E approves	uthori the p	ization Summary form for SCE's roject, the implementer installs	
	Spending k				h kW Therms program measures and submits the Project Comple SCE's review and approval. Post inspection by impl			the Project Completion Report for inspection by implementer and utility		
Goal	\$5,958,450	20,34	5,353 2	94	0	for 65%-75% of	projects. Cu	istom	er feedback survey.	
Actual	\$5,417,280	16,96	2,032 3,1	176	-79,990	Services Offe	red	1.1.4	Measures	
% Goal Achieved	91%	83	3% 108	80%	NA	 Energy Audit Direct 	A A	Othe	ting replacements er high efficiency lighting measures	
# of Participants	351		Conversion R	Rate:	Close to 100%	Installation	> Sa	Ligh ame a	ting motion and occupancy sensors as Core: Deemed impacts	
Coll	aborations		ΙΟυ	supp	port	Streng	ths		Challenges	
None		A	 Customer le Project verifi 	ads icatio	'n	Schedules/c s with SCE a	oordinate		T24 eliminated majority of program's CE measures	
Marketi	ing Strategies		Coor	dina	tion	Decision Ma	ker to		and was not allowed to	
Direct: Account Exe Division) conduct to recommend districe potential. Outreach implementer	None			discuss program offerings and tell district what is needed to participate > Install after hours to save time			admit new participants to program after T24, thus ran out of projects before 2014 years ended			
			Other In	teres	ting Program	n Elements				
> Maximized kW order to qualify fo	savings in 2013-20 r peak demand savi	14 by targ ngs. How	geting school vever, this str	ls in (ategy	climate zone y will not wor	s that would be ir k in 2015 or 2010	n session 6.	duri	ing 3 hottest days of year, in	

Figure 6. SCE's School Energy Efficiency Program Fact Sheet

7.4 PG&E's RightLights Program (PGE210115)

Program Summary. The RightLights program is one of three 3P DI programs implemented by Ecology Action (EA) for PG&E. The program targets for-profit SMBs with <200 kW of peak annual demand, including special districts, retail, light industrial and light manufacturing customers, food service, office buildings, schools, grocery stores, and the common areas of multifamily complexes. The program's reach is restricted to PG&E customers in Santa Cruz, Monterey, San Benito, Santa Clara, and San Mateo counties. About 80% of measures installed through the program are lighting, the remainder tend to be vending machine controls or refrigeration measures. Most measures require a co-pay (average co-pay for the program is about 29%), although some measures (such as vending machine controls) are free. The program does not have any soft goals for reaching HTR customers.

Program Delivery. EA recruits customers in a variety of ways including direct canvassing, telemarketing, direct mail, and through trade shows or Chamber of Commerce mixers. The program collaborates with LGPs who help shape the program's marketing strategy, who notify implementers of outreach opportunities, and who help identify prospective participants. Once recruited, EA coordinates a facility-wide audit for the customers and recommends energy saving measures. If the customer agrees, EA will work with program and non-program contractors to install the desired measures. The implementer reports a conversion rate of about 55%.

Program Activities in 2013-2014. According to self-reported data, the program met about 84% and 85% of its kWh and kW goals, respectively, in the 2013-2014 cycle. A key success was the ability to use the MLC which enabled the program to be innovative. Notably, EA developed the final version of the MLC³⁹, which is being used by implementers today. Use of the MLC enabled EA to not only tailored projects for customers to maximize total savings, but also target measures that would be harder to install under a strictly deemed scenario. For example, the program was able use the MLC to claim savings for cutting-edge lighting measures without having to develop a new work paper. The program also invests time with customers and tries to be more thoughtful in developing projects, so as to maximize project savings for each customer, which aligns very well with EA's incentive structure (they are paid per kWh saved). There were several key challenges: Title 24 which prevented EA from doing comprehensive projects without triggering code and making projects uneconomical for customers, a long project review process (up to 8 months) for MLC projects because they are considered custom, having to shoulder the burden of proof in proving 'early replacement' as opposed to 'replace on burnout' measures, and the sun setting of some measures offered through the program.

Changes in 2015. In 2015 the program merged with the Energy Watch Partnership. The amount of claimable savings for some measures reduced in 2015, meaning the program earned less towards its savings goals in 2015 for the same types of measures it installed in 2014. Please see the Section 4.2.2 Program Strengths and Challenges for additional discussion on this point.

³⁹ Ecology Action completed the MLC work started by California Energy Services Corporation, implementer for the East Bay Energy Watch Program.

RightLights				Cos	ts			Target Market	
(PGE210115) Since 2006) PG <mark>8</mark> E		Audi Insta	it allation	Free Co-pay	Customers SMB <200 kW in Santa Clara, Santa Cruz, Monterey, and San Mateo counties HTR No soft goals			
Implementer –	· Falan		Avg.	Co-pay	29%			Delivery Model	
Ecology Action	Action	Action action		Some measures fully-rebated like vending machine controls		Site access agreement; facility-wide audit provides recommendations for direct install measures; implementer works with program and non-program contractor to install measures;			
	Program Performa	nce (20	13-201	4)		measure veri email custom	fication b	y PG&E's central inspection team; invoicing; y by implementer; random participants	
	Spending	k	Wh	kW	Therms	selected for F	G&E's fo	llow up survey	
Goal	\$9,498,276	19,34	41,924	2,580	-117,464	Services Of	fered	Measures	
Actual	\$9,524,667	16,79	97,299	2,339	-44,473	> Energy Aud	it	> Comprehensive lighting and controls	
% Goal Achieved	100%	8	7%	91%	38%	 Tech Assist Direct Insta 	ance	(~80%) ➤ Vending machine controls	
# of Participants	838		Convei	rsion Rate:	54-55%	 Business su 	upport	 Refrigeration measures Same as Core; Deemed impacts 	
Collat	porations			IOU supp	port	Strengt	hs	Challenges	
 LGPs help shape notify implemente opportunities and participants. 	marketing strategy, ers of outreach I identify prospective		 Customer Leads Marketing support Limited support-products, technical, engineering teams 			 High volumprogram High TRC Use of ML 	me _C	 Burden of proof to review process Parallel review process is long Sunsetting of measures 	
Marketir	vg Strategies			Coordina	ation			Late start to the program Title 24 incentive payments	
Direct: Word of mouth, door-to-door marketing, telemarketing, direct mail, in-person visits, program materials, trade shows/chamber mixers, media				rdination les exceed			Title 24 incentive payments have dropped, resulting in the implementer earning less per measure.		
			Oth	er Interes	ting Program	Elements			
 > Use of MLC allowed measures that would > Ecology Action use > Going forward, the 	d use of cutting edge be harder to under a s a self-developed too program is merging v	lighting deemed ol called vith the	technolo d scenari "Energy Energy V	gy without io. Thus m Orbit" to c Vatch part	a new workpa aximizing savir to the analysis nership	per. Great succe ngs per custome	ess; allov r.	ved them to be innovative and target	

Figure 7. PG&E's RightLights Program Fact Sheet

7.5 PG&E's Energy Fitness Program (PGE210113)

Program Summary. The Energy Fitness program is a 3P program implemented by Richard Heath and Associates (RHA) for PG&E. The program targets SMBs in more than ten counties in PG&E territory. The program serves customers with <200 kW in annual peak demand and customers in rural communities. The majority of measures installed through the program are lighting, but the program also offers refriger ation and HVAC measures. A co-pay is required for all measures. The program does not have any soft goals for reaching HTR customers. The program is called "Energy Fitness" because at the end of each project the implementer mails a final energy fitness report to the customer. The fitness report is customized to that business, summarizes the work completed and includes recommendations about other opportunities that can be done in the business and other programs they might want to participate in.

