

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning
Energy Efficiency Rolling Portfolios, Policies,
Programs, Evaluation, and Related Issues.

Rulemaking 13-11-005
Filed November 14, 2013

**2013 ENERGY EFFICIENCY ANNUAL REPORT OF
PACIFIC GAS AND ELECTRIC COMPANY (U 39 M)**

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Pacific Gas and Electric Company (PG&E) submits the attached 2013 Energy Efficiency Annual Report in accordance with the August 8, 2007 *Administrative Law Judge's Ruling Adopting Annual Reporting Requirements For Energy Efficiency and Addressing Related Reporting Issues*, in Rulemaking (R.)06-04-010. Ordering Paragraph 2 of that ruling requires "each utility to file its annual report on May 1 of the year following the end of a given program year." Rulemaking 13-11-005 is the successor proceeding to R.09-11-014. PG&E prepared its report in accordance with the Annual Reporting Requirements Manual, Version 4, that is Attachment C to the August 8, 2007 *Administrative Law Judge's Ruling*. The report describes the programs that comprised the 2013-2014 energy efficiency portfolio and summarizes PG&E's energy efficiency accomplishments for 2013.

For additional information supporting PG&E's 2013 Energy Efficiency Annual Report go to the CPUC's Energy Efficiency Statistics website at:

<http://eestats.cpuc.ca.gov/Views/Documents.aspx> and follow these steps:

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- In the Report Category, select Annual.
- In the Report Type, select Narrative and Spreadsheets.
- In Report Options, select PGE for Utility

Respectfully submitted,

By: /s/ Mary A. Gandesbery

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2013 Energy Efficiency Annual Report

May 1, 2014



TABLE OF CONTENTS

2013 ENERGY EFFICIENCY PROGRAM PORTFOLIO	1
EXECUTIVE SUMMARY	1
REGULATORY COMPLIANCE	4
<i>REGULATORY BACKGROUND</i>	<i>4</i>
<i>REPORT DATA</i>	<i>5</i>
PROGRAM DESCRIPTIONS AND STRATEGIES – STATEWIDE PROGRAMS	6
<i>RESIDENTIAL PROGRAM</i>	<i>6</i>
<i>COMMERCIAL PROGRAM.....</i>	<i>14</i>
<i>INDUSTRIAL PROGRAM</i>	<i>18</i>
<i>AGRICULTURAL PROGRAM.....</i>	<i>20</i>
<i>LIGHTING PROGRAM.....</i>	<i>22</i>
<i>CODES AND STANDARDS</i>	<i>23</i>
<i>EMERGING TECHNOLOGIES</i>	<i>28</i>
<i>WORKFORCE EDUCATION AND TRAINING.....</i>	<i>31</i>
<i>INTEGRATED DEMAND SIDE MANAGEMENT (IDSM).....</i>	<i>34</i>
<i>FINANCING.....</i>	<i>37</i>
<i>MARKETING, EDUCATION AND OUTREACH</i>	<i>39</i>
PROGRAM DESCRIPTIONS AND STRATEGIES – LOCAL PROGRAMS	41
GOVERNMENT PARTNERSHIPS	41
<i>INSTITUTIONAL PARTNERSHIPS</i>	<i>42</i>
<i>LOCAL GOVERNMENT PARTNERSHIPS</i>	<i>46</i>
<i>STRATEGIC ENERGY RESOURCES.....</i>	<i>56</i>
THIRD PARTY PROGRAMS.....	64
<i>RESIDENTIAL SECTOR.....</i>	<i>64</i>
<i>COMMERCIAL SECTOR</i>	<i>65</i>
<i>INDUSTRIAL SECTOR</i>	<i>72</i>
<i>AGRICULTURAL SECTOR.....</i>	<i>73</i>
<i>WORKFORCE, EDUCATION & TRAINING SECTOR</i>	<i>75</i>
<i>THIRD PARTY IDEEA365 PROGRAMS.....</i>	<i>76</i>
<i>THIRD PARTY PROGRAM CLOSURE.....</i>	<i>76</i>
TABLES	
SECTION 1 ENERGY SAVINGS	1-1
SECTION 2 EMISSION REDUCTIONS	2-1
SECTION 3 EXPENDITURES	3-1
SECTION 4 COST-EFFECTIVENESS	4-1
SECTION 5 BILL IMPACTS.....	5-1
SECTION 6 GREEN BUILDING INITIATIVE	6-1
SECTION 7 SHAREHOLDER PERFORMANCE INCENTIVES.....	7-1

TABLE OF CONTENTS (CONTINUED)

SECTION 8 SAVINGS BY END-USE.....	8-1
SECTION 9 COMMITMENTS	9-1

APPENDICES

APPENDIX A PG&E PROGRAM NUMBERS	A-1
APPENDIX B REGULATORY DECISIONS, RULINGS AND COMPLIANCE ADVICE LETTERS.....	B-1

2013 ENERGY EFFICIENCY PROGRAM PORTFOLIO

EXECUTIVE SUMMARY

Throughout 2013, PG&E continued to successfully deliver a diverse portfolio of energy efficiency (EE) programs, providing cost-effective benefits to its ratepayers and the state of California.

In 2013, PG&E achieved 826 gross annual GWh which is 138% of its electric energy savings goal; 160 gross summer peak MW which is 140% of its electric demand reduction goal; and 31 gross annual million therms which is 150% of its gas savings goal for the investor-owned utility (IOU)¹ programs. Codes and Standards Advocacy met its 2013 goals of 254 net annual GWh, 30.6 net summer peak MW, and 0.07 net annual million therms. In addition to helping customers save energy and money, PG&E's portfolio of EE programs continued to significantly contribute to the state's goal of reducing greenhouse gas emissions, with avoided emissions of 795,393 tons of carbon dioxide.

The following highlights some of PG&E's many 2013 accomplishments:

PG&E's successful programs, including the statewide Commercial, Industrial, and Agricultural EE programs, delivered a variety of EE solutions to customers. In particular, PG&E's mid-stream Commercial Quality Maintenance (C-QM) program saw a huge participant uptake, with over 2,000 rooftop HVAC units being optimized for energy efficiency in just the fourth quarter of 2013, and close to 3,900 units processed in 2013. As part of its statewide Industrial program, PG&E maintained a strong focus on lighting, refrigeration, and other process improvements at industrial customer sites, saving these customers 3.4 MW and 22.4 GWh in electricity and 7.7 MM therms in natural gas in 2013. PG&E's statewide Agricultural program helped more than 400 growers and rural irrigation districts across our service area manage energy and water consumption through completed irrigation system and pump projects. In all, PG&E's statewide Agricultural program delivered EE solutions to over 1,000 agricultural customers.

In 2013, PG&E's statewide Residential program continued to collaborate with a broad set of stakeholders to develop, offer and promote specific and comprehensive energy solutions designed to overcome market barriers and encourage adoption of economically viable EE technologies, practices, and services. Among the program's 2013 highlights, PG&E's Residential Energy Advisor subprogram achieved a milestone 1 million active customers enrolled in Home Energy Reports (HER) and influenced

¹ This 2013 EE Annual Report refers to PG&E, Southern California Edison (SCE), San Diego Gas and Electric Company (SDG&E), and Southern California Gas Company (SoCalGas), collectively as "the IOUs" or "the utilities."

35,000 new customers to complete the Home Energy Checkup, a result that was sevenfold PG&E's target of 5,000 do-it-yourself online audits. Also, through a targeted point-of-purchase promotion with retailer channel partners, PG&E's Plug Load and Appliances subprogram drove a 250% increase in sales of high-efficiency clothes washers, including 68,826 rebates in PG&E's service territory in 2013.

The Statewide Lighting Program successfully implemented the transition to supporting the California Energy Commission's (CEC) Voluntary Light-emitting diode (LED) Quality Specification. Higher quality LED lamps (above the ENERGYSTAR baseline) were supported throughout the year, and since December, all LEDs rebated through the Primary Lighting sub-program meet or exceed the CEC Quality Specifications. Moreover, PG&E's Lighting program successfully launched two innovative trials testing different program delivery models through its Lighting Innovation subprogram, including a midstream channel offering for electrical distributors.

During 2013, the statewide Codes and Standards (C&S) team completed the 2013 Title 24 code development, with overall code savings for residential, nonresidential and process sectors initially estimated to be 470.3 GWh/yr., demand reduction of 150 MW, and 12.09 million therms/yr on a gross basis.² Importantly, the life cycle savings associated from this building standard is expected to increase the wealth of Californians by \$473 million.³ The statewide C&S team also docketed 15 Title 20 CASE studies with potential gross savings of 11,600 GWh, 1,700 MW, and 160 MMT after stock turnover.

The statewide Emerging Technologies (ET) program continues to be a solid testing ground for new and innovative EE technologies, practices and tools. Throughout 2013, PG&E's team engaged in a variety of activities to advance California's aggressive energy and demand savings goals. For example, PG&E conducted an in-depth analysis on the "embedded energy" in water systems to target and estimate energy savings opportunities for emerging water/energy programs. PG&E also conducted a technology assessment of innovative remote building audit software designed to lower the cost of identifying energy efficiency measures using interval meter data. The assessment directly translated into PG&E's Innovative Designs for Energy Efficiency Approaches (IDEEA) 365 targeted program – analytics-enabled retro-commissioning (RCx) - targeted at small, medium municipal and educational facilities. Four ET projects evaluated integrated sensor controls and LED-based lighting and informed a total of 29 new lighting measures that were introduced into PG&E's EE Programs. In addition, PG&E led an industry-leading research effort entitled "Energy Management Information

2 CEC is supposed to update these values, they are expected to increase. California Energy Commission *Initial Study/Proposed Negative Declaration For The 2013 Building Energy Efficiency Standards For Residential And Nonresidential Buildings* http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/12_Staff_Draft%20Report-Initial_Study_Neg_Dec.pdf

3 California Energy Commission. *Final Statement of Reasons*. December 17, 2012. http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/38_FSOR_FINAL.pdf

Systems (EMIS) Baseline Software Testing Project” that yielded performance metrics, benchmarks and test protocols which could help validate the value of baselining software for use in technology evaluation and EE programs, including performance-based programs such as those featured in the Commercial Whole Building Demonstration.

Within the statewide Workforce Education and Training (WE&T) program, PG&E supported disadvantaged workers through two new partnerships in 2013: 1) worked with the Energy Savings Assistance (ESA) training program to offer basic EE courses and participants entering PG&E’s WE&T program focus on higher level EE training and program requirements that require less time off the jobsite; and 2) started work on integrating classes into the disadvantaged workforce development programs offered by the Center for Employment Training (CET). PG&E also worked with the American Institute of Architects California Council (AIACC) to include energy performance criteria for all design award submittals. This is the first time AIACC included energy as a standard criterion for all awards, not simply “green buildings,” indicating a significant market shift. Further, PG&E’s Connections programs reached more than 85,000 K-12 students in 800 schools in PG&E’s service territory.

PG&E continued to focus on integrated demand side management (IDSM) as the best approach to achieve California’s strategic energy goals. In 2013, PG&E continued to ensure that our customers save energy and money by implementing EE, DR and DG integrated solutions, and accomplish key objectives from other proceedings, like water conservation (water-energy nexus). One way PG&E furthers IDSM is through its integrated audit offerings. In 2013, PG&E completed over 36,000 on-line integrated audits (35,000 residential, 1,384 commercial, 140 agricultural and 112 industrial), representing more than a three-fold increase from 2010-2012. What’s more, PG&E continues to educate advance IDSM through education, conducting over 240 integrated workforce education and training (WE&T) classes, and training 400 PG&E program staff and customer account representatives through various forums such as its Integrated Sales Summits.

PG&E’s On-Bill Financing (OBF) subprogram funded 300 projects in 2013, representing \$14 million in loans, enabling businesses, local governments, and institutional customers to pursue increasing levels of EE. Working closely with other IOUs, the CPUC, California Alternative Energy and Advanced Transportation Financing Authority (CAEAETFA) and stakeholders, PG&E continued to develop financing pilots including On-Bill Repayment (OBR) and other pilots that are expected to launch in 2014.

In 2013, PG&E relied on its network of Third Party program partners to deliver a wide variety of EE solutions to each of PG&E’s customer segments including businesses, industrial, schools, agricultural, and residential customers. As part of the IDEEA 365 statewide initiative, PG&E, working closely with the Peer Review Group (PRG), awarded six new “targeted” Third Party subprograms that included a residential high-efficiency water heater program, an agricultural low-pressure irrigation system and four analytics-enabled (RCx) programs for schools and municipal buildings. In the latter part of 2013, PG&E also issued an “innovative” solicitation for new programs with awards to be completed in 2014.

PG&E highly values its relationships with local, regional and statewide partners. In 2013, PG&E's portfolio of 27 partnerships successfully reduced energy use and costs throughout approximately 270 cities and counties. In fact, PG&E launched five new local and regional partnerships encompassing twelve counties. The addition of these partnerships increased the ability to serve communities more holistically across the PG&E service territory. The 2013 accomplishments for Government and Community Partnership included a reduction of 14 MW, 96.3 GWh, 1.9 M therms, returning \$24.3 million in incentives to local communities throughout the territory.

REGULATORY COMPLIANCE

REGULATORY BACKGROUND

On November 15, 2012, the California Public Utilities Commission (CPUC or Commission) issued the *D.12-11-015: Decision Approving 2013-2014 Energy Efficiency Programs and Budgets* (dated November 8, 2012), that authorized \$823 million⁴ in funding for PG&E's 2013-2014 EE Portfolio and ordered PG&E to file various advice letters (ALs) to modify programs and detail the program budgets in compliance with the EE Decision. On January 14, 2013, PG&E filed its compliance AL and Program Implementation Plans (PIPs) for its 2013-2014 EE Portfolio. Per Commission Staff's directive, PG&E filed two supplemental advice letters: 1) AL 3356-G-A/4176-E-A incorporated programmatic and compliance details from its initial AL into the supplement AL, in addition to budget, savings and programmatic revisions made in response to Commission Staff guidance; and 2) AL 3356-G-B/4176-E-B provided additional information in its Residential, Commercial, Industrial and Agricultural PIPs, in response to Commission Staff guidance. On September 5, 2013, Commission Staff approved PG&E's compliance ALs, final EE program budget allocations and PIPs, effective January 1, 2013. The EE Decision authorized the EE programs for 2013-2014, as described in the "Program Description and Strategies" section below.

On December 27, 2012, the Commission issued D.12-12-032, that approved a management fee with a performance bonus as the shareholder incentive mechanism for utility implementation of the 2010-2012 EE portfolios. This mechanism awards earnings of 5 percent of annual program expenditures with up to 1 percent additional incentive levels for activities performed in-line with the Commission's ex ante review processes. This decision approved a rate of 5.68 percent for PG&E and an award for PG&E's 2011 performance of \$21.6 million that was recorded in 2013 and included in accomplishments shown in this report.

⁴ Includes funding for Evaluation, Measurement and Verification (EM&V), San Francisco Bay Area Regional Energy Network (BayREN) and Marin Clean Energy (MCE).

On September 11, 2013, the Commission issued D.13-09-023 that adopted a new Energy Savings Performance Incentive (ESPI) to award shareholder earnings for achievements of energy savings, *ex ante* review compliance and program operations. This mechanism will begin impacting shareholder earnings in 2014 for 2013-2014 EE portfolio performance.

A number of other decisions were issued in 2013 related to the 2013-2014 EE portfolio cycle, and PG&E filed a number of additional advice letters, in compliance with D.12-11-015, D.13-09-044, and as directed by the Commission's Staff. These decisions and PG&E's advice letters are listed in Appendix B to this Report.

REPORT DATA

D.12-05-015 established separate annual targets for IOU programs on a gross basis and Codes and Standards Advocacy on a net basis. The Codes and Standards Advocacy goals were updated in the EE Decision. As stated in the Executive Summary, in 2013, PG&E achieved 826 gross annual GWh which is 138% of its electric energy savings goal; 160 gross summer peak MW which is 140% of its electric demand reduction goal; and 31 gross annual million therms which is 150% of its gas savings goal for the IOU programs. Codes and Standards Advocacy met its 2013 goals of 254 net annual GWh, 30.6 net summer peak MW, and 0.07 net annual million therms. PG&E is showing net and gross goals separately in the Annual Report.

Total portfolio gross energy savings shown in this report include: 1) savings associated with PG&E's deemed savings program, which include Database for Energy Efficient Resources (DEER) and final approved work paper values from the 2013 customer energy savings projects; 2) savings associated with custom projects that were installed in 2013; 3) savings associated with behavioral programs that occurred in 2013; 4) \$21.6 million in shareholder earnings for program year 2011 awarded in 2013, pursuant to D.12-12-032; 5) savings for BayREN from their 2013 EE Annual Report submitted on April 1, 2014; savings for Marin Clean Energy (MCE) from their December 2013 Monthly Report;⁵ and 6) Energy Savings Assistance Program (ESAP) savings.⁶

The EE Decision affirmed the 10 percent on utility administrative cost cap, 6 percent marketing cost cap, 4 percent EM&V cost cap and direct implementation non-incentive (DINI) target of 20 percent. The budget for EM&V for the 2013-2014 program cycle is four percent of the program portfolio, including BayREN, MCE and Statewide Marketing, Education and Outreach (ME&O).⁷ Statewide ME&O is excluded from the marketing

⁵ MCE's 2013 Annual EE Annual Report was not available on the CPUC's EE Stats website.

⁶ Total portfolio energy gross savings shown in this report exclude estimated energy savings from compact fluorescent lamps (CFLs) rebated from 2006-2012 and installed in 2013, as the savings value has not yet been confirmed by the Commission Staff.

⁷ D.12-11-015, pg. 59.

cap.⁸ PG&E reports its progress against these caps and targets in quarterly reports posted on the CPUC's Energy Efficiency Statistics (EE Stats) website (<http://eestats.cpuc.ca.gov/>) along with quarterly fund shifting reports. PG&E's monthly expenditure and savings reports are also posted on EE Stats.

In addition, the IOUs and Commission Staff are working towards a collaborative solution that utilizes frozen ex ante savings parameters and tracking data for reporting in an effort to align and help draw a connection between IOU energy savings reports and impact evaluations.⁹

PROGRAM DESCRIPTIONS AND STRATEGIES – STATEWIDE PROGRAMS

This section describes the successful strategies and accomplishments employed by PG&E in 2013 for the following Statewide programs:

10 Statewide Programs

- Residential
- Commercial
- Industrial
- Agricultural
- Lighting
- Codes and Standards
- Emerging Technologies
- Workforce Education and Training
- Integrated Demand-Side Management
- Financing

RESIDENTIAL PROGRAM

The 2013 California Statewide Program for Residential Energy Efficiency (CaISPREE, or Residential Program) offered and promoted specific and comprehensive energy solutions within the residential market sector. PG&E's Residential program employed various strategies and tactics to overcome market barriers and deliver programs and services aligned to support the California Public Utilities Commission's (CPUC) Energy Efficiency Strategic Plan (Strategic Plan) by encouraging adoption of economically viable energy efficiency technologies, practices, and services. The ultimate focus of PG&E's Residential program was to:

⁸ D.13-12-038, pg. 82.

⁹ D.12-05-0715, pg. 397, Conclusion of Law 90

- Facilitate, sustain, and transform the long-term delivery and adoption of energy efficient products and services for single and multifamily dwellings;
- Cultivate, promote, and sustain lasting energy efficient behaviors by residential customers through a collaborative statewide education and outreach mechanism; and
- Meet customers' energy efficiency adoption preferences through a range of energy efficient products.

Following are descriptions of the six Residential subprograms, and successful strategies employed in 2013. PG&E also offered local program elements such as Third Party and Government Partnership programs that complemented and enhanced these core offerings.

1. The **Residential Energy Advisor (EA)** Program (formerly known as the Home Energy Efficiency Survey program) utilizes interactive tools designed to engage customers and encourage participation in innovative energy initiatives. In 2013-2014, the Energy Advisor program will continue to help customers understand how and when they have been using energy. Customers will then have the knowledge and available tools to improve their energy efficiency, energy use management, and where appropriate, will be guided to advancing whole-house energy solutions. The program utilizes behavioral outreach initiatives and interactive tools designed to engage and encourage customers to reduce their energy consumption through program recommendations and, as warranted, IDSM opportunities.

2013 Strategies and Successes:

In 2013, PG&E continued to fine tune an integrated customer journey that starts with the Home Energy Report, motivating the customer to perform an online Home Energy Checkup (HEC) and finally take advantage of PG&E's rebates and incentives to make whole home upgrades affordable.

PG&E focused on the expansion of the Home Energy Reports (HER) product, a personalized mailer aimed to create positive energy change to a broad consumer base by showing the consumer their home's energy use and how they compare to similar homes in their area. Based on learnings from the first tranche of reports, PG&E implemented enhancements and subsequently launched additional waves to reach 500,000 new customers. Currently 1 million active customers are enrolled in Home Energy Reports.

PG&E also focused on boosting marketing efforts to attract more of our population to complete a do-it-yourself online audit. This resulted in 35,000 new customers who completed the Home Energy Checkup, which was 700% of PG&E's target of 5,000 online audits.

2. The **Plug Load and Appliances (PLA)** subprogram merges the former Home Energy Efficiency Rebate (HEER), Business Consumer Electronics (BCE), and Appliance Recycling (ARP) programs. This subprogram develops and builds upon

existing retailer relationships, Point of Sale (POS) strategies, and includes Responsible Appliance Disposal (RAD) appliance recycling strategies. PLA offers rebates and incentives to customers for purchasing and installing high efficiency appliances (such as ENERGY STAR[®]), recycling inefficient refrigerators and freezers, and working with other partners to drive the adoption of higher efficiency products as well as water saving measures.

The Statewide PLA Program 2013 Strategies and Successes:

- The PLA statewide (SW) program team held regular IOU program planning discussions that were beneficial in allowing collaboration between SW teams on specific plans and strategies that positively impacted the PLA Program.
- The SW PLA team engaged with many different stakeholders (i.e., Cal-Plug, Natural Resource Defense Council, California Energy Commission, Northwest Energy Efficiency Alliance (NEEA), Sacramento Municipal Utility District (SMUD), Green Tech Leadership Group, Environmental Protection Agency, ENERGY STAR[®], and the Consortium for Energy Efficiency) to increase coordination and collaboration on market development by hosting multiple workshops to continue dialogue among IOUs and Commission staff on future program development, market transformation, program successes and PLA program opportunities.
- The SW team coordinated with the Western Regional Utility Network (WRUN)¹⁰, to offer a WRUN-wide clothes washer promotion in September 2013. The promotion focused on using consistent Point of Purchase (POP) marketing material statewide, and set the foundation for new targeted promotions and more retailers to participate in the future. As a result, sales of qualified clothes washers increased by 250 percent.
- PLA program launched a statewide Residential Solutions Workbook project, an EM&V effort to help design and manage residential efficiency programs by aggregating and displaying market and energy use data through a single tool. Once the tool development is completed, the PLA Program Managers will be able to utilize this tool to forecast, plan and coordinate future program measures and strategies.
- Implemented online messaging promotion of available point of sale discounts for qualifying SW PLA on retailer websites.

10 The Western Regional Utility Network is an organization and alliance among California and northwestern utilities geared toward working together to provide its retail and manufacturer partners a more collaborative approach to delivering energy efficiency programs, while increasing the uptake of energy efficient products in the retail market.

PG&E's PLA Program Regional 2013 Strategies and Successes:

- PG&E conducted 16 instructor-led day-long Certified Aquatic Equipment Installer (CAEI) courses in September 2013 across PG&E's service territory. The training was geared to pool professionals to ensure maximum energy savings for their customers when installing a new variable speed pool pump.
- In partnership with SMUD, PG&E launched its Retail Plug-load Portfolio (RPP) Trial in 4Q2013. The concept is an innovative portfolio approach to addressing plug load and appliances program design with the ultimate goal of transforming retailer behavior to sell more efficient products. The RPP trial is a proof of concept effort of engaging with a single retailer (multiple stores) to flesh out program mechanics, baseline measurement, and incentive structure as well as test retailer experience. The trial is focused on measuring a retailer's performance indicators, testing multiple EM&V methodologies, and strategizing program design for larger roll-out. PG&E is also closely collaborating with NEEA in its own RPP initiative.
- Through successful partnership with water agencies, PG&E continued to offer a combined rebate for CEE Tier 3 clothes washers. The partnership with water agencies allows for sharing of marketing and processing costs as well as making the rebate more attractive and easier to process for the customer. In 2013, PG&E processed 68,826 rebates for high efficiency clothes washers.
- In partnership with its Appliance Recycling program implementer, JACO Environmental, PG&E carried out a summer marketing direct mail campaign to inform customers about appliance recycling. The campaign contributed to a successful program year during which 18,493 energy-wasting refrigerators and freezers were responsibly recycled.
- PG&E introduced a rebate for ENERGY STAR[®] qualified electric heat pump water heaters. With the help of an additional \$300 tax credit for qualified models, customers were able to use PG&E's rebate and tax credit to help lower the higher cost of high efficiency water heaters.
- In partnership with Home Depot, PG&E worked Home Depot to stock ENERGY STAR[®] gas water heaters that were not readily available in the market. Until 2013, there were virtually no qualifying products in the market, especially due to Ultra-Low Nitrous Oxide (ULNOx[™]) requirements. With the help of a significant rebate on water heaters, Home Depot responded by placing the product with co-branded signs on End Caps in 24 store in April 2013. By April 2014, 54 Home Depot stores will be stocking the qualifying water heaters and two of the retailer's contracted water heater installers are supporting the program.
- The BCE program provided midstream incentives to retailers to encourage increased stocking, promotion, and sales of the highest-efficiency televisions. PG&E worked with SMUD and NEEA to influence purchasing, stocking, and specification decisions for retailers. PG&E again increased

specifications for televisions to offer incentives for the most ENERGY STAR[®] qualified televisions and, for the first time, included the Most Efficient ENERGY STAR[®] designation. The program also provided field training support services to update marketing materials in retail stores and educate the retail sales force on energy efficiency of the qualified products. The BCE program was discontinued at the end of 2013.