Program Delivery. RHA relies on three main channels to market the program: direct canvassing, leads from PG&E's ES&S Department, and referrals from LGPs. The program supports six different LGPs: Fresno Energy Watch, Yolo Energy Watch, North Valley Energy Watch, Madera Energy Watch, and Lake Energy Watch. RHA performs a facility-wide audit for potential participants using propriety RHA-developed software on computer tablets, making the process very quick and efficient. RHA delivers a proposal to each customer that outlines the proposed recommendations, estimated costs, and savings potential. If a customer wishes to proceed with the proposed measures, RHA will schedule and complete the installation themselves. RHA reports a conversion rate of about 41% for the program; this figure is lower for rural HTR customers (such as in north of Sacramento).

Program Activities in 2013-2014. According to self-reported data, the program only met 69% of its energy saving goals in the 2013-2014 cycle. Program successes included leveraging established community relationships and utilizing ride-alongs with PG&E to outreach to customers. Program challenges included changes to claimable savings and measures due to Title 24, and a late program start to the program due to a contract delay.

Changes in 2015. In 2015, the program is pursuing more refrigeration measures and will work more collaboratively with local Trade Professionals.

Energy Fitne	ess		Cos	ts	Target Market				
Program (PC Since 2002	GE210113) PG8		Audit Installation	Free Co-pav	CustomersSMB <200 kW in 13 countiesHTRNo soft goals; customers are in rural areas				
Implementer – Richard Heath a Associates, Inc.	and RHA	nent	Avg. Co-pay	Unknown	Delivery Model Assessment by RHA, proposal outlining savings potential are analyzed submitted to the customer; installation scheduled and conducted by RHA; inspection by RHA				
	Program Performance	(201	L3-2014)		Servio	es Offered	Measures		
Goal Actual % Goal Achieved # of Participants	Spending \$5,426,390 1 \$4,668,711 1 86% 626	kW .4,853 .0,223 69	Vh kW 3,645 2,771 3,237 2,000 % 72% Conversion Rate:	Therms -79,927 -36,679 46% 41% (lower for HTR)	 Energy A Direct In co-pays ridership Custome surveys 	Audit Istallation (with to reduce free- o) er satisfaction	 Comprehensive lighting and controls retrofits Vending machine controls Refrigeration measures Faucet aerator and showerheads Pipe insulation Pool covers Simple HVAC measures (coils) 		
Colla	aborations		IOU supp	vort	Ste	rengths	Challenges		
Colls 2013-2014 LGPs > Yolo EW > Fresno EW > North Valley EW > Madera EW Market	aborations 2015 LGPs > Lake EW > Colusa EW > Sierra Nevada EW ing Strategies	^	IOU supp Customer Leads ES&S support – Coordina Program assesso paired with PC&E	ride-alongs tion	Str > Establis relation > PG&E ri (ES&S ti > Eocus of	rengths sh community ships ide-alongs eam) in cost-	Challenges Title 24 and dispositions Late start to the program Measure changes Changes in EE savings calculations		
Colla 2013-2014 LGPs > Yolo EW > Fresno EW > Morth Valley EW > Madera EW Market Direct Canvassing b Account Rep referra contacts in commun and municipalities of Marketing materials website, in-person v	aborations 2015 LGPs > Lake EW > Colusa EW > Sierra Nevada EW ing Strategies y implementer; PG&E ls; LGPs have commercial hity and will refer schools on occasion; Direct: a (postcard, flier brochures) isit, mailing, toll-free line.	^ ^ ^	IOU supp Customer Leads ES&S support – Coordina Program assesso paired with PG&E representative Other 3P program recommended if envisages more of retrofits; coordina if upgrades exceed	ride-alongs tion or is typically ES&S n might be customer comprehensive ation with OBF ed \$5,000	Str > Establis relation > PG&E r (ES&S t > Focus o effectiv technol robust s	rengths sh community ships ide-alongs eam) in cost- e ogies with savings.	 Challenges > Title 24 and dispositions > Late start to the program > Measure changes > Changes in EE savings calculations > Co-pays can be viewed as a barrier 		
Colla 2013-2014 LGPs > Yolo EW > Fresno EW > Market Madera EW Direct Canvassing b Account Rep referra contacts in commun and municipalities of Marketing materials website, in-person v	aborations 2015 LGPs > Lake EW > Colusa EW > Sierra Nevada EW ing Strategies y implementer; PG&E ls; LGPs have commercial hity and will refer schools on occasion; Direct: a (postcard, flier brochures) isit, mailing, toll-free line.		IOU supp Customer Leads ES&S support - Coordina Program assesso paired with PG&E representative Other 3P program recommended if envisages more of retrofits; coordina if upgrades excees Other Interest	ride-alongs tion or is typically ES&S n might be customer comprehensive ation with OBF ed \$5,000 sting Program	Str > Establis relation > PG&E r (ES&S t > Focus o effectiv technol robust s	rengths sh community ships ide-alongs eam) in cost- e ogies with savings.	 Challenges > Title 24 and dispositions > Late start to the program > Measure changes > Changes in EE savings calculations > Co-pays can be viewed as a barrier 		

Figure 8. PG&E's Energy Fitness Program Fact Sheet

7.6 PG&E's Furniture Store Energy Efficiency Program (PGE210118)

Program Summary. The Furniture Store Energy Efficiency program is a 3P program implemented by Matrix Energy Services (Matrix) for PG&E. The program targets furniture stores in the PG&E territory with annual peak demand of <200 kW with both no-cost and low-cost lighting and lighting controls measures (e.g., fluorescents, LEDs, occupancy sensors). This is a vertical strategy program that targets the furniture store sector specifically, and has the first right of refusal if another program reaches a customer first. The implementer reports that about 60-70% of participants are HTR, although the program does not have any soft HTR goals.

Program Delivery. Direct canvassing, leads from ES&S, and ride-alongs with PG&E are the main strategies Matrix uses to recruit potential participants. Once recruited, Matrix will either schedule or immediately perform a lighting specific audit for the customer. If a customer wishes to proceed with a project, they must sign a customer agreement form, at which point Matrix will schedule and then complete installation at a later date. The implementer reports a high conversion rate of 80-90%.

Program Activities in 2013-2014. According to self-reported data, the program exceeded its goals in the 2013-2014 cycle, achieving 168% and 153% of its kWh and kW goals, respectively. Program successes included PG&E ride-alongs, which add credibility to the program, great communication with PG&E, and the ability to perform an immediate audit for the customer. Program challenges included losing the ability to claim savings from the sun setting of some measures, such as occupancy sensors and HVAC measures, and short notice when such changes went into effect.

Changes in 2015. There were no program changes in 2015, but the implementer reported that in 2016 they will start to serve customers with annual peak demand greater than 200 kW and also start to charge a larger copay for these larger customers.

Furniture St	ore Energy		Cos	ts		Tar	get Market		
Efficiency (F	PGE210118)	F <mark>8</mark> F	Audit Free Installation Mix of Free and Copay Avg. Co-pay Unknown		Customers SMB < 200kW, Vertical market expertise; Furniture stores HTR No soft goals; 60%-70% are HTR				
Implementer -					Delivery Model				
Matrix Energy S	Services Matr	ix m				Implementer Recruits Customer, Schedules Audit, Performs Site Assessment, Obtains Signatures on Customer Agreement			
	Program Performa	nce (20)13-2014)		Form, Installs Meas Up with Phone Call	ures, Ve by Prog	erifies Correct Installation, Follows- ram Staff or Call Center Staff for		
	Spending	k\	Wh kW	Therms	Feedback on Progra	ini Expe	enence.		
Goal	\$2,421,660	7,23	2,952 1,628	-42,170	Services Offered		Measures		
Actual	\$4,275,470	11,50	00,372 2,354	-66,019	> Energy Audit	> Co	omprehensive lighting and controls		
% Goal Achieved	177%	15	59% 145%	157%	(lighting)	retro occu	fits, including fluorescent, LED, and pancy sensors		
# of Participants	303		Conversion Rate:	80-90%	 Direct Installation 	Sam	e as Core; Deemed impacts		
Col	aborations		IOU sup	port	Strengths		Challenges		
None; vertical has first right programs	strategy. Implemente of refusal with other [r Di Di Di	 Customer lead Ride-alongs Marketing support 	s port	 Communication w PG&E Marketing the pro in tandem with PC 	rith gram 3&E	 PG&E reps are segmented – between PMs and account reps Sunsetting of occupancy 		
Marke	ting Strategies		Coordin	ation	 Being Agile and Elevible to Change 	in in	sensors		
PG&E helps with n matrix and approv Mailings, telemark marketing includir ride-alongs	narketing - proposed by red by PG&E Direct: keting, door-to-door ng account representation	/e	Very limited to c potential overlap. I of first refusal if an implementer appre- with a furniture store	oordinate Matrix has right nother paches them pre project	Flexible to Change Funding, Goals, a Changes in ES&S' Priorities	nd	 Sunsetting of HVAC measures Not enough lead time about policy/ program/savings changes 		
			Other Intere	sting Program	Elements				
 Ride-alongs wi Given policy ch pays for larger cu 	th PG&E reps helps w anges, in 2016 the p stomers and drop HT	ith cred rogram R custo	dibility and can pe is proposing to o omers to about 20	erform immedi pen scope to s 0%-30%	ate audit; wildly succe service customers with	essful. h dema	and >200kW, have higher co-		

Figure 9. PG&E's Furniture Store Energy Efficiency Program Fact Sheet

7.7 PG&E's K-12 Private Schools and Colleges Audit Program (PGE210126)

Program Summary. The K-12 Private Schools and Colleges Audit program is a 3P program implemented by Matrix Energy Services (Matrix) for PG&E. The program targets private K-12 schools in PG&E territory with both no-cost and low-cost lighting measures. There is no annual peak demand kW to participate. This is a vertical strategy program that targets private K-12 schools, and retains first right of refusal if another program reaches a customer first. There are no soft HTR goals and the program does not track HTR participation.

Program Delivery. Due to the nature of private schools, outreach is a little more formal than in other programs. Matrix will often approach schools together with PG&E during a ride-alongs, which adds considerable value to the outreach process. The team will explain the program to the school, possibly conduct the lighting-specific audit during that visit, and the school also has an opportunity to speak with the PG&E representative about any concerns they may be having with their energy use in general or their utility bill. PG&E may also refer schools to other programs or services that may be beneficial for the customer. Customers who wish to proceed with a project must sign a customer agreement form, at which point Matrix will schedule and then complete the installation at a later date. The implementer reports a conversion rate of about 50%.

Program Activities in 2013-2014. According to self-reported data, the program met 95% of its energy saving goal in the 20130-2014 cycle. Program successes included PG&E ride-alongs which add credibility to the program, great communication with PG&E, and the ability to perform an immediate audit for the customer. Program challenges included losing the ability to claim savings from the sun setting of some measures, such as occupancy sensors; short notice when such changes went into effect; and bureaucratic inefficiencies when working with school districts in general.

Changes in 2015. There were no program changes in 2015, but the implementer says in 2016 the program will expand its scope to work with public schools and outreach to these schools via LGPs. New measures, such as linear LEDs, are also expected to be offered in 2016.

K-12 Private	K-12 Private Schools and			sts	Target Market				
Colleges Aud	it (PGE2101	26) PG&E	Audit Installation	Free Mix of Free	Customers SMB; School HTR No sc	Vertical market expertise; K-12 Private ols oft goals			
Implementer -			and Copay Avg. Co-pay Unknown		Delivery Model				
Matrix Energy S	Matrix Energy Services Matrix					Implementer Recruits Customer, Schedules Audit, Performs Site Assessment, Obtains Signatures on Customer Agreement			
	Program Pe	rformance (20:	13-2014)		Form, Installs Measures, Verifies Correct Installation, Follows- Up with Phone Call by Program Staff or Call Center Staff for				
	Spending	kV	Vh kW	Therms	Feedback on Progra	am Experience			
Goal	\$1,695,31	2 4,075	5,921 1,031	-54,824	Services Offered	Measures			
Actual	\$1,884,84	3 3,777	7,677 349	-30,926	➤ Energy Audit	> Comprehensive lighting and controls			
% Goal Achieved	111%	93	3% 34%	56%	 Tech Assistance Direct Installation 	 Exterior lighting and controls 			
# of Participants	83		Conversion Rate	50%	Procentistanduli	Same as Core; Deemed impacts			
Coll	aborations		IOU sup	oport	Strengths	Challenges			
 None; vertical st first right of refu 	rategy. Implem sal with other D	enter has >)I programs >	 Customer leads Ride-alongs 	1	> Communication	Sometimes working with schools can be difficult			
Marketing St	rategies		Coordination		 PG&E ride-alongs 	especially large schools			
Direct: Mailings, telemarketing, do marketing includ representative ri	Marketing Strategies Coordination virect: Mailings, elemarketing, door-to-door narketing including account epresentative ride-alongs > ES&S rep conducts ride-along and informs customer of program offerings while implementer conducts energy audit > ES&S rep can inform customer of OBF. Matrix has right of first refusal if another implementer approaches them with a furniture store project					 Sunsetting of occupancy measures Limited to lighting retrofits Title 24 and dispositions Co-pays can be viewed as a barrier 			
			Other Intere	sting Program	Elements				
 Ride-alongs with Given policy change measures estimates 	th PG&E rep h anges, in 201 specially linear	elps with credit 6 the program i r LEDs	pility and can pe is proposing to c	rform immedia open scope to s	ate audit; wildly succe service public school	ssful. by working with LGPs as well as offer			

Figure 10. PG&E's K-12 Private Schools and Colleges Audit Program Fact Sheet

7.8 PG&E's LodgingSavers Program (PGE210111)

Program Summary. The LodgingSavers program is one of three 3P DI Programs implemented by Ecology Action (EA) for PG&E. The program targets the hospitality industry, specifically small and medium hotels, motels, and inns. There is no kW cap to participate and any hotel, motel or inn is eligible to participate as long as they are within PG&E territory, although about 80% of participants have <200 kW in annual peak demand. The program offers either a custom track or a deemed/MLC track, based on the number of rooms in a facility. Any hotel or motel with more than 400 rooms must follow the custom project route; below 400 rooms and the project follows the MLC track. This is one of the few programs that is not focused around lighting measures - about 20% of projects are lighting, while 80% are PTAC Energy Management Systems. Most measures require a co-pay (average co-pay for the program is about 29%), although some measures (such as vending machine controls) are free. The program does not have any soft goals for reaching HTR customers.