3. The **Multifamily Energy Efficiency Rebates (MFEER)** subprogram offers prescriptive rebates for energy efficient products to motivate multifamily property owners and managers to install energy efficient products in both common and dwelling areas of multifamily complexes in addition to common areas of mobile home parks and condominiums. An additional objective of the program was to heighten the energy efficiency awareness of property owners/managers and tenants.

2013 Strategies and Successes:

In 2013, the IOUs increased visibility by promoting the MFEER Program and other related programs, including the Moderate Income Direct Install (MIDI) and Energy Savings Assistance (ESA) programs, at various apartment industry trade shows. As a result, customer participation increased with the engagement of energy specialists and large property management firms. PG&E continued working towards a more comprehensive set of measures and explored integration opportunities. PG&E promoted energy efficiency and provided equipment rebates to owners and tenants of multifamily properties of two or more dwelling units, including residential apartment buildings, condominium complexes, and mobile home parks. The MFEER Program also continued to increase its focus on non-lighting measures.

PG&E collaborated with BayREN and MCE for multifamily event coordination in 2013, and worked with BayREN and MCE to develop in-person and webinar presentations to help deliver comprehensive messaging around various program offerings and financing opportunities. PG&E, BayREN and MCE worked together to create and implement a “Double Dip” procedure to avoid incentive payments for projects from being paid in more than one program. PG&E and BayREN have also developed a streamlined version of an initial customer “interest form” that both administrators use to help determine the best solutions to offer to the customer.

4. The **Energy Upgrade California™ Home Upgrade (Home Upgrade)** subprogram provides incentives for comprehensive home upgrades to single family and multifamily residential customers. The program guides customers to do energy savings retrofits using a whole house approach that allows customers to achieve deeper and more comprehensive energy savings in keeping with the energy efficiency loading order for buildings. This approach views the building as a set of interdependent systems that must be considered holistically. The Home Upgrade program is designed to offer a one-stop approach to whole-house energy efficient improvements.

Program Objectives for Home Upgrade:

- Introduce contractors and residential customers to the concept of home performance and help transform the home retrofit market
- Incentivize participation that will save customers up to 45% annual modeled site energy reduction

The subprogram includes three program elements: Home Upgrade, Advanced Home Upgrade and Multifamily.

Home Upgrade and Advanced Home Upgrade:

To participate in the Home Upgrade Program, customers must work with a participating contractor to install eligible energy efficiency measures to decrease their energy usage. Incentives of up to \$4,500/home are available. There are two paths in the Home Upgrade Program; a Home Upgrade path that uses a deemed approach requiring three or more measures and an Advanced Home Upgrade path that uses comprehensive energy modeling to determine a customized work scope. These paths allow the customer to choose from a variety of measures that best suit their home and needs.

Multifamily:

The Energy Upgrade California™ Multifamily Path Pilot Program is an extension of the statewide Home Upgrade Subprogram. The primary purpose of this pilot program is to test performance based approaches in the multifamily housing retrofit market.

The pilot promotes long-term energy benefits through comprehensive energy efficiency retrofit measures, and utilizes professional energy consultants to perform energy audits using approved multifamily audit tools and procedures. This performance based approach aims to assist property owners and managers with making informed decisions, identify measures for energy savings, and to maximize energy reductions for each property owner, manager, and tenant, as applicable.

2013 Program Strategies and Successes:

- Added efficient variable speed pool pumps as an allowable measure within Advanced Home Upgrade.
- Educate contractors about opportunities to leverage Home Upgrade to promote plug load and appliance savings.
- Conducted a joint IOU effort, in collaboration with CPUC Staff, the California Energy Commission (CEC), and interested stakeholders, to expand the allowable software modeling tools for Advanced Home Upgrade. This effort is expected to be completed in 2014, and is expected to help reduce administrative burden on contractors, improve the customer sales and engagement process, and improve energy savings prediction accuracy.

An expansion of software modeling tools also opens the door for future program design enhancements, including the possibility of a pay-for-performance model incentive and improved real-time evaluation.

- The IOUs continued to streamline program reporting requirements, and worked closely with program participants to improve the application and process by addressing challenges through improved desktop review practices and additional training to contractors. This initiative resulted in an 11% decrease in application resubmissions in 2013.
- Program targeting efforts identified the customer attributes linked to propensity to participate and the building attributes (such as age of the home) tied to higher potential savings. This analysis has been used to determine target regions for marketing and outreach efforts.
- The IOUs re-designed and enhanced the program's prescriptive participation path, in cooperation with the Regional Energy Networks (RENs). The new Home Upgrade path replaced both the IOUs' Basic Path and the RENs' FlexPath to improve on both former offerings.

5. The **Residential New Construction** subprogram consists of the California Advanced Homes Program (CAHP) for single family homes and PG&E's California New Homes Multifamily Third Party Program (CMFNH). The CAHP subprogram and Third Party program encourage single and multifamily builders of all production volumes to construct homes that exceed California's Title 24 energy efficiency standards by a minimum of 15 percent for single family homes and 20 percent for multifamily buildings.

2013 Program Strategies and Successes:

CAHP: The IOUs made changes to reshape CAHP and more appropriately address remedies for some of the program elements that were not as effective as planned during the 2010-12 cycle:

- Elimination of many of the kicker incentives that were under-subscribed, cumbersome to administer, and ineffective in motivating savings.
- Emphasis was placed on developing a simpler, more streamlined market transformation program with greater emphasis on zero net energy and early code adoption goals.
- A new handbook, incorporating an easy-to-use application package was developed.

As a result, 2013 was a successful year for CAHP which is on track to meet unit participation program cycle targets. The residential new construction market has shown improvement since 2012 but for various reasons continues to struggle.

CAHP continues to encourage participation, working hard to improve market penetration.

Participation in CMFNH has been geographically diverse, with the majority of participation occurring in dense urban areas including: South Bay (greater San Jose area, climate zone 4), followed by the Greater Bay Area (including East Bay Area, climate zone 3), followed by Central Valley (concentrated in the greater Sacramento area, climate zone 12), in addition to more suburban coastal and inland areas. The program continues to be on track to exceed energy savings goals.

6. The **Residential HVAC** subprogram consists of the Quality Maintenance and Quality Installation Development programs. The customer-facing name of these PG&E program efforts is AC Quality Care (ACQC).

Residential HVAC Quality Maintenance focuses on energy and demand savings achieved through the regular application of comprehensive, continuously improving Operation and Maintenance activities applied to existing residential HVAC equipment. It represents one of the more creative aspects of the HVAC “Big Bold Energy Efficiency Strategy.” This is based on the assumption that there are energy and demand savings achievable through the regular application of quality maintenance (QM) procedures applied to existing residential HVAC equipment.

Residential HVAC Quality Installation Development is applicable to quality installation (QI) of split or packaged HVAC systems, with a rated capacity up to 65,000 BTU/H. This program element is based on the assumption that energy and demand savings are achievable through the application of QI in accordance with appropriate industry standards applied to new residential HVAC equipment.

2013 Strategies and Successes:

- PG&E changed its implementer for the ACQC program to capitalize on synergies between Home Upgrade and ACQC, so these EE programs for residential homes are both now implemented through Build It Green. A successful transition to this new implementer has stimulated contractor enrollment in ACQC.
- The Residential HVAC QM program discontinued the Airflow Correction measure and modified incentive amounts for QM Assessment and Refrigerant System Service Assessment measures to promote more program uptake.
- Increased contractor-implementer contact by offering business development classes and webinars for participating contractor organizations. Continued education of participating contractors has led to an improved inspection pass rate.

- Used data systems to simplify participating contractor interaction with the program, which has led to increased program uptake.

COMMERCIAL PROGRAM

The 2013 Statewide Commercial Energy Efficiency Program offered California's commercial customers a statewide-consistent suite of products and services to overcome the market barriers to optimized energy management. The program targeted integrated energy management solutions, including energy efficiency, demand response (DR), and distributed generation (DG), through strategic energy planning support; technical support services, such as facility audits, and calculation and design assistance; and financial support through rebates, incentives, and financing options.

Targeted end uses included all commercial sub-segments such as distribution warehouses, office buildings, hotels, motels, restaurants, schools, trade schools, municipalities, universities, colleges, hospitals, retail facilities, entertainment centers, and smaller business customers that have similar buying characteristics.

Following are descriptions of the six Commercial subprograms, and successful strategies employed in 2013. PG&E also offers local program elements such as Third Party and Government Partnership programs that complement and enhance these core offerings.

1. The **Calculated Incentives** subprogram provides customized incentives for non-residential energy efficiency retrofit projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

The Commercial Calculated Incentives subprogram also includes the New Construction – Savings by Design element of the Commercial Program, offering standardized incentives for non-residential new construction projects.

2013 Strategies:

- Participation in ex-ante parallel review and incorporation of lessons learned into program design
 - Focus on deep savings opportunities via the Commercial Whole Building program
 - Focus on targeted geographies to reduce strain on overloaded substations
2. The **Deemed Incentives** subprogram provides rebates for the installation of new energy efficiency equipment/measures that have been identified through standard

utility energy efficiency audits. Deemed retrofit measures have fixed incentive amounts per unit/measure and are intended for projects that have well-defined energy and demand savings. The measure categories include lighting, air conditioning equipment, food service equipment, refrigeration, high-efficiency water heating, and plug load.

2013 Strategies:

- Marketed new products in lighting and HVAC
- Developed a communication strategy for Title 24 Building Codes
- Launched Point-Of-Sale Channel for food service technologies products

3. The **Direct Install** subprogram provides small business customers with the opportunity to have a third-party contractor retrofit existing systems with energy efficient systems at low or no cost to the customer. Given that many small business customers have short-term leases and a split-incentive barrier (where the customer or owner do not own the equipment that they pay bills for), this program is an effective way to address the needs of this sector and overcome the barriers of limited capital, lack of expertise, and understanding of energy efficiency benefits. This subprogram is administered through PG&E's Third Party Programs.

2013 Strategies:

Direct Install programs responded in an impressive way in the latter half of 2013. PG&E program managers and the Direct Install program implementers found ways to become more innovative in their approach to serving customers and achieving goals for the Direct Install programs. The short sales cycle for Direct Install was a critical component to their success. By year end many Direct Install programs surpassed their annual energy savings targets and had a significant pipeline of projects ready for installation in 2014.

4. The **Continuous Energy Improvement (CEI)** subprogram is a consultative service which targets long-term, strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and reducing energy intensity through a comprehensive energy management approach. CEI addresses technical and management opportunities for commercial customers while creating sustainable practices through a high-level energy commitment from executive and board-level management.

2013 Strategies:

- Deployment of a cohort model implementation approach for five food processing customers, including energy planning workshops and model development.

5. The **Commercial Energy Advisor** subprogram offers a suite of products and services to support customer education and participation in energy efficiency, demand response and self-generation opportunities, as well as to promote awareness of greenhouse gas and water conservation activities. The program utilizes proactive outreach initiatives and data driven interactive tools designed to engage and motivate customers to reduce their energy consumption through personalized program recommendations.

2013 Strategies:

- In support of building benchmarking, PG&E launched an online authorization form aimed at easing the customer experience to grant PG&E permission to release their energy usage data to ENERGY STAR[®].
 - Partnered with the City and County of San Francisco to participate at the national level in the DOE's National Better Buildings Initiative and Energy Data Accelerator program to develop practical methods for building owners and other stakeholders to access building energy usage data while preserving confidentiality of customer-specific billing and energy usage data.
 - Continued expansion of the Universal Audit Tools based on customer feedback encouraged greater customer adoption.
 - Continued to offer on-site and remote energy audits, including integrated audits that combine EE recommendations with DR and DG information.
6. The **Commercial HVAC** subprogram delivers a comprehensive set of midstream, and upstream strategies that builds on existing program, education, and marketing efforts and leverages relationships within the HVAC industry to transform the market towards a sustainable, quality driven market. Market transformation, direct energy savings and demand reductions are achieved through these three subprogram elements that make up a comprehensive program approach:

Upstream HVAC Equipment Incentive

- Offers incentives to distributors who sell qualifying high-efficiency commercial HVAC equipment to increase the stocking and promotion of such equipment.

2013 Strategies:

- Promote program distributors and manufacturers to those that currently participate and those who have limited or no participation
- Evaluate other new technologies and associated equipment categories such as those with higher tiers for packaged equipment
- Use metrics to benchmark distributor performance relative to their peers

- Re-balance incentive levels based on CPUC dispositions and market feedback for incremental measure costs and category volume

Commercial Quality Installation

- Addresses commercial installation practices to ensure that HVAC equipment is installed and commissioned per industry standards.