Program Delivery. EA has been most effective in recruiting customers through direct canvassing, and also via referrals from past program participants. The program collaborates with several LGPs to help market the program, including San Mateo County, San Mateo City Association of Governments, Silicon Valley Energy Watch, and the Association of Monterey Bay Area Governments Energy Watch. Customers undergo a facility-wide audit and are presented recommendations for energy saving measures. If the customer agrees, EA will work with program and non-program contractors to install the desired measures. The implementer reports a conversion rate of about 75%. The implementer attributes the high conversion rate to their diligence in vetting customers prior to committing resources to conduct an audit.

Program Activities in 2013-2014. According to self-reported data, the program exceeded all of its goals considerably in the 2013-2014 cycle. A key success was the ability to use the MLC, which enabled the program to be innovative. Notably, EA developed the final version of the MLC⁴⁰, which is being used by implementers today. EA not only tailored projects for customers to maximize total savings, but also targeted measures that would be harder to install under a strictly deemed scenario. The program also invests time with customers and tries to be more thoughtful in developing projects, so as to maximize project savings for each customer, which aligns very well with EA's incentive structure (they are paid per kWh saved). There were several key challenges: Title 24 which prevented EA from doing comprehensive projects without triggering code and making projects uneconomical for customers, a long project review process (up to 8 months) for MLC projects because they are considered custom, having to shoulder the burden of proof in proving 'early replacement' as opposed to 'replace on burnout' measures, and the sun setting of some measures offered through the program.

Changes in 2015. The amount of claimable savings for some measures reduced in 2015, meaning the program earned less towards its savings goals in 2015 for the same types of measures it installed in 2014. Please see the Section 4.2.2 Program Strengths and Challenges for additional discussion on this point. Otherwise, the program has remained the same for the most part.

⁴⁰ Ecology Action completed the MLC work started by California Energy Services Corporation, implementer for the East Bay Energy Watch Program.

LodgingSave	ers		Cos	ts	Target Market			
(PGE210111 Since 2006	L) PG <mark>8</mark> E		Audit Free Installation Co-pay Avg. Co-pay 29% Some measures fully-rebated like vending machine controls		CustomersSMB; <200 kW, cap of 400 guest rooms; over 400 rooms must go custom.HTRNo soft goals; 70% customers are <200kW			
Implementer – Ecology Action	Ecology Action	Hepng poppe act now			Delivery Model Site access agreement; facility-wide audit provides recommendations for direct install measures; custom projects receive a more detailed audit and engineering review; implementer works with program and			
	Program Performa	ance (201	13-2014)		non-program contra PG&E's central insp	ctor to install measures; measure verification by ection team; invoicing; email customer survey by		
	Spending	kV	Vh kW Therms		implementer; random participants selected for PG&E's follow up survey			
Goal	\$6,542,368	13,04	5,130 3,766	9,592	Services Offered	Measures		
Actual	\$9,798,604	15,46	9,088 5,126	-12,626	> Energy Audit	 Comprehensive lighting and controls retrofits 		
% Goal Achieved	150%	119	9% 136%	-132%	 Direct Installation 	 (exterior, common areas, guest rooms) Package AC refrigerant charge and airflow 		
# of Participants	191		Conversion Rate:	80%	(smaller customers)	 adjustments (RCA) and AC coil cleaning; Vending machine controls and food service equipment replacement; 		
Colla	aborations		IOU support		Coordination	 In-room PTAC controls; and Refrigeration door gaskets and strip curtains 		
 San Mateo County City Association of 	Governments		 Some leads from Engineering row 	m ES&S	None	facility, custom for larger project		
Silicon Valley EW, A	AMBAG EW		 Engineering rev (custom), verific 	ation		Challenges		
Marketi	ng Strategies		 Marketing supp 	 Marketing support 		f to review process		
Direct: Telemarketing; mailers, limited TV and	industry associations; d radio. The maiority of le	ads	Strong	the	 Parallel review Supsetting of n 	process is long		
come from this direct of mouth from past pr cases, potential partic direct call or site visit Action's field staff.	canvassing work or by wo ogram participants. In mo ipants have received a from a member of Ecolog	y	 > Use of MLC > No upfront pay 	yment	 Suffsetting of measures Late start to the program Title 24 incentive payments have dropped, resulting in the implementer earning less per measure. 			
			Other Intere	sting Program	Elements			
 Ecology Action v The program for The program has 	vets customers prio cus is less on lightir as a custom compon	r to comm ig and mo ent whic	nitting resources ore on PTAC mea h allows for very	; attributed to sures (about 2 specialized lig	high close rate of 8 20% lighting and ab ghting installs	30% bout 80% - PTAC EMS)		

Figure 11. PG&E's LodgingSavers Program Fact Sheet

7.9 PG&E's Casino Green Program (PGE210122)

Program Summary. The Casino Green Program is one of three 3P DI programs implemented by Ecology Action (EA) for PG&E. The program has an additional implementer - Nexant. EA implements the deemed/MLC portion of the program while Nexant implements the custom portion of the program. The program targets commercial properties on tribal land, especially casinos. The program does not have a demand cap for determining eligibility and all participants have been >200 kW in annual peak demand; most are >500 kW. About 80% of the measures installed through the program are lighting. Most measures require a co-pay (average co-pay for the program is about 29%), although some measures (such as vending machine controls) are free. Tribes are an underserved sector and so the program's participants are all considered HTR customers.

Program Delivery. To market the program, EA has built relationships with tribal councils over time, as the implementer reports that trust has been one issue that previously prevented tribes from wanting to participate in a utility program. Therefore, PG&E has been hands-off in implementing the program. Once recruited, customers undergo a comprehensive, facility-wide audit and are presented recommendations for energy saving measures. If the customer agrees, EA will work with program and non-program contractors to install the desired measures. The implementer reports a conversion rate of about 70% for the program.

Program Activities in 2013-2014. According to self-reported data, the program exceeded its kWh goals but fell short of its kW goal in the 2013-2014 cycle. Key program successes were EA's strategy to outreach to tribes without involvement from PG&E, and use of the MLC which enabled the program to be innovative. Notably, EA developed the final version of the MLC⁴¹, which is being used by implementers today. EA not only tailored projects for customers to maximize total savings, but also targeted measures that would be harder to install under a strictly deemed scenario. There were several key challenges: Title 24 which prevented EA from doing comprehensive projects without triggering code and making projects uneconomical for customers, a long project review process (up to 8 months) for MLC projects because they are considered custom, having to shoulder the burden of proof in proving 'early replacement' as opposed to 'replace on burnout' measures, and the sun setting of some measures offered through the program.