2013 Strategies:

- Commercial HVAC Quality Installation Contractor Education and Customer Awareness program are based on Air-Conditioning Contractors of America (ACCA) standards
- ACCA staff and other industry stakeholders in the Western HVAC Performance Alliance collaborated to validate the market transformation groundwork being laid and ensure that quality installation standards can be verified in the field in a sustainable fashion for Commercial HVAC

Commercial Quality Maintenance (C-QM)

- Heavy focus on commercial maintenance practices to ensure that equipment is serviced per industry standards and that the maintenance effort supports the long-term strategic goal of transforming the trade from commodity based to quality based.

2013 Strategies:

- Continued to ramp up efforts for the comprehensive C-QM program that provides incentives for system assessment, system optimization and continued rooftop unit maintenance based on ANSI/ASHRAE/ACCA Standard 180
- Added advanced economizer controls, demand controlled ventilation and notched belt measures to the program
- Conducted multiple training sessions for commercial contractors on Advanced Diagnostics and other quality maintenance practices to ensure that participating contractors/technicians have the skills necessary to assess, maintain, and optimize systems per industry standards
- Refreshed C-QM trainings to include more fundamental concepts and additional hands-on diagnosis, testing and repair training
- Supported commercial contractors with marketing materials and outreach efforts to educate customers on the value of quality maintenance and utilizing licenses and certified technicians

- Program websites were updated with sections for both customers and contractors
- Continued participation in monthly Western HVAC Performance Alliance subcommittee meetings, discussing input and feedback regarding improvement to the C-QM program
- Held contractor forums to solicit direct input into program design improvement for Commercial programs

INDUSTRIAL PROGRAM

The 2013 Statewide Industrial Energy Efficiency Program partnered with industry stakeholders to promote integrated energy management solutions to end use customers. The program offerings together were designed to not only overcome the traditional market barriers to energy efficiency, but also use efficiency to advance DG and DR opportunities. Customers from the industrial sector included oil production facilities, printing plants, plastic injection molding facilities, component fabrication, lumber and paper mills, cement and quarries, metals processing, petroleum refineries, chemical industries, assembly plants, and water and wastewater treatment plants.

Following are descriptions of the four Industrial subprograms, and successful strategies employed in 2013. PG&E also offered local program elements such as Third Party and Government Partnership programs that complemented and enhanced these core offerings.

1. The **Calculated Incentives** subprogram provides customized incentives for non-residential energy efficiency retrofit and new construction projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. Focus areas for the 2013 program included process and non-process loads at various industrial facilities that reduced energy usage associated with boilers and refrigeration equipment, high bay and outdoor lighting measures. Significant savings were also achieved by reducing energy usage associated with oil production.

2013 Strategies:

- Direct engagement of customers through experienced local account managers and energy service engineers via local workshops, presence at trade shows, and partnerships with industry associations and equipment vendors.

- Use of portfolio data analytics to improve pipeline visibility, target high-potential customers and industry segments, and inform new program development.
- Process improvement for project reviews, including application of consistent baselines, measure costs, and industry standard practice determinations across projects.

2. The **Deemed Incentives** subprogram provides rebates for the installation of new energy efficiency equipment/measures. Deemed retrofit measures have fixed incentive amounts per unit/measure and are intended for projects that have well-defined energy and demand savings. In many cases, projects are identified through utility energy efficiency audits, customer communications with local PG&E representatives, or partnerships with equipment vendors and trade allies.

2013 Strategies:

- Improvement of trade allies network for lighting, boiler/steam, and refrigeration products
- Deployment of Emerging Technologies projects in partnership with universities to inform new measure development.

3. The **CEI** subprogram is a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach. CEI will address technical and management opportunities for industrial customers while creating sustainable practices through a high-level energy commitment from executive and board-level management.

2013 Strategies:

- Deployment of a cohort model implementation approach for five food processing customers, including energy planning workshops and model development.

4. The **Industrial Energy Advisor** subprogram provides customer education and encourages participation in energy efficiency, demand response, self-generation programs and promotes awareness of greenhouse gas and water conservation activities. The program offerings work together to assist customers towards implementation of the appropriate solutions for their business while placing an emphasis on deep energy savings opportunities and continuous improvement over time. Through aligning the available integrated improvement opportunities with the customer's needs, the Energy Advisor program helps the customer become more open to the benefits the improvement opportunities offer to their business and will therefore increase their acceptance and adoption.

2013 Strategies:

- Continued expansion of the Universal Audit Tools based on customer feedback to encourage greater customer adoption.
- Continued to offer on-site and remote energy audits, including integrated audits that combine EE recommendations with DR and DG information.
- Close coordination with large end use customers to understand scope/timeframes on planned projects to better influence customer selection of state of the art energy efficiency and demand management solutions.

AGRICULTURAL PROGRAM

The 2013 Statewide Agricultural Energy Efficiency Program offered strategic energy planning support, technical support, such as facility audits, calculation and design assistance and financial support through rebates and incentives. These efforts are aimed at providing integrated energy management solutions for energy efficiency, demand response, and distributed generation, including renewables. Targeted segments from the agricultural sector included agricultural growers (field crops, fruits and nut trees, vegetable and vineyards), greenhouses, post-harvest processors (ginners, nut hullers and associated refrigerated warehouses), dairies and water and irrigation districts/agencies. Targeted segments from the food processing sector included: fruit and vegetable processors (canners, dryers and freezers), prepared food manufacturers, wineries and other beverage manufacturers.

Following are descriptions of the four Agricultural subprograms, and successful strategies employed in 2013. PG&E also offered local program elements such as Third Party and Government Partnership programs that complemented and enhanced these core offerings.

1. The **Calculated Incentives** subprogram provides customized incentives for non-residential energy efficiency retrofit projects involving the installation of high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards. Focus areas within the 2013 program included variable frequency drives (VFD) on irrigation pumps, process loads at food and beverage facilities including boilers and refrigeration, high bay and outdoor lighting measures, and innovative designs for irrigation systems.

2013 Strategies:

- Direct engagement of customers through experienced local account managers and energy service engineers via local workshops, presence at trade shows, and partnerships with industry associations and equipment vendors.

- Use of portfolio data analytics to improve pipeline visibility, target high-potential customers and industry segments, and inform new program development.
- Process improvement for project reviews, including application of consistent baselines, measure costs, and industry standard practice determinations across projects.

2. The **Deemed Incentives** subprogram provides rebates for the installation of new energy efficiency equipment/measures. Deemed retrofit measures have fixed incentive amounts per unit/measure and are intended for projects that have well-defined energy and demand savings. In many cases, projects are identified through utility energy efficiency audits, customer communications with local PG&E representatives, or partnerships with equipment vendors and trade allies. Irrigation equipment and lighting products provided high savings in 2013 in the agricultural deemed program.

2013 Strategies:

- Push for increased adoption of water/energy efficiency measures
- Improvement of trade allies network for irrigation, lighting, boiler/steam, and refrigeration products
- Deployment of Emerging Technologies projects in partnership with universities to inform new measure development.

3. The **CEI** subprogram is a consultative service which targets long-term and strategic energy planning. CEI is designed to reintroduce the importance of energy management by transforming the market and to help reduce energy intensity through a comprehensive energy management approach. CEI will address technical and management opportunities for agricultural customers while creating sustainable practices through a high-level energy commitment from executive and board-level management.

2013 Strategies:

- Deployment of a cohort model implementation approach for five food processing customers, including energy planning workshops and model development.

4. The **Agricultural Energy Advisor** subprogram includes all services offered to support customer education and participation in energy efficiency, demand response, and self-generation energy savings opportunities and benefits, along with awareness of greenhouse gas and water conservation activities. The program offerings work together to assist customers towards implementation of the appropriate solutions for their business while placing an emphasis on deep energy savings opportunities and continuous improvement over time. The Agricultural

Energy Advisor subprogram includes PG&E's pump efficiency services, known as the Advanced Pump Efficiency Program (APEP), which offers pump tests and incentives for pump efficiency improvements to agricultural, municipal, and irrigation district customers.

2013 Strategies:

- Created and launched an Agriculture Teacher's environment for PG&E's online universal audit tool. This environment allows agriculture teachers to integrate PG&E's universal audit tool in their lesson plans around energy use and efficiency.
- Continued to offer on-site and remote energy audits, including integrated audits that combine EE recommendations with DR and DG information.

LIGHTING PROGRAM

The 2013 Statewide Lighting Program encompasses the 2010-2012 residential lighting programs including the Primary Lighting subprogram (formerly the upstream Residential Lighting Incentive Program for Basic CFLs, and the upstream component of the Advanced Lighting Program), the Lighting Market Transformation subprogram, and the new subprogram, Lighting Innovation (both of which may encompass residential and non-residential measures and channels).

The Statewide Lighting Program facilitates market transformation for advanced lighting products through a number of activities including: 1) assessment of pre-commercialized lighting technologies, 2) demonstration projects for advanced lighting technologies in the early stages of commercialization, and 3) incentives for cost-effective lighting measures that have reached a greater level of commercialization.

Following are descriptions of the three Lighting subprograms and successful strategies employed in 2013:

1. The **Primary Lighting** subprogram offers upstream rebates to reduce the cost of energy efficient lighting products, introduces new energy efficient lighting products, and strives to influence the future purchasing and installation behaviors of residential customers. An array of product types, models, and technologies are offered, including specialty CFLs and LEDs.

2013 Strategies: A prevailing strategy for 2013 was to transition the LED products within the program from ENERGY STAR® specification grade products to California Quality LED Specification grade products. This was accomplished by requiring products to be of substantially higher color quality than the minimum requirement, and adding products compliant to the California specification as they become available. With the advent of relatively low cost efficient LEDs for the utility, the strategy was employed of balancing the measure mix between LED and CFL measures to achieve targets while aggressively promoting LEDs.

2. The **Lighting Innovation** subprogram evaluates products or program approaches new to the market, which have potential to eventually enter the Primary Lighting Program or Commercial, Industrial and Agricultural Programs. Trials and studies are administered to determine recommendations; and showcases and field placement projects are conducted when applicable.

2013 Strategies: Begin trial studies, showcases, and demonstration projects to test the viability of new products and program approaches. Focus on assessments of the midstream delivery channel and quality installations for lighting controls. Measure projects based on best practice guidelines from the Measurement and Verification team and track ongoing efforts as part of the Lighting Market Transformation Annual Report.

3. The **Lighting Market Transformation** subprogram develops innovative data-driven program strategies to adapt utility lighting programs to the ever-changing energy and lighting markets to support the Strategic Plan. The program tracks, coordinates, and provides collaboration opportunities for utility, government, and industry lighting market transformation activities. The program oversees the progression of lighting solutions across utility programs, such as Emerging Technologies, Lighting Innovation, Primary Lighting, and Codes and Standards. These programs help ensure efficient progression of lighting solutions into and out of customer energy efficiency programs.

2013 Strategies: Coordinate and track lighting activities across California utilities and national energy efficiency partners. Convene partners to collaborate on these activities. Assess market opportunities for utility programs, with a direction towards updating existing pipeline plans to address these opportunities. Support development of Lighting Innovation program trials, such as midstream and advanced lighting controls trials.

More details regarding the Statewide Lighting Program efforts will be provided in the June 2014 Lighting Market Transformation Annual Report.

CODES AND STANDARDS

The Statewide Codes and Standards (C&S) Program, composed of 5 distinct subprograms, saves energy on behalf of ratepayers by 1) influencing standards and code-setting bodies (such as the CEC) to strengthen energy efficiency regulations, 2) improving compliance with existing codes and standards, 3) assisting local governments to develop ordinances that exceed statewide minimum requirements, and 4) coordinating with other programs and entities to support the state's ambitious policy goals. The C&S program aggressively supports the goals of the Strategic Plan, which highlights the role of C&S in meeting Assembly Bill (AB) 32 (Stats 2006, Ch. 488) objectives.

Overall Statewide Program 2013 Successes

The C&S team witnessed many successes in 2013. For instance, as part of its appliance standards support the statewide team docketed 15 Title 20 CASE studies with potential gross savings of 11,600 GWh, 1,700 MW, and 160 MMT after stock turnover. Additionally, IOUs conducted research 36 comment letters to federal agencies such as the US Department of Energy (USDOE), Environmental Protection Agency (EPA), and the Federal Trade Commission (FTC), covering a wide range of end-uses, including appliances, commercial refrigeration, cooking equipment, electronics, HVAC, lighting, product labeling, building energy code compliance, and miscellaneous plug loads.

The team also completed 2013 Title 24 code development including significant expansion of scope into process areas accounting for approximately 108 GWh/yr. and 3 Million therms/yr. for each year’s building construction. Overall code savings for residential, nonresidential and process sectors is initially estimated to be 470.3 GWH/yr, demand reduction of 150 MW, and 12.09 Million therms/yr.¹¹ The life cycle savings

Table 1. Summary of Statewide Costs and Energy Bill Savings

Sector	Statewide Measure Costs	Statewide Energy Bill Savings	Statewide Net Savings
Residential	\$132.46 Million	\$319.77 Million	\$187.31 Million
Nonresidential	\$1.08 Billion	\$1.37 Billion	\$285.29 Million
Total	\$1.21 Billion	\$1.68 Billion	\$472.60 Million

associated from this building standard is expected to increase the wealth of Californian’s by \$473 million.¹²

Following are descriptions of the five C&S subprograms, and successful strategies employed in 2013:

1. The **Building Codes Advocacy** subprogram primarily targets improvements to Title 24 Building Efficiency Regulations that are periodically updated by the CEC. The subprogram also seeks changes to national building codes that impact California building codes. Advocacy activities include, but are not limited to,

¹¹ CEC is supposed to update these values, they are expected to increase. California Energy Commission *Initial Study/Proposed Negative Declaration For The 2013 Building Energy Efficiency Standards For Residential And Nonresidential Buildings* http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/12_Staff_Draft%20Report-Initial_Study_Neg_Dec.pdf

¹² California Energy Commission. *Final Statement of Reasons*. December 17, 2012. http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/final_rulemaking_documents/38_FSOR_FINAL.pdf

development of code enhancement proposals and participation in public rulemaking processes.

2013 Strategies:

- Supported post-adoption prerequisites to improve future implementation of 2013 Title 24 building energy and Calgreen standards. Activities included improvements to the Performance Method software and development of a software training program, and edits to the CEC Residential and Nonresidential Title 24 Compliance Manual.
 - Commenced preparations for the 2016 code cycle, including identifying and prioritizing energy efficiency measures for the 2016 T-24 standards development. Activities included developing, coordinating, and providing management support for ET projects for the top four residential measures planned for the 2016 standards. These measures are critical for achieving Zero Net Energy (ZNE) ready homes by 2020.
 - Harmonization of state and national building codes. Activities included a major rewrite of American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 189.1 (Standard for the Design of High Performance Green Buildings) to allow a “dual path” approach where one path is able to allow above federal minimum equipment efficiencies without violating federal preemption law. The C&S team has been working with the national energy code development process to assure that daylighting code requirements are aligned between ASHRAE Standard 90.1 (Energy Standard for Buildings Except Low-Rise Residential Buildings) and 2013 Title 24. In conjunction with PNNL, the C&S team is working to require card key controls of lighting, HVAC and ventilation of hotel/motel guest rooms.
2. The **Appliance Standards Advocacy** subprogram targets both state and federal standards and test methods, such as improvements to Title 20 Appliance Efficiency Regulations by the CEC, and improvements to Federal appliance regulations by the USDOE. Advocacy activities include developing Title 20 code enhancement proposals, participating in the CEC public rulemaking process, submitting comment letters based on IOU research and analysis in USDOE standards proceedings, and participating in direct negotiations with industry. Additionally, the program monitors state and federal legislation and intervenes, as appropriate.

2013 Strategies:

- The C&S team was active in advocating changes to **Title 20 Appliance Efficiency Regulations**. The team participated in several CEC webinars and workshops regarding “Phase 1” rulemaking. The team responded to CEC’s “Invitation to Participate” for 18 products including consumer electronics, lighting and water products, commercial clothes dryers, air filter

labeling, spas and pool pumps, and motors and heaters. Laboratory testing was completed for several topics, and submitted as part of the CASE studies. Twenty CASE studies were completed and submitted to the CEC. Finally, the team facilitated several industry and advocate stakeholder meetings on a range of topics.

- The C&S team was active in advocating changes to federal appliance standards. For instance, the team engaged in specific issues related to federal rulemaking and specification processes conducted by the USDOE, EPA, ENERGY STAR, and the FTC. For instance, the team participated in USDOE’s Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC) working groups with USDOE, industry, and other stakeholders. In addition, 37 comment letters were submitted to the USDOE, EPA, and FTC, covering a wide range of topics and issues, as shown below in Table 1.

Table 1. IOU Federal Comment Letters - 2013 Summary

Agency	ENERGY	Labeling		Test	
End-Use category	STAR spec	Requiremen	Standard	Procedure	Grand Total
DOE (subtotal)			21	7	28
Commercial Refrigeration			4		4
Cooking				1	1
Electronics			2		2
HVAC			3		3
Lighting			5		5
Other Uses / Miscellaneous			5	1	6
Residential Appliances			2	5	7
EPA (subtotal)	7		1		8
Commercial Refrigeration	1				1
Electronics	2				2
Residential Appliances	5				5
FTC (subtotal)		1			1
Labeling		1			1
Grand Total	8	1	21	7	37

3. The **Compliance Improvement** subprogram supports compliance improvement with both Title 24 building codes and Title 20 appliance standards. Compliance improvement activities complement the advocacy work by maximizing verified savings from codes and standards that are realized and persist over time. The Compliance Improvement subprogram targets market actors throughout the entire compliance chain, providing education, outreach, and technical support and resources to improve compliance with both the building and appliance energy standards. Achieving satisfactory compliance with the codes is a crucial requirement for capturing the code-related energy savings for the long-term benefit of society. Broad compliance is necessary to level the playing field for well-intentioned suppliers and contractors who are otherwise faced with a competitive disadvantage when complying with regulations. Greater compliance strengthens voluntary program baselines and provides a solid foundation for future robust advocacy efforts.

2013 Strategies:

- The C&S team expanded training modalities beyond the traditional classroom setting to increase the depth and breadth of educational offerings and audience reach. Trainings included interactive webinars called “Decoding Talks”, a monthly 90-minute online discussion of specific topics for building department personnel and contractors. More than 325 building department personnel and contractors participated in the Program’s 4 Decoding Talks held to date. Instructor led, interactive virtual classes were developed to expand the reach of training activities with minimal travel time and additional expenses. The on-line training portal provided building industry practitioners with direct paths to the training and tools. In addition, the team added new retail and office lighting classes and a supermarket refrigeration course to support implementation of new standards.
 - Compliance improvement tools were developed to support practitioners in implementing code. PG&E launched four new tools to aid compliance improvement practitioners in implementing the code. These tools include Forms Ace, which aids in determining which compliance forms are applicable to your specific project; Installation Ace, a “field guide” to assist in identifying proper installation techniques and visual aids for some components commonly installed incorrectly; and Reference Ace, which helps you navigate the Standards using key word search capabilities, hyperlinked tables and related sections. In addition, the team developed a suite of “Crack the Code” workshops, designed to help Building Departments facilitate trainings for local installation contractors.
 - The C&S team launched an outreach campaign to increase consumer and building industry’s awareness of code requirements, to include the new EnergyCodeAce website (www.EnergyCodeAce.com), which experienced 41,515 visits during its first month. A host of resources were created including 11 Trigger Sheets and 9 Fact Sheets. Furthermore, code compliance checklists provide step-by-step guidance for plans checks and field inspections.
4. The **Reach Codes** subprogram provides technical support to local governments that wish to adopt ordinances that exceed statewide Title 24 minimum energy efficiency requirements for new buildings, additions, or alterations. Support for local governments includes research and analysis for establishing performance levels relative to Title 24 and cost-effectiveness per Climate Zone, drafting of model ordinance templates for regional consistency, and assistance for completing and expediting the application process required for approval by the CEC. The subprogram also supports local governments that seek to establish residential or commercial energy conservation ordinances for existing buildings.

2013 Strategies:

- The C&S team commenced efforts to support documenting reach code savings that may be counted towards local government climate action plan goals. Activities included initiating the development of a secure cloud-hosted system that would allow participating Reach Code jurisdictions to import data from the Performance Certificate of Compliance (PERF-1C) XML files generated by one of the compliance software applications approved by the CEC into a centralized database. This database will allow the IOUs to report aggregated and detailed modeled energy savings and electric demand and GHG reductions. It will also allow the various jurisdictions access their own aggregated savings and reduction data.
 - Preparation of Cost Effectiveness Studies were initiated to support the adoption of Cool Roof Reach Code ordinances by the City of Los Angeles, City of Pasadena and County of Los Angeles, respectively. The Studies will address product cost, energy savings, cost-effectiveness and greenhouse gas reductions (GHG) to support reach code requirements for residential and nonresidential Cool Roofs in Climate Zones 6, 8 and 9.
5. The **Planning and Coordination** subprogram works with the CEC, CPUC, Emerging Technologies, Workforce Education and Training, rebate and other voluntary programs, to conduct strategic planning in support of the Strategic Plan policy goals, including ZNE goals for new construction. As part of the expanded outreach and communications efforts, the C&S program maintains a codes and standards collaborative, and continues to facilitate the Compliance Improvement Advisory Group (CIAG). In addition, the C&S program maintains regular contact with state and federal code-setting agencies to minimize duplication of efforts and coordinate activities.

2013 Strategies:

- The team conducted tactical planning in support of the CPUC's residential ZNE policy goal. Activities included development of a draft plan, review by CPUC and CEC staff, and revisions to the draft plan based these inputs. In addition, the team developed a standing statewide cross-functional conference call to improve coordination communication with other groups within the IOU energy efficiency portfolio. Finally, in collaboration with WE&T, the team coordinated on training calendar offerings for building industry community and training for community colleges on 2013 Title 24 code requirements.

EMERGING TECHNOLOGIES

The statewide Emerging Technologies Program (ETP) supports increased energy efficiency market demand and technology supply by contributing to the development and deployment of new and under-utilized EE measures (i.e., technologies, practices,

and tools). The ETP facilitated the use of new measures in achieving California's aggressive energy and demand savings goals.

The ETP includes the following three subprograms: Technology Assessments, Technology Development Support and Technology Introduction Support. Following are descriptions of the three Emerging Technologies subprograms, and successful strategies employed in 2013:

1. The Technology Assessments (TA) subprogram evaluates the performance claims and overall effectiveness of energy efficient technologies and solutions that are new-to-market or under-utilized. These assessments may build on data/information from testing at customer or field sites, laboratory testing, or paper studies. Assessments can also generate the data necessary for energy efficiency rebate programs to estimate energy and demand savings over the life of the measure.

2013 Strategies:

- Collaborated with many IOU and non-IOU partners and scanned a wide variety of sources to identify suitable assessment candidates.
- Used the statewide database to report project activities on a quarterly basis.
- Actively engaged the EE program and other program stakeholders.
- Transferred acquired knowledge to customers, engineering and design communities.
- Transferred assessment results to EE programs for adoption as energy efficiency measures.
- Worked with account managers and account executives to help keep their customers informed.
- Provided information to internal stakeholders from assessments that can help the IOUs' IDSM resource acquisition programs develop new measures or revise/integrate existing measures.
- Scanned, screened and prioritized a wide variety of sources and coordinated closely with EE programs to identify technologies suitable for TAs.
- Produced reports describing TA results, conclusions and recommendations.

2. The Technology Development Support (TDS) subprogram targets opportunities for EE technology development. Technology development support provides information to early-stage technologies or concepts that helps transform them into market-ready products, helping bridge the gap between research and development (R&D) and the market. The development support process has resulted in more

energy efficient technologies such as televisions, computer monitors, illuminated signs and lighting fixtures. ETP can also support the development of methodologies, product specifications and performance criteria in support of EE product and program development.

The TDS subprogram also provides training and networking for entrepreneurs and companies offering energy saving technologies. This effort is achieved through Technology Resource Innovator Outreach (TRIO).

2013 Strategies:

- Scanned, screened and prioritized a wide variety of sources and coordinated closely with EE programs to identify technologies and approaches suitable for TDS.
- Stayed abreast of statewide lighting and HVAC initiatives.
- Worked with C&S to perform evaluations of technologies to understand upcoming standards.
- Collaborated with industry directly and through partners, such as the Western Cooling Efficiency Center (WCEC) and the California Lighting Technology Center (CLTC), to provide targeted support for technology development.
- Collaborated and educated innovators from universities and other research institutions.
- Collaborated with the Emerging Technologies Coordinating Council (ETCC) members and other utilities from across the country on various activities.
- Conducted TDS projects.
- Hosted two TRIO Roundtable events designed to increase stakeholder awareness of specific topics – “energy management in demand side programs” and “leveraging capital for energy efficiency investments in MUSH buildings.”

3. The Technology Introduction Support (TIS) subprogram increases market exposure or awareness of technologies that are market-ready. Introduction efforts may include demonstration of the energy savings potential of individual technologies—or a system or group of technologies—to assist technology penetration in the market. The ET Program may also find the right market actors and get them to experience the technologies first hand in real-world settings, or educate contractors on the benefits and proper installation techniques of new technologies via Demonstration Showcase (DS) projects. These projects are designed to provide key stakeholders the opportunity to see technologies deployed in real-world applications and installations. These DS projects are either open to the public or targeted at a specific audience, creating broad public and technical

community exposure and increased market knowledge. Scaled Field Placements (SFP) projects consist of placing a technology, or set of technologies, at a number of customer sites as a key step to gain market traction and feedback. Monitoring activities on each SFP are determined as appropriate.