Changes in 2015. The amount of claimable savings for some measures reduced in 2015, meaning the program earned less towards its savings goals in 2015 for the same types of measures it installed in 2014. Please see the Section 4.2.2 Program Strengths and Challenges for additional discussion on this point. Otherwise, the program has remained the same for the most part. Starting in 2016, PG &E would like to be more involved in managing relationships with the tribes, according to the implementer.

⁴¹ Ecology Action completed the MLC work started by California Energy Services Corporation, implementer for the East Bay Energy Watch Program.

Casino Gree	Casino Green			sts	Target Market				
(PGE21012: Since 2009	2) PG <mark>8</mark> E		Audit Free Installation Co-pay		Customers Casinos - All over 200 kW; most >500 kW HTR NA				
Implementers – Ecology Action and Nexant	Ecology reserve	lexant	Avg. Co-pay Some measures f vending machine	Avg_ Co-pay 29% Some measures fully-rebated like vending machine controls		Delivery Model Site access agreement, facility-wide audit including upgrade proposal, contractor schedules appointment for installation and notifies Ecology Action upon completion, post-installation inspection by Ecology Action upon which incentive is paid to contractor; follow.			
	Program Performa	ance (201	13-2014)		up with customer	upon which incentive is paid to contractor; follow- survey			
Goal Actual % Goal Achieved # of Participants	Spending \$2,219,365 \$2,103,560 95% 12	kW 4,886 3,268 67	Vh kW 5,061 1,500 3,830 434 % 29% Conversion Rate:	Therms 67,306 -10,724 -16% 70%	Services Offere Energy Audit Direct Installation (some)	ed Measures > Lighting (~80%) > Refrigeration > HVAC and Motors > Controls and Hot water > Custom component (by Nexant) Same as Core; Custom and Deemed impacts			
Colla	aborations		IOU sup	port	Strengths	Challenges			
None. There are with tribal course	re attempts to work ncils	N	lone		 Use of MLC Good custom 	 Burden of proof to review process Parallel review process is long 			
Marketing Strategies Direct: Marketing focused on relationship-building with tribal councils; marketing materials			Coordina None	ition	 Custom installation 	 Sunsetting of measures Late start to the program Title 24 incentive payments have dropped, resulting in the implementer earning less per measure. 			
			Other Intere	sting Program	Elements				
➤ Given the unique of the	ue market of Casino	s, all mari	keting has to be	focused with	building relationsh	ips with the tribes			

Figure 12. PG&E's Casino Green Program Fact Sheet

7.10 PG&E's The Energy Alliance Association Program (PGE210114)

Program Summary. The Energy Alliance Association (TEAA) program (formerly Energy Savers) is a 3P program implemented by TEAA for PG&E. The program targets SMBs, including government buildings and non-profits, in Napa, Sonoma, Solano, and Mendocino counties that are not already being served by other vertical PG&E programs (e.g., Furniture Store program, K-12 School program). The majority of measures installed through the program are lighting, with refrigeration and HVAC offered to a lesser extent. A co-pay is required for all measures, but it is tiered based on the following groupings: annual peak demand of 0-199 kW; annual peak demand of 200-500 kW; and government or non-profit. The program does not have any soft goals for reaching HTR customers, although the program does serve customers with <200 kW in annual peak demand.

Program Delivery. Because the program has been around since 2002, TEAA has developed long-standing relationships with the community and relies mainly on word of mouth to generate new projects. Leads comes from PG&E's ES&S Department, LGPs, contractors, or past program participants. In terms of LGPs, the program collaborates with the Chamber of Commerce, the Rotary Club, Green Business Organizations, and Building Contractors (among others) to help get the word out about the program. As such, there is little need for direct canvassing. Once a customer is interested, they undergo a facility-wide audit and are presented with a cost-savings recommendation report outlining the energy saving opportunities and associated costs and payback. If the customer agrees to the measures, they sign a program participation agreement, and measures are installed either by a local contractor or by the customer (if desired). A final installation report is produced at the completion of the project.

Program Activities in 2013-2014. According to self-reported data, the program met about 65% of its energy goals in the 2013-2014 cycle. Key program strengths were the personalized business relationships with customers cultivated over time, strong relationships with contractors, and a good understanding of how to find the right decision maker at each type of business. Key challenges included competition from other vertical programs, and the loss of savings from measures that retired mid-cycle.

Changes in 2015. In 2015, projects completed under the TEAA program now are branded as Energy Watch projects (i.e., in the particular Energy Watch geography that the project is completed in). This has made it more difficult for TEAA to shift program funding one from county to another to serve additional demand as needed, as had been the case in 2013-2014. The amount of claimable savings for some measures reduced in 2015, meaning the program earned less towards its savings goals in 2015 for the same types of measures it installed in 2014. Please see the Section 4.2.2 Program Strengths and Challenges for additional discussion on this point. Besides these changes, the program has remained relatively the same.

TEAA (formerly	TEAA (formerly Energy Savers)			sts	*	Target Market		
(PGE210114 Since 2002	4) PG <mark>8</mark> E		Audit Installation Avg. Co-pay	Free Co-pay Unknown	Customers HTR	SMB; Gov Napa, So 0-199kW No soft g	/'t and Non-Profits; businesses in the counties of noma, Solano, and Mendocino; Tiered incentives /, 200-500 kW pals;	
Implementer – The Energy Allia	ance TEA	4			Delivery Model			
Association					Audit, cost savings recommendation report, program participation agreement, installation by contractor, final installation report			
	Program Performance	(201	13-2014)					
	Spending	kV	Vh kW	Therms	Services Of	ffered	Measures	
Goal	\$2,417,320	6,302	2,595 1,224	-28,731	➤ Energy Audi	it	 Lighting and controls retrofits 	
Actual	\$2,645,674	3,986	5,608 740	-9,816	Tech Assist	ance	 Exterior lighting and controls; Occupancy sensors 	
% Goal Achieved	109%	63	3% 60%	34%			 Vending machine controls 	
# of Participants	299		Conversion Rate:	Unknown			 Refrigeration Same as Core: Deemed impacts 	
Coll	aborations		IOU sun	port	Strong	the	Ohellender	
> Active with lots	Collaborations > Active with lots of business organizations: Chamber of Commerce, Rotary, County Fairs, Non-profits, GreenBiz Orgs, Building Contractors,			Customer leads Referrals from Account Reps and ES&S Coordination			Challenges Competition on market share from vertically integrated programs (Furniture Store, Schoole, Barking Garages, etc.)	
organizations: C Rotary, County F GreenBiz Orgs, I LGEAR Program	chamber of Commerce, Fairs, Non-profits, Building Contractors,	À	Customer leads Referrals from Ar and ES&S Coordina	ccount Reps ation	 Personali: business relationsh Learning 	zeu nips who the	from vertically integrated programs (Furniture Store, Schools, Parking Garages, etc.).	
Additional and a second	ing Strategies relationships with ecade); relies on leads Word of Mouth, ogram		 Referrals from A and ES&S Referrals to Con measures not co program throug rep. Referrals to OB projects. 	ation re for covered in the ch account F for larger	 Personall business relationsh Learning decision-r are Building s relationsh contracto 	zeu who the makers strong hips with irs	 Competition on market share from vertically integrated programs (Furniture Store, Schools, Parking Garages, etc.). Measures that retired while customers were still deciding on project; reduced savings. 	
Additional	Anomeroe of Commerce, Fairs, Non-profits, Building Contractors, Ing Strategies relationships with ecade); relies on leads Word of Mouth, ogram		 Customer leads Referrals from A and ES&S Coordina Referrals to Col measures not c program throug rep. Referrals to OB projects. Other Interer 	ation re for covered in the ch account F for larger sting Program	 Personally business relationsh Learning decision-rare Building s relationsh contracto 	ips who the makers strong hips with rs	 Competition on market share from vertically integrated programs (Furniture Store, Schools, Parking Garages, etc.). Measures that retired while customers were still deciding on project; reduced savings. 	

Figure 13. PG&E's The Energy Alliance Association Program Fact Sheet

7.11 PG&E's Kern, Santa Barbara, San Luis Obispo, and Valley Innovative EW Programs

Program Summary. Staples Energy, a 3P implementer, implements four LGP run commercial DI program offered by PG&E; these include Kern Energy Watch, Santa Barbara Energy Watch, San Luis Obispo Energy Watch and Valley Innovative Energy Watch programs. These four LGP programs have the same implementation process and thus are discussed in aggregate here. The programs offer primarily lighting measures with some refrigeration, HVAC, and strip curtain measures. The program is available to any SMBs provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). However, the programs do not cater to some sectors including hotels/motels, chain stores, movie theaters and bowling alleys. The programs do not offer tiered incentives to small customers nor do they have any soft goals of reaching the HTR segment.

Program Delivery. The programs primarily recruit through their own efforts with only about 15% of leads generated by PG&E. Outreach efforts include on-the-ground canvassing by the implementer, cold calls to customers and referrals from past customers. After the no-cost audit is performed by the implementer, customers must sign an authorization form to proceed with installation, which is performed at a later date by program contractors (mostly in-house installers; some are outsourced). In 2013-2014, primarily deemed lighting measures were offered through the program at a co-pay averaging at about 10% of the total project cost.

Program Activities in 2013-2014. According to self-reported data, the programs met their goals in the 2013-2014 cycle (achieving 103% of kWh and 105% of kW goals). Program successes included a strong customer focus, flexibility to change measure mix, and strong communication with PG&E. Key challenges were the impact of the changes to the claimed savings calculations which affected reaching saving goals, impact of Title 24, which reduced the number of lighting fixtures that could be retrofitted, the parallel review process, and the long process required for the approval of new technologies.

Changes in 2015. Starting 2015, the programs are adapting to the changing policy and market landscape by working more with trade allies to market the programs and recruit customers.

Figure 14. PG&E's Kern, Santa Barbara, San Luis Obispo, and Valley Innovative EW Programs Fact Sheet



7.12 PG&E's East Bay Energy Watch Program (PGE211009)

Program Summary. The East Bay Energy Watch Program is an LGP run commercial DI program offered by PG&E. There are three program implementers, California Energy Services Corporation, Quantum Energy Services & Technologies Inc., and DNV-GL, who operate within the East Bay's territory. The program offers primarily lighting measures with some refrigeration measures. The program is available to any SMBs provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). While the program primarily services small customers (<100 kW), they have the flexibility to service larger customers (> 200 kW) on approval from PG&E. Given this demand criteria structure, the program offers higher incentives to customers with <100 kW of annual peak demand (i.e., tiered incentives). The program does not have any soft goals of reaching the HTR segment.

Program Delivery. The program primarily recruits through referrals and leads from PG&E, on-the-ground canvassing by implementers, and contractor referrals. The program implementers perform the outreach efforts along with the building audits, while local contractors are recruited to perform the actual installations and retrofits. After the no-cost audit is performed by one of the three program implementers, customers must sign an authorization form to proceed with installation, which is performed at a later date by local contractors. In 2013-2014, primarily deemed lighting measures were offered through the program at a co-pay averaging at about 50% to 75% of the total project cost. Notably, California Energy Services Corporation was the originator of the Modified Lighting Calculator that is now used by the CPUC to calculate savings.

Program Activities in 2013-2014. According to self-reported data, the program only met 35% of its energy saving goals in the 2013-2014 cycle. Program successes included a strong customer focus, an established infrastructure for running the program including a web portal where contractors can view program information, and strong communication with PG&E. Key challenges were the impact of the changes to the claimed savings calculations which affected reaching saving goals, sun setting of frequently installed measures, and overlap in territory with other DI programs.

Changes in 2015. Starting 2015, the program is adapting to the changing policy and market landscape by incorporating LEDs as measure offerings. In addition, the program is required to fill out Net-To-Gross (NTG) surveys for every project performed.

East Bay Energy Watch		Costs	Target Market		
(PGE210009) Since 2004	Audit Installa	Free tion Co-pay	Customers SMB; (exclud HTR No sof	CESC-Primarily small. DNV-GL-<200 kW; led from vertical segments. Tiered incentives ft goals	
Implementers – California Energy Services Corporation; Quest; DNV-GL	Avg. Co	-Pay 50%-75%	Delivery Model Site access agreement, facility-wide audit including upgrade proposal, contractor schedules appointment for installation		
Program Performanc	e (2013-2014)	and notifies upon completion, post-installation inspection by implementer upon which incentive is paid to contractor			
SpendingGoal\$11,777,380Actual\$8,475,377% Goal Achieved72%# of Participants4.995	kWh 41,875,000 \$ 15,651,918 2 37% Conversion	kW Therms 5,600 - 2,019 4,523 36% NA Rate: Unknown	Services Offered Audit Technical Assistance Verification	Measures Lighting (primarily) Refrigeration 	
Collaborations	10	U support	Strengths	Challenges	
 Local contractors (for project installations Cities Marketing Strategies Direct: Door-to-door walking campaigns, contractor referrals 	 Customer Ride-along Marketing Control None 	leads gs { support ordination	 Flexibility Infrastructure Web portal where contractors can view steps of program Customer service Communication with PG&E 	 Changes in claimed saving calculations Sunsetting of measures Overlap with other programs 	
	Other I	Interesting Program	Elements		
 Going forward the program is offering the california Energy Services Corporation 	more LED measu was the origina	ures and if going to tor of the MLC	require customers to t	fill out a NTG form	

Figure 15. PG&E's East Bay Energy Watch Program Fact Sheet

7.13 PG&E's Marin County Energy Watch Program (PGE211013)

Program Summary. The Marin County Energy Watch Program is an LGP run commercial DI program offered by PG&E. There are two program implementers, the County of Marin Community Development Agency and California Energy Services Corporation (also implements the East Bay Energy Watch program), who operate within Marin County's territory. The program offers primarily lighting measures to any SMB, municipal building (in collaboration with the Marin Energy Management Team), schools, non-profit buildings, and multifamily buildings (5 or more units) provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). Given this demand criteria structure, the program offers higher incentives to customers with <100 kW of annual peak demand (i.e., tiered incentives). The program does not have any soft goals of reaching the HTR segment.