2013 Strategies:

- Scanned, screened and prioritized a wide variety of sources and coordinated closely with EE programs to identify measures suitable for SFPs and DS.
- Developed a strategic communication plan to promote project exposure, stakeholder awareness and public information dissemination.
- Launched SFP efforts.
- Demonstrated technologies in field conditions.
- Coordinated with Emerging Technologies Coordinating Council stakeholders.
- Coordinated with Third Party Programs in the IDEEA365 Innovative Solicitation to identify emerging technologies to be introduced to the market via Third Party Programs.

WORKFORCE EDUCATION AND TRAINING

The Statewide Workforce Education and Training (WE&T) Program represents a portfolio of education, training, and workforce development planning and implementation funded by or coordinated with the California IOUs. Workforce Education and Training is an important crosscutting activity in an effort to not only educate and train current workers, but to prepare future workers to be better able to successfully perform the jobs needed to help achieve increased energy savings targets for the IOUs and California's clean energy goals.

Following are descriptions of the three WE&T subprograms and successful strategies employed in 2013.

1. The **WE&T Centergies** subprogram is organized around market sectors and cross-cutting market segments to facilitate workforce education and training to meet California and PG&E's Energy Efficiency, Demand Response and Distributed Generation goals. PG&E's three Energy Centers—the Pacific Energy Center, The Energy Training Center, Stockton, and the Food Service Technology Center, represent the largest component of the WE&T Program. Each Energy Center targets specific market sectors and market actors. The Energy Centers collaborate with internal PG&E partners as well as external workforce and energy efficiency

stakeholders to realize high-road sector-specific education and training to enable a capable workforce for the energy efficiency economy.

2013 Strategies:

PG&E's Energy Centers continued to restructure their programs to align with the 2011 WE&T Needs Assessment. This realignment included partnering with construction trades, focusing on skills-based trainings, adding more adult learning methods into courses, organizing more classes into series, supporting certifications, inclusion of disadvantaged workers and supporting and focusing their sector strategy efforts.

Over half of the seminars offered by the Centergies program focus on skills based programs as recommended by the 2011 WE&T Needs Assessment. The balance of Centergies efforts specifically focus on market building¹³ efforts in support of programs. In 2013, Centergies continued its strong support of the well-attended Low Income Weatherization program, the statewide Building Operators Certification (BOC©) program, the IHACI classes, and many more series-based classes and certifications.

2. The **Connections** subprogram interacts with various educational sectors, community based organizations and state education agencies to facilitate implementation of energy efficiency strategic planning for K-12, community colleges, adult education and higher education institutions. It seeks to combine efforts to promote energy efficiency, demand response within these educational sectors while simultaneously providing energy related education as well as career awareness information to students. The subprogram provides interactive programs, materials and teacher workshops at no cost to schools or teachers. Connections also coordinates with the Department of Education to ensure that IOU educational materials are in alignment with California Content/Codes Standards.

2013 Strategies:

As stated in the Executive Summary, through its PEAK (Promoting Energy Action and Knowledge), Energenius and Green360 programs, PG&E's K-12 sector programs met their targets for student outreach, low income, inner city or urban, Title 1, teacher training, outreach and green careers. The PEAK and Energenius programs supported more than 85,000 students in 800 schools across PG&E's service territory; almost 70 percent of the schools are designated Title 1 underserved schools.

The Green360 program enhanced its online curriculum by creating the Career Catalyst, a stand-alone online resource designed to kick start career exploration by helping users discover their personality traits and interests and identify best-fit

13 Market Building efforts are defined as: WE&T efforts that encourage end-users to invest in energy efficiency.

careers. This enhancement has increased the types of students who can benefit, as well as opened opportunities to expand to community colleges, middle schools and community based organizations.

The statewide PowerSave Campus program, which establishes energy efficiency and sustainability goals, trains students, and engages UC/CSU campus staff and faculty members to create working groups, developed a for-credit handbook to help orient interns. The handbook provides standardized protocols and knowledge so that incoming for-credit interns can maximize their learning experience and expands the number of students reached and engaged in implementation projects.

U.C. Berkeley PowerSave interns won the Best Practice Award at the California Higher Education Sustainability Conference in the Energy Efficiency and Student Sustainability category.

3. The **Strategic Planning** subprogram provides the statewide framework, coordination and planning for implementing the WE&T portions of the Strategic Plan and the WE&T Needs Assessment for EE, DG and DR (Needs Assessment). Strategic Planning manages and executes strategic statewide planning tasks intended to help sustain momentum in long-term WE&T development, including identification of, potential partners, funding streams and market sector specific needs. Additionally, the Planning and Implementation team works to manage and implement actionable feedback and best practices from external stakeholders, advisory boards and consultants in meeting the Strategic Plan and Needs Assessment goals.

2013 Strategies:

In D.12-11-015, the statewide WE&T program was directed to hire a workforce development expert to develop specific actionable recommendations to facilitate implementation of the Needs Assessment. Through an RFP process the Don Vial Center on Employment in the Green Economy (DVC) was selected by the IOUs with considerable input by the Peer Review Group (PRG), consisting of 14 separate stakeholders.¹⁴

The contract tasked the DVC with providing actionable recommendations to the statewide WE&T Program in support of the goals of the Strategic Plan and the Needs Assessment. In late 2013, PG&E outlined a preliminary “Sector Strategy” overview document, with feedback from the DVC providing the statewide team a process view of how to facilitate and what constitutes a sector strategy. The Strategic Planning and Implementation team worked with the DVC to assist them in better understanding the regulatory, business and training landscape the IOUs work

¹⁴ PRG included the CPUC Energy Division, California Energy Commission, Division of Apprenticeship Standards, the California Workforce Investment Board, The Greenlining Institute, Brightline Defense Fund, The California Construction Industry Labor Management Cooperation Trust, The California Community College Chancellor’s Office, Natural Resources Defense Council, Emerald City, and others.

in. The PG&E WE&T Strategic Planning and Implementation subprogram has led the management of this contract for the statewide IOUs.

In compliance with D.09-09-047, the IOUs have submitted a detailed report on 2013 progress in the 2013 Joint IOU Workforce Education and Training Annual Report, posted to the CPUC's Energy Efficiency Statistics site:

<http://eestats.cpuc.ca.gov/Views/Documents.aspx>.

INTEGRATED DEMAND SIDE MANAGEMENT (IDSM)

The California Long Term Energy Efficiency Strategic Plan (Strategic Plan) recognizes the integration of demand-side management options, including EE, DR and DG, as fundamental to achieving California's strategic energy goals. To support this initiative, the IOUs have identified integrated demand-side management (IDSM) as an important strategic DSM policy priority and have proposed a series of activities, pilots and other programs in response to the Strategic Plan DSM Coordination and Integration Strategy.

An IOU and Energy Division Statewide Integration Task Force was formed in 2010 and has continued coordinating activities that promote, in a statewide-coordinated fashion, the strategies identified in the Strategic Plan and the eight integration directives described in the Commission Decision 09-09-047 as follows:

1. Development of a proposed method to measure cost-effectiveness for integrated projects and programs including quantification and attribution methods that includes GHG and water reductions benefits and the potential long-term economic and electric/gas hedging benefits.
2. Development of proposed measurement and evaluation protocols for IDSM programs and projects.
3. Review IDSM enabling emerging technologies for potential inclusion in integrated programs.
4. Development of cross-utility standardized integrated audit tools using PG&E's developed audits as a starting point.
5. Track integration pilot programs to estimate energy savings and lessons learned and develop standard integration best practices that can be applied to all IOU programs based on pilot program evaluations and the results of additional integration promoting activities (i.e., EM&V and cost-benefit results).
6. Develop regular reports on progress and recommendations to the CPUC.
7. Organize and oversee internal utility IDSM strategies by establishing internal Integration Teams with staff from EE, DR, DG, marketing and delivery channels.
8. Provide feedback and recommendations for the utilities' integrated marketing campaigns including how the working group will ensure that DR marketing

programs approved as category 9 programs are coordinated with EE integrated marketing efforts.

Statewide IDSM Program 2013 Strategies:

- Further efforts on developing integrated cost effectiveness and EM&V methodologies are on hold pending direction from the Energy Division.
- The Task Force tracked multiple integrated emerging technologies and reviewed various programs, projects, IDSM Pilots and activities to identify integration efforts and opportunities, as well as to develop best practices.
- The IOUs submitted four, joint quarterly reports for 2013, including an Executive Summary section, to provide Energy Division staff with updates on the eight IDSM directives. All quarterly reports were uploaded and available for viewing on California Energy Efficiency Statistics Data Portal (EE Stats).
- The statewide IDSM Task Force held regular coordination phone calls and met in person in November to review the status of the various support activities for this IDSM initiative.
- The IOUs have delivered an estimated 350 integrated collateral pieces, outreach events, and website efforts to residential and business customers that promote multiple programs across EE, DR, DG and/or Advanced Metering Infrastructure (AMI).
- In addition to the meetings described above, the IOUs have coordinated on a Statewide basis in several areas:
 - The SW Online Integrated Audits team continues to coordinate to deliver a consistent online integrated audit tool that works with each IOU interface and educates customers on managing their energy use costs.
 - The Onsite Integrated Audits team continues to collaborate to share approaches and best practices. The IOUs continue to offer onsite integrated audits to small, medium and large customers.

PG&E IDSM Program 2013 Strategies:

PG&E's additional IDSM Program efforts focused on internal coordination of teams, marketing approaches and collateral, education and training of sales forces and delivery channels, tools needed to support integrated offerings and support of the Statewide IDSM Task Force. Subprograms include an integration team, and integrated marketing and outreach, education and training (external), sales training (internal), emerging technologies integration and support tools.

I. Program Delivery Coordination

PG&E Internal Integration Team

- PG&E continued internal integration team meetings with staff from Energy Efficiency, Demand Response, Distributed Generation, Low Income Energy Efficiency, Marketing and Outreach, Workforce Training, Energy Solutions and Service and delivery channels including teams that are responsible for the Trade Professional program, Third Party programs, and Government Partnerships. PG&E staff monitored on-going and new integrated activities, worked to identify lessons learned and establish best practices and reported on integrated activities.
- Recognize Integrated Projects and Staff Leaders - The integration team developed a list of 2013 integrated projects, shared the list with PG&E's four Energy Sales and Service Regional Directors and asked them to nominate and recognize the best integrated projects and staff leaders from 2013. Over 30 integrated projects were nominated. PG&E used the information collected to:
 - Define and share attributes of successful integrated projects with ES&S customer representatives.
 - Develop a one-page presentation format to highlight integrated projects.
 - Provide examples of successful integration for IDSM reporting.
- Annual ES&S Sales Summits in Sacramento and Fresno. Over 340 employees from all appropriate delivery channels and program staff were trained on IDSM integration to improve the sales effectiveness of programs and drive integrated solutions for customers.
- PG&E conducted over 50 EE, DR and DG trainings on program changes and incentive measures to 450 newly enrolled Trade Professional program participants.
- Offered over 100 integrated classes through PG&E's energy training centers. The training centers focused on integration of programs and systems by offering classes such as "ZNE Home Retrofits Part I-VII."

II. Comprehensive and Coordinated Marketing

- PG&E executed marketing campaigns and provided collateral to the various customer segments to inform customers of demand side resources (including EE, DR, DG and SmartMeter™). Marketing continued to focus heavily on integrated offerings to support time varying pricing, particularly as small agricultural (Ag) customers were transitioned to time of use rates in 2013, joining large Commercial & Industrial, Large Ag and Small & Medium Business (SMB) customers. Water-Energy Nexus was a special area of emphasis with Ag customers. Recruitment for SmartRate and SmartAC programs to low-income residential customers was also an active area of focus. Marketing channels included sector-specific fact sheets, case study videos on select technologies, mass mailings and emails and attending key

events like the World Ag Expo, CA Sustainable Wine Growers Alliance and Buildings Owners and Managers Association meetings.

- Identified best practices for delivering integrated projects in the field that include (but are not limited to) knowing the customer, program participation history and their industry to offer the right solutions, meeting the customer in person so other measures can be identified and recommended from visual inspection and creating a team approach that includes the appropriate subject matter experts along with customer decision makers and customer corporate headquarters representatives, as appropriate.

III. Technology and Systems Integration

- PG&E's ETP hosted a Technology Resource Innovation Outreach (TRIO) roundtable to engage stakeholders such as early-stage entrepreneurs, investors, and the research community in energy management in California utilities' demand side programs. Topics included energy management at California utilities, energy efficiency and behavior management technologies, demand response, Home Area Networks and data management, and pricing and rates. Approximately 50 people attended the TRIO roundtable. TRIO is a joint initiative of California's IOUs.
- PG&E's EE and DR program staff collaborated to initiate efforts to offer EE-DR enabled Smart Thermostats to both residential and small business customers.
- PG&E continued to improve and refine its on-line integrated audit and Interact tools for residential and business customers. PG&E further refined its analytical tools to better assist customer relationship managers in targeting business customers for industry-specific integrated assistance. PG&E continues to develop other analytics tools to assess market trends, propensity for participation and other business analytic metrics.