Program Delivery. The program primarily recruits through referrals and leads from PG&E, on-the-ground canvassing by implementers, cold calls to customers and contractor referrals. The program also collaborates with local associations and the chambers of commerce for outreach efforts to help recruit customers. The program implementers perform the outreach efforts along with the building audits, while local contractors are recruited to perform the actual installations and retrofits. After the no-cost audit is performed by one of the two program implementers, customers must sign an authorization form to proceed with installation, which is performed at a later date by local contractors. In 2013-2014, primarily deemed lighting measures were offered through the program at a co-pay. Notably, the program also receives funds from the Marin Clean Energy, which helps create synergies in marketing tactics and outreach efforts.

Program Activities in 2013-2014. According to self-reported data, the program only met 17% of its energy saving goals in the 2013-2014 cycle. Program successes included a strong customer focus, flexibility in program implementation and strong communication with PG&E. Key challenges were the impact of the changes to the claimed savings calculations which affected reaching saving goals, impact of Title 24, which reduced the number of lighting fixtures that could be retrofitted, use of the modified lighting calculator for estimating program savings (the CPUC retired the whitepaper previously used by the program, thereby reducing claimed savings by almost 40%), and the sun setting of frequently installed measures.

Changes in 2015. Given the changes in claimed savings, starting 2015, the program is reducing its neighborhood canvassing efforts as a way of saving program budget for actual projects.

Marin County Energy		Costs		Target Market				
Watch (PGE211013)		Audit Installation	Free Co-pay	Customers SMB, municipal buildings, schools, non-profits; MF buildings (5 or more units) <200 kW; Tiered incentives HTR No soft goals				
Implementers – County of Marin Community Development Agency and California Energy Services Corporation		Avg. Co-Pay Unkno		Site access agre proposal, contra potifies upon co	Delivery Model ant, facility-wide audit including upgrade schedules appointment for installation and tion, post-installation inspection by			
Program Performance (2013-2014)					implementer up	implementer upon which incentive is paid to contractor		
Goal	Spending \$1,800,000	kV 5,077	Vh kV 7,758 750	7 Therms	Services Offer	ed Measures		
Actual % Goal Achieved	\$1,290,823 72%	1,050	0,190 12	5 -5,512 6 NA	 Technical Assistance 	2 Frinding		
# of Participants	1,178		Conversion Rat	e: Unknown	 Verification 			
Coll Coordinate w/M to service munit Local contractor Chambers of co Local association Market Direct Neighborh to-face, cold calls	Collaborations oordinate w/Marin Energy Management o service municipal building and schools ocal contractors (installations) hambers of commerce ocal associations Marketing Strategies ect Neighborhood canvassing, face- ace, cold calls, contractor referrals		IOU s Customer lea Ride-alongs Marketing su Coord None	IOU support Customer leads Ride-alongs Marketing support Coordination		 Challenges Changes in claimed saving calculations Title 24 Use of MLC (CPUC decided to retire their whitepaper and use the MLC-this decreased savings by about 40%) Sunsetting of measures 		
			Other Int	eresting Progra	m Elements			
 This program is Given the reductant 	s co-run with fund re ction in claimed savi	ceived fro ings and t	om Marin Clea thereby tighte	an Energy er budgets, the	program ceased ne	ighborhood canvassing as an outreach		

Figure 16. PG&E's Marin County Energy Watch Program Fact Sheet

7.14 PG&E's Redwood Coast Energy Watch Program (PGE211016)

Program Summary. The Redwood Coast Energy Watch Program is an LGP run commercial DI program offered by PG&E implemented by the Redwood Coast Energy Authority. The program offers primarily lighting measures to any SMB provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). The program does not offer tiered incentives to small customers nor does it have any soft goals for reaching the HTR segment. Notably, this program is the only DI program within the CA DI commercial programs that is not performance based (i.e., the program gets paid regardless of the savings achieved). The program also has the flexibility to receive grants for projects (such as Prop 39 funding for schools), which helps create marketing and outreach synergies for the DI program.

Program Delivery. The program primarily recruits through its own marketing efforts with some leads coming from PG&E. The main marketing tactics include newspaper and television advertisements, on-the-ground canvassing and targeted campaigns, word of mouth referrals from past participants and repeat customers. The program also gets referrals from local contractors and the residential programs. The program implementers perform the outreach efforts along with the building audits, while local contractors are recruited to perform the actual installations and retrofits. After the no-cost audit is performed, customers must sign an authorization form to proceed with installation, which is performed at a later date by local contractors. In 2013-2014, primarily deemed lighting measures were offered through the program at a co-pay.

Program Activities in 2013-2014. According to self-reported data, the program exceeded its goals in the 2013-2014 cycle (reached 107% of kwh and 188% of kW goals) and the program self-reports a low conversion rate of about 20% (i.e., from audit to installation). Program successes included a strong customer focus, established relationships with customers, and the ability of the program to offer LED measures. Key challenges were the impact of the changes to the claimed savings calculations which affected reaching saving goals, use of the modified lighting calculator for estimating program savings, and impact of Title 24, which reduced the number of lighting fixtures that could be retrofitted. The implementer also reported internal challenges during the 2013-2014 program cycle due to organization restructuring (new hires and moving office location).

Changes in 2015. No major program changes are proposed for 2015.

Redwood Coast Energy		Costs		Target Market			
Watch (PGE211016)		Audit Installation	Free Free and	Customers HTR	SMB; No sot	<200 kW ft goals	
Implementer – Redwo Coast Energy Authorit	mplementer - Redwood Coast Energy Authority Program Performance (1		Avg. Co-Pay	Co-pay Unknown	Delivery Model Site access agreement, facility-wide audit including upgrade proposal, contractor schedules appointment for installation and notifies upon completion, post-installation inspection by implementer upon which incentive is paid to contractor		
Goal Actual % Goal Achieved # of Participants	Spending \$460,000 \$411,796 90% 843	kV 2,019 2,728 13	Mh kW 9,956 223 8,972 486 5% 218% Conversion Rate:	Therms - -13,768 NA 20%	Services Offered > Audit > Technical Assistance > Verification		Measures Primarily lighting
Colla > 3P implemente > Local contractor comprehensive Marketi Direct and Indirect: canvassing, word-or targeted campaign leads from the resid	aborations ers ors (for more e installations) ng Strategies : Newspaper ads of-mouth, TV-spot s, repeat custom dential programs	, s, ers,	IOU supp Some customer I Marketing suppo Coordina None	port leads rt tion	Streng Custome service Local tou of the communi Measure includes	t hs r ich (part ity) list LEDs	 Challenges Changes in claimed saving calculations Title 24 Use of the MLC Internal changes (new hires, office shift)
			Other Interes	ting Program	n Elements		
 The only progra Able to use grad For 2016, the program 	m where budge nt money for pro program is going	et is not tied to ojects (e.g F g to propose g	o savings, i.e. not Prop 39 funds for goals to PG&E rat	a performan schools) her than bein	ce based prog g assigned the	ram e goals	

Figure 17. PG&E's Redwood Coast Energy Watch Program Fact Sheet

7.15 PG&E's Sierra Nevada Energy Watch Program (PGE211021)

Program Summary. The Sierra Nevada Energy Watch Program is an LGP run commercial DI program offered by PG&E. There are three program implementers, the Sierra Business Council, Staples Energy, and Richard Heath & Associates. The program offers primarily lighting measures with some refrigeration measures. The program is available to any SMB, municipal building, and non-profit building provided they meet size requirements (<200 kW of annual peak demand in 2013-2014). Given this demand criteria structure, the program offers higher incentives to customers with <100 kW of annual peak demand (i.e., tiered incentives). The program does not have any soft goals of reaching the HTR segment.