FINANCING

PG&E's Energy Efficiency Financing Programs are designed to help customers finance the up-front cost of EE projects. These financing programs are offered in conjunction with other PG&E EE programs to stimulate and enable higher levels of customer participation.

The On-Bill Financing (OBF) Program offers zero-interest financing for the installation of qualifying energy efficiency measures. Loans are available to qualifying nonresidential customers, including commercial, industrial, government, and institutional customers, and are repaid through the customer's utility bill. This non-resource program supports the Strategic Plan's commercial sector goals and strategies. OBF is offered through PG&E's core, third party, and local government partnership delivery channels.

2013 Strategies:

In 2013, PG&E actively participated in ongoing statewide team activities to assess, improve, and streamline OBF. The following initiatives were implemented throughout 2013 in efforts to improve the customer experience with the program:

- The application process for OBF projects installing deemed measures was simplified by creating a Deemed Form that allowed for faster review by the OBF team and freed up engineering resources.
- Worked with the marketing staff to create an integrated marketing campaign for SMB and agricultural customers to raise awareness of the OBF program in these target demographics.
- Initiated monthly webinars, along with targeted trainings, for both internal and external constituents to increase the knowledge level of OBF stakeholders and improve application processing times by improving the completeness and accuracy of submitted applications.

These efforts lead to significant growth in the number and dollar amounts of loans originated in 2013 over prior years.

In alignment with CPUC guidance, the IOUs also coordinated on the development of consistent OBF policies to more closely align OBF programs. The IOUs will ensure that their programs continue to be aligned moving forward.

In addition, the OBF Program complied with CPUC Decision 13-04-044 which ordered the California IOUs to modify their OBF programs so that basic lighting, defined as all non-LED lighting retrofits (e.g., CFL and linear fluorescents), and basic lighting control measures, will be limited to no more than 20% of the final OBF loan amount; and identify new, emerging lighting equipment which may be excluded from the 20% calculation. This policy became effective on November 20, 2013.

PG&E has also funded two American Recovery and Reinvestment Act (ARRA) continuation programs. The emPower SBC program is administered by the County of Santa Barbara and is a joint co-funding effort between PG&E, SCE, and SCG. The program leverages ARRA funding to create a public-private partnership between the County, all eight incorporated cities, the Home Upgrade Program, and two local credit unions. The emPowerSBC program is largely driven by the contractors. EmPowerSBC provides local marketing through its financial institutions and contractor training efforts. The emPowerSBC program receives two types of funding from the IOUs: Up to \$2.7 million for administration, marketing education & outreach, and workforce education & training (PG&E commitment is \$972,000) and up to \$1 million for a loan loss reserve (LLR).¹⁵

¹⁵ A loan loss reserve (LLR) provides reimbursement to a financial institution only in the event of a default on a qualifying loan, up to a given percentage on a portfolio of loans. IOUs

The Residential Energy Efficiency Retrofit Program is administered by the CRHMFA Homebuyers Fund (CHF). CHF coordinates ratepayer funding with ARRA funding from the CEC to provide financing solutions for customers. CHF's Energy Loan program is currently available to all PG&E residential customer covering 44 counties in California. CHF's program is largely driven by the contractors. CHF may provide some marketing through its other housing programs and financial institutions may market to their existing customers but CHF believes most of the business is driven by the contractor. CHF can receive up to \$2 million from PG&E for the 2013-2014 cycle to continue the LLR program.

Additionally, the PG&E EE Financing team has worked on educating customers about and encouraging customers to utilize the most effective financing solutions for their efficiency upgrades. As part of this effort, the EE Financing team worked to assist implementers and contractors to include third-party finance offerings including Commercial PACE, tax exempt leases, equipment leases and other financing offerings into their customer delivery model across all customer segments and service offerings.

MARKETING, EDUCATION AND OUTREACH

In 2010-2012, the purpose of the Statewide Marketing, Education & Outreach (Statewide ME&O) program was to increase utility consumer awareness and participation in cost-effective energy-saving activities offered by the IOUs that save energy and reduce greenhouse gas (GHG) emissions.

The IOUs engaged in this statewide effort, as ordered in D.09-09-047 and under the brand name "Engage 360," until October 2011. On October 13, 2011, Commissioner Ferron issued an *Assigned Commissioner's Ruling Regarding Statewide Marketing and Outreach Program* suspending all statewide ME&O activities until Commission Staff could provide recommendations on how to revise the program.

On May 10, 2012, the Commission issued its Guidance Decision (D.12-05-015) directing the IOUs to discontinue the use of the Engage 360 brand and develop a strategy and budget for transitioning toward the use of Energy Upgrade California™ as a statewide umbrella brand for energy information and encouraging demand-side management actions by residential and small business consumers. Each IOU was ordered to file an individual application no later than August 3, 2012, to determine the objectives and program performance metrics of the program going forward for the 2013-2014 period. In addition, the Guidance Decision ordered PG&E to enter into a contract with the California Center for Sustainable Energy (CCSE) as the Commission selected program implementer by July 1, 2012, to allow CCSE to begin transition activities necessary prior to the transition of the Energy Upgrade California™ brand.

2013 Implementation Efforts

provide LLR funds and set eligible energy efficiency measures. Financial intuitions provide capital for EE loans.

On January 18, 2013, the assigned Commissioner and Administrative Law Judge issued a scoping memo and ruling that divided the proceeding into two phases with Phase 1 addressing the Flex Alert program and Phase 2 addressing the marketing activities related to Statewide ME&O.

- Phase 1

On April 26, 2013, a Phase 1 decision (D.13-04-021) was issued to fund the Flex Alert program for 2013 and 2014. The Flex Alert program is an emergency alert campaign that provides paid media outreach when a flex alert event is called by the California Independent System Operator (CAISO) to educate customers how to respond and encourages them to reduce their energy usage. This decision established SCE as the administrator and set annual utility budgets for the Flex Alert program for 2013 and 2014. The total statewide Flex Alert budget is \$10 million annually with contributions of \$6 million from SCE, \$2.5 million from PG&E, and \$1.5 million from SDG&E. In addition, SCE is the lead on the Evaluation, Measurement and Verification (EM&V) study on Flex Alert for the utilities, which is to be funded by a portion of the 2012-2014 EM&V budget authorized in D.12-04-045.

- Phase 2

On March 14, 2013, as directed in the January 18, 2013 scoping memo, CCSE served its marketing plan for Energy Upgrade California™ detailing their plan for outreach. As part of the brand transition work, CCSE issued requests for proposals (RFP) and selected agencies to conduct brand and website assessments of Energy Upgrade California™ with final reports issued February 15, 2013 and March 12, 2013, respectively.

On December 27, 2013, D.13-12-038 was issued, approving funding and assigning responsibility to CCSE to develop and implement the Statewide ME&O plan for residential and small business customers for 2014 and 2015 with oversight by the CPUC and California Energy Commission. The decision identified the IOUs and Regional Energy Networks (RENs) responsibilities: provide information to CCSE and the marketing firm in a timely manner; participate in the EM&V roadmap for marketing; coordinate with CCSE on local and statewide marketing activities; and raise any issues with the semi-annual marketing plans proposed by CCSE. The decision also ordered PG&E to serve as the fiscal manager through a contract with CCSE, on behalf of the IOUs, without exercising control of, or modifications to, the overall design of the 2014-2015 Statewide ME&O program.

PROGRAM DESCRIPTIONS AND STRATEGIES – LOCAL PROGRAMS

This section describes PG&E's 2013 strategies and accomplishments for the following local programs:

Local Programs

- Government Partnerships
- Institutional Partnerships
 - Local Government Partnerships
- Local Government Energy Action Resources (LGEAR)
- Strategic Energy Resources
 - Innovator Pilots
 - Green Communities
- Third Party Programs
- Residential Sector
- Commercial Sector
- Industrial Sector
- Agricultural Sector
- Workforce Education and Training Sector
- Program Closure

GOVERNMENT PARTNERSHIPS

PG&E highly values its relationships with local, regional and statewide partners. PG&E's portfolio of 27 local, regional, and statewide partnerships continues to successfully reduce energy use and costs throughout approximately 270 cities and counties. In 2013, PG&E launched five new local and regional partnerships encompassing twelve counties. The addition of these partnerships increased the ability to serve communities more holistically across the PG&E service territory. The 2013 accomplishments for Government and Community Partnership included a reduction of 14 MW, 96.3 GWh, 1.9 M therms, returning \$24.3 million to incentives to local communities throughout the territory.

Although most partnerships are on track to achieve the two-year 2013-2014 energy savings targets, some partnerships fell short of the 2013 electric and natural gas savings annual targets. The main factor that impacted savings goals in 2013 were related to significant changes to the methodology for calculating direct install lighting savings, combined with program ramp up delays related to the initiation of the new cycle. Programs that fell short of savings goals are focusing on strategies moving forward to increase customer participation and identify deeper and more comprehensive

savings opportunities. PG&E anticipates that most partnerships will make up 2013 shortfalls in 2014 and achieve the overall two-year 2013-2014 partnership goal.

INSTITUTIONAL PARTNERSHIPS

Institutional Partnerships are designed to create working relationships among the four California IOUs, agencies of the State of California and/or state educational institutions. The objective of the Institutional Partnerships is to reduce energy usage through facility and equipment improvements and share best practices among state institutions. There are four joint-IOU Institutional partnerships including California Community Colleges, University of California and California State Universities, State of California Partnership and California Department of Corrections and Rehabilitation.

PG&E's Institutional Partnership portfolio focused on achieving energy savings and supporting the key Strategic Plan goal of demand-side management (DSM) integration and coordination, which includes improving regulatory coordination, establishing integration procedures, and piloting DSM integration programs. The Institutional Partnerships also concentrated on innovative delivery channels and funding mechanisms to meet current economic conditions and achieve program integration and savings.

Summary/Highlights of 2013 Strategies/Accomplishments for Institutional Partnerships:

- Introduced support services for Proposition 39 funding to California Community Colleges including enhanced outreach, project development and technical support for 72 districts containing 112 campuses throughout California.
- Completed more than 130 Retrofit, MBCx and New Construction projects at 23 different UC and CSU campuses (inclusive of UC Med Centers) across the Partnership.
- The CDCR Partnership filled its project pipeline with ten projects that were approved by the Management Team for implementation in 2013. As of the end of 2013, 75 percent of the program budget was committed to approved projects.

California Community Colleges (CCC)

The California Community Colleges/Investor Owned Utility Energy Efficiency Partnership is a unique, statewide program to achieve immediate and long-term energy savings and peak demand reduction within California's community college education system. The funding of nearly \$3.5 million for the 2013-2014 program cycle continued the progress established during earlier Energy Efficiency Program cycles to create a permanent framework for sustainable, comprehensive energy management at Community College campuses served by PG&E.

The CCC/IOU Partnership has provided extensive outreach and support services to the districts within the California Community College (CCC) system in support of their efforts to identify, develop, and implement projects funded through Proposition 39.

The CCC/IOU Partnership's support of the CCC Prop 39 program began in early-2013 and includes hands-on services from the four IOUs involved. These services include funding enhanced outreach, project development and technical support for 72 districts containing 112 campuses throughout California. Specific support tasks for Prop 39 include:

- Education about the CCC/IOU Partnership and Prop 39 Program opportunities
- Identification of projects and development of a "Call for Projects Lists" for submission to the Chancellor's Office including ROM cost and savings estimates
- Creation of energy savings calculations which work for both IOU incentive programs and Prop 39 applications
- Technical verification of energy savings calculations through the IOU incentive applications processes
- Detailed creation of both IOU Incentive and Prop 39 applications and supporting calculations
- Coordination between CCC/IOU Partnership and Prop 39 Program
- Support for project status tracking and reporting

University of California and California State Universities (UC/CSU)

The University of California/California State University/Investor Owned Utility Energy Efficiency Partnership is a unique, statewide program to achieve immediate and long-term energy savings and peak demand reduction within California's higher education system. The PG&E program funding of approximately \$24.5 million for the 2013-2014 program cycle helped continue the robust framework established in previous program cycles for sustainable, comprehensive energy management at campuses served by the IOUs.

The program has a hierarchical management structure to ensure successful implementation. The Management Team meets every three weeks to conduct business at the management level and the Executive Team meets quarterly to discuss overall program status and policy issues. The Partnership also has a Training and Education Team that organizes various energy efficiency trainings targeted to university campuses. In addition to representatives from each IOU, the University of California Office of the President and California State University Chancellor's Office each have members on all three program management teams. Inclusion of all Partnership stakeholders at the various management levels provides the UC and CSU campuses with support in their efforts to implement energy efficiency projects. The Program Administrator actively tracks project savings and schedule data in a web-based tracking tool and creates regular reports to show overall status of the program and forecasts relative to goals.