Program Delivery. The program primarily recruits through referrals and leads from PG&E (about 70%), contractor referrals (about 15%), and word of mouth and canvassing efforts (about 5%). The program implementers perform the outreach efforts along with collaboration with some 3P programs and the chambers of commerce, while local contractors are recruited to perform the actual installations and retrofits. After the no-cost audit is performed by one of the three program implementers, customers must sign an authorization form to proceed with installation, which is performed at a later date by local contractors. In 2013-2014, primarily deemed lighting measures were offered through the program.

Program Activities in 2013-2014. According to self-reported data, the program met 82% of its energy saving goals in the 2013-2014 cycle and the program self-reports a conversion rate of about 30%-50% (i.e., from audit to installation). Program successes included strong ties to the community (as many staff members live within the communities they serve) and strong established relationships with customers. Key challenges were the impact of the changes to the claimed savings calculations which affected reaching saving goals, impact of Title 24, which reduced the number of lighting fixtures that could be retrofitted, sun setting of frequently installed measures and the parallel review process.

Changes in 2015. No major program changes are proposed for 2015.

Sierra Nevada Energy			Costs		Target Market		
Watch (PGE2 Since 2010	Watch (PGE211021)		Audit Installation	Free Co-pay	Customers SMB; tiered HTR No so	<200 kW, municipal buildings, non-profits; I incentives ft goals	
Implementers – Sierra Business Council, Staples and Richard Heath & Associates	SIERRA BUSINESS COUNCIL PROVIDE GOUNT		Avg. Co-Pay	Unknown	Site access agreeme proposal, contractor notifies upon comple	Delivery Model ant, facility-wide audit including upgrade schedules appointment for installation and ation, post-installation inspection by	
Program Performance (2013-2014)					implementer upon which incentive is paid to contractor		
Goal Actual % Goal Achieved # of Participants	Spending \$2,954,152 3 \$2,784,892 0 94% 534	kWh 8,241,2 6,706,0 81% Co	kW 287 1,227 036 1,006 0 82% onversion Rate: 1	Therms - -19,858 NA 30%-50%	Services Offered > Audit > Technical Assistance > Verification	Measures Lighting Refrigeration 	
Colla	aborations		IOU sup	port	Strengths	Challenges	
 > 3P implemente > Local contractor > Chambers of contractor 	ers ors (installations) ommerce	AA	 Customer Leads Marketing support Coordination 		 Staff live in the community – local touch Local communities 	 Changes in claimed saving calculations Title 24 Sunsetting of measures 	
Marketing Strategies Direct: 70% leads from PG&E, 15% from contractor referrals, and 5% word of mouth canvassing, newspapers ads, email blasts, mail inserts		Other 3P prog	rams	ues	Parallel review process		
mail inserts							
mail inserts			Other Interes	sting Program	Elements		

Figure 18. PG&E's Sierra Nevada Energy Watch Program Fact Sheet
7.16 PG&E's San Francisco Energy Watch Program (PGE211024)

Program Summary. The San Francisco Energy Watch Program is an LGP run commercial DI program offered by PG&E implemented the San Francisco Department of the Environment. The program offers primarily lighting measures with some refrigeration, HVAC and boiler measures. The program is available to any commercial building within the program territory. It is one of the few non-sector specific programs that does not have demand criteria, however it does have a tiered incentive structure where smaller customers (<100 kW of annual peal demand) can receive higher incentives. While the program serves primarily small customers (<100 kW), it also has the flexibility to serve larger customers (> 200 kW) with approval from PG&E. Given this demand criteria structure, the program offers higher incentives to customers with <100 kW of annual peak demand (i.e., tiered incentives). The program does not have any soft goals of reaching the HTR segment.

Program Delivery. The program primarily recruits through referrals and leads from PG&E, word of mouth referrals from past customers, and outreach efforts with several trade/merchant associations, including property management groups, apartment associations, the Building Owners and Managers Association (BOMA), building engineering companies, and the Business Council on Climate Change (BC3). The program implementers perform the outreach efforts along with the building audits, while local contractors are recruited to perform the actual installations and retrofits. After the no-cost audit is performed by the implementers, customers must sign an authorization form to proceed with installation, which is performed at a later date by local contractors. In 2013-2014, primarily deemed lighting measures were offered through the program at a co-pay averaging at about 10% of the total project cost.

Program Activities in 2013-2014. According to self-reported data, the program only met 60% of its energy saving goals in the 2013-2014 cycle. Program successes included a strong customer focus, flexibility in setting incentives, and strong relationships established with customers. The program faced two key challenges: (1) Title 24 which limited the number of lighting fixtures that could be retrofitted, and (2) a reduction in the amount of claimable savings for some measures, which led to the program earning less towards its savings goals in 2015 for the same types of measures it installed in 2014. Please see the Section 4.2.2 Program Strengths and Challenges for additional discussion on this point.

Changes in 2015. No major program changes are proposed for 2015.

San Francisco Energy Watch (PGE211024) Since 2006			Costs		Target Market	
			Audit Installation	Free Free and Co-pay	Customers All commercial buildings, only gas for municipal buildings; no demand criteria; tiered incentives HTR No soft goals; about 14%	
			Avg. Co-Pay 10%		Delivery Model Site access agreement, facility-wide audit including upgrade proposal, contractor schedules appointment for installation and notifies upon completion, post-installation inspection by implementer upon which insertive is paid to contractor.	
	Program Performan	ce (201	13-2014)		Implementer upon w	hich incentive is paid to contractor
Goal Actual % Goal Achieved # of Participants	Spending \$13,100,000 \$7,930,322 61% 836	kV 28,56 16,61 58 (Wh kW 10,240 4,319 7,110 3,368 3% 78% Conversion Rate:	Therms - 36,968 NA Unknown	Services Offered > Audit > Technical Assistance > Verification	Measures Primarily lighting (~50%) Refrigeration HVAC Boilers
Collaborations			IOU su	oport	Strengths	Challenges
					and the second	
 Merchant and A Business Cound Building Owners Property Manage Building Engine Market Direct: word of m trade/merchant calls to past cust	Apartment associations cil on Climate Change s & Managers Associatio gement Groups ering Companies ing Strategies nouth (biggest); association meetings; comers	n P	 Customer lead Marketing sup Coordin None 	ls iport ation	 Customer service Strong customer relationships Quick payment process Flexibility in setting incentives 	 Changes in claimed saving calculations Title 24
 Merchant and A Business Cound Building Owners Property Manage Building Engine Market Direct: word of m trade/merchant calls to past cust	Apartment associations cil on Climate Change s & Managers Associatio gement Groups ering Companies ing Strategies nouth (biggest); association meetings; comers	n P	 Customer lead Marketing sup Coordin None Other Interd 	is iport ation sting Program	 Customer service Strong customer relationships Quick payment process Flexibility in setting incentives 	 Changes in claimed saving calculations Title 24

Figure 19. PG&E's San Francisco Energy Watch Program Fact Sheet

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