Members of the management team also meet on a regular basis to document implementation progress, identify and resolve issues, and drive project completion. The Program Administrator actively tracks project savings and schedule data in online tracking tool, and creates regular reports to show overall status of program or forecasts relative to goals.

Other noteworthy successes are as follows:

- Focused on meeting campus and IOU annual goals for 2013 project completion and achievement.
- Completed more than 130 Retrofit, Monitor-Based Commissioning (MBCx) and New Construction projects at 23 different UC and CSU campuses (inclusive of UC Med Centers) across the Partnership.
- Implemented an enhanced project tracking and scheduling approach, giving UC campuses more direct control and responsibility for detailed construction schedules.
- Targeted completion of projects that include sun-setting measures or those that would be subject to new 2013 Title code baseline in 2014.
- Additional projects generated from the CSUCO's Special Repairs funding initiative.
- Held various workshops for campus faculty and staff members, including LEED for Healthcare, two Exceeding Title 24 workshops, two ASHRAE Level 1 Energy Auditing trainings, Building Operation Certification and Certified Energy Manager courses, and an Energy Performance Benchmarking Forum for New Construction projects.
- Held a UC/CSU Joint Energy Managers as part of the CA Higher Education Sustainability Conference (CHESC) in UCSB, highlighting upcoming code changes, campus best practices and Partnership program updates.
- Created the Best Practices Case Studies to be published and distributed to various parties, promoting the Partnership's statewide successes.

State of California Partnership

The State of California energy efficiency partnership program shares energy efficiency best practices and implements energy efficiency projects for immediate and long-term energy savings and peak demand reduction at state-owned facilities served by the IOUs with partners.

The partnership assists state agencies, under the executive branch of the state government, to comply with Executive Order S-20-04 (Green Building Initiative). The

effort will help reduce the amount of energy the state purchases off the electrical grid by 20 percent by the year 2015.

This statewide partnership provides custom incentives and core programs for projects implemented in California's state owned and leased buildings. Additionally, the IOUs provide services for education and training activities. An objective of the partnership is to integrate and coordinate various utility programs to leverage incentives and encourage customers to expand their focus beyond energy efficiency. The activities achieve cost-effective energy savings through energy efficiency retro-commissioning, equipment retrofits, new construction, third party programs, demand response programs, and any applicable self-generation programs. The partnership also seeks opportunities to integrate utility incentives with financing options. This includes state financing through the Energy Smart program (currently on hold), the American Recovery and Reinvestment Act Revolving Loan Fund, or the On Bill Financing Program to increase program participation in the partnership effort and encourage additional energy projects.

California Department of Corrections and Rehabilitation

The CDCR/IOU partnership is a customized statewide energy efficiency partnership program that accomplishes immediate, long-term peak energy demand savings and establishes a permanent framework for sustainable, long-term comprehensive energy management programs at CDCR institutions served by California's four large IOU's. The 2013-2014 Program Cycle has incentive funding of approximately \$4.8 million available for qualifying energy projects in PG&E service territory.

This program capitalizes on the vast opportunities for efficiency improvements and utilizes the resources and expertise of CDCR and IOU staff to ensure a successful and cost-effective program that meets the objectives of the CPUC. The program also leverages the existing contractual relationship between CDCR and Energy Service Companies (ESCOs) to develop and implement energy projects in CDCR facilities

Regular Management Team meeting (every 3 weeks) and Executive Team meetings (quarterly) with program administrator have been key to identifying and managing projects, and to proactively addressing any challenges the program may have faced. While facing a shortage of Partnership staff in 2013, the CDCR Chief of Energy position remained vacant in Q1 2013 but was subsequently filled and additional Construction Analyst staff were brought on board to manage workflow. The pipeline of projects was filled in and ten projects were approved by the Management Team for implementation in 2013. As of the end of 2013, 75 percent of the program budget was committed to approved projects.

The CDCR Partnership faces an ongoing challenge of finding funding for projects. On Bill Financing has been the primary source of funding and is supplemented by Special Repairs Project funding.

LOCAL GOVERNMENT PARTNERSHIPS

Through Local Government Partnerships (LGP), PG&E collaborates with local and regional partners to deliver community-based innovative cost-effective energy efficiency programs in support of the goals of the CPUC's Energy Efficiency Strategic Plan. Twenty-three local and regional partnerships were implemented in 2013 serving approximately 270 cities and counties. In 2013, these partnerships continued to leverage the role local governments play in their communities: as a distinct customer segment with its own unique challenges and needs related to implementing energy efficiency, as a comprehensive delivery channel for energy services to their communities, and as community leaders.

Association of Monterey Bay Area Governments Energy Watch

The Association of Monterey Bay Area Governments (AMBAG) Energy Watch is a partnership between AMBAG and PG&E. AMBAG is a Council of Governments that is governed by a twenty-four member Board of Directors comprised of elected officials. AMBAG Energy Watch region includes the Santa Cruz, Monterey and San Benito Counties and the 18 incorporated cities. AMBAG Energy Watch serves PG&E's municipal, schools, special district, nonprofit, hospitality, agricultural and residential customers. Services include energy assessments and audits, Proposition 39 support, technical assistance, assistance accessing low or no-interest financing, benchmarking assistance, and development of and assisting with implementation of regional energy action strategies.

Services provided by AMBAG include the Government Partnership/Third Party (GP/3P) Direct Install program and the Moderate Income Direct Install (MIDI) program.

AMBAG Energy Watch offers a robust municipal program, providing both turn-key and customized energy efficiency solutions for city facilities.

Accomplishments for AMBAG Energy Watch include a reduction of 1.12 MW, 6.1 GWh, and 7,908 therms, returning \$1.4 million in incentives to the AMBAG Energy Watch region. In 2013, AMBAG Energy Watch launched the marketing of an agricultural direct install program. The project successfully completed 21 projects, and continues to work with agriculture stakeholder groups including the Farm Bureaus of Monterey, San Benito and Santa Cruz County and Grower-Shipper Association to promote the new program.

East Bay Energy Watch

Through the East Bay Energy Watch (EBEW), PG&E, local governments, and community-based energy service providers in the East Bay work together to provide innovative energy efficiency solutions for residents and businesses throughout Alameda and Contra Costa Counties.

EBEW fosters a more integrated portfolio through the addition of new elements, increased coordination with PG&E's core and third party energy efficiency offerings, and

a more comprehensive approach to implementing energy efficiency measures in the municipal sector.

Services provided by the East Bay Energy Watch include the LGP Commercial Direct Install Program, the LGP Residential Direct Install Program and the Municipal Implementation Team (MIT) Program.

The Committee coordinates on the direction of overall partnership efforts. Accomplishments for EBEW include a reduction of 0.75 MW, 17.6 GWh, and 97,481 therms, returning \$4.5 million in incentives to the East Bay region. In 2013, EBEW successfully created a Strategic Advisory Committee, representing two counties and 32 cities in the East Bay Area.

Fresno Energy Watch

Fresno Energy Watch (FEW) partnership provides comprehensive energy efficiency services to the City of Fresno, County of Fresno, and the cities throughout the County of Fresno. The program is managed locally by the City of Fresno Department of Sustainability and the Economic Development Corporation serving Fresno County.

The FEW delivers cost-effective, comprehensive, and persistent energy savings through the leadership of the local government. The goals of the partnership are to provide comprehensive and integrated energy solutions, address community needs, and capture available energy savings. Locally based energy efficiency seminars are offered to expand the audience for energy efficiency. The FEW also focuses on local energy policies that promote energy efficiency practices, codes, and standards.

Services provided by FEW include the GP/3P Direct Install Program and the Moderate Income Direct Install (MIDI) program. In July 2013, the program expanded the Home Energy Tune-Up as a service to residential customers living in Fresno, and Madera, Kings, Tulare, and Kern Counties. Home Energy Tune-Up was previously funded by federal stimulus dollars under the American Recovery and Reinvestment Act (ARRA). When ARRA funding ended in the City of Fresno, PG&E funded the program in Fresno and Madera Counties for the remaining six months of 2012.

Accomplishments for FEW include a reduction of .47 MW and 2.6 GWh, returning over \$490,000 in incentives to the Fresno region. In 2013, the American Council for an Energy-Efficient Economy (ACEEE) recognized PG&E and the Fresno Energy Watch government partnership as a leading utility-sector energy efficiency program. ACEEE awarded a "Certificate of Recognition" to the utility, citing FEW as a leading example of energy efficiency programs for all types of customers (residential, commercial, industrial, agricultural) and end-uses.

Kern Energy Watch

Kern Energy Watch is a unique cooperative partnership between PG&E, SCE, SoCalGas, the County of Kern, and the partner cities within Kern County. The Kern Council of Governments serves as the partnership implementer, and the Kern Economic

Development Foundation provides a business outreach program to small and medium sized businesses.

The Partnership provides assessments and the direct installation of energy saving measures in qualifying residences, businesses, and municipal facilities throughout PG&E's service area in Kern County. The partnership also works to encourage the efficient use of energy by providing energy efficiency information at community events, by providing public and municipal education and training programs, and by providing audits and financial assistance to municipal customers for the energy efficient retrofit of municipal facilities.

Accomplishments for Kern Energy Watch include a reduction of .93 MW and 5.3 GWh, returning over \$955,000 in incentives to the Kern region. In 2013, Kern Energy Watch successfully participated in an expansion of the Home Energy Tune Up, contributing to the 2,400 assessments completed in the five-county region extending from Madera south to Kern County.

Madera Energy Watch

Madera Energy Watch (MEW) offers a range of energy efficiency options for commercial, small business and residential customers, as well as municipal facilities. MEW works with local contractors, builders, building departments, and others to install energy efficient equipment to reduce energy use. Locally based training programs are offered to expand the audience for energy efficiency. MEW also focuses on local energy policies that promote energy efficiency practices, codes, and standards. MEW delivers cost-effective, comprehensive and persistent energy savings among local MEW partners.

Services provided by MEW include the GP/3P Direct Install program for small businesses and the Home Energy Tune Up for residential customers.

Accomplishments for MEW include a reduction of .08 MW and .4 GWh, returning over \$74,000 in incentives to the Madera region. In 2013, Madera successfully participated in an expansion of the Home Energy Tune Up, contributing to the 2,400 assessments completed in the five-county region extending from Madera south to Kern County.

Marin County Energy Watch

Marin County Energy Watch (MCEW) is a collaboration between the County of Marin Community Development Agency and PG&E to deliver cost-effective and comprehensive energy savings and incentives to local governments, businesses, schools, residential (single and multifamily), nonprofits, and special districts in Marin County. Services are delivered through three main program elements. The Marin Energy Management Team provides energy management services and assessments tailored to suit the unique needs of public agencies, municipal facilities, and schools in Marin County. The SmartLights Program provides start-to-finish technical assistance and energy assessments to nonresidential customers for lighting retrofits, and air conditioning and refrigeration system tune-ups. MCEW also works with California Youth

Energy Services to deliver hardware installation, in-home energy assessments, and education to residential owners and renters while providing green jobs for local youth.

Services provided by MCEW include the LGP Commercial Direct Install Program and the LGP Residential Direct Install.

Accomplishments for MCEW include a reduction of .20 MW and 1.7 GWh, returning over \$415,000 in incentives to the Marin region. In 2013, MCEW successfully developed a coordination plan with Marin Clean Energy to co-brand and jointly implement a single direct install program to small commercial customers in Marin County and City of Richmond.

Mendocino County Energy Watch

Mendocino County Energy Watch (MCEW) is a partnership between the Community Development Commission of Mendocino County and PG&E. MCEW offers a comprehensive portfolio of energy efficiency programs that target residential customers, municipalities, small businesses, and nonprofits.

Using a locally-driven approach, MCEW offers innovative energy efficiency programs and outreach services in one of the more sparsely populated counties in the state. Targeted market sectors include, single family and multifamily residential direct install, and commercial retrofit programs. The commercial program elements include a coordinated direct install program for lighting and refrigeration, education and outreach, energy efficiency workshops, and comprehensive energy audits for public facilities and small and medium businesses. MCEW also supports climate planning by providing municipalities with community-wide and municipal greenhouse gas emission inventories.

Services provided by MCEW include the GP/3P Direct Install Program and MIDI.

Accomplishments for MCEW include a reduction of .11 MW and .6 GWh, returning over \$77,000 in incentives to the Mendocino region. In 2013, MCEW successfully promoted a local approach to providing energy efficiency solutions to residential and business customers in Mendocino County.

Napa County Energy Watch

Napa County Energy Watch (NCEW) provides comprehensive energy efficiency services to municipalities, nonprofits, special districts, small and medium businesses, and residential customers. Sustainable Napa County serves as the local program administrator. Services include audits, retrofits, outreach, and education. NCEW is uniquely positioned to influence energy conservation thanks to its deep roots and stellar reputation among municipalities, nonprofits, and the vintner community. The partnership supports climate planning by taking the long-view, often including broader sustainability ventures across Napa County.

Services provided by NCEW include the GP/3P Direct Install program and MIDI.

Accomplishments for NCEW include a reduction of .25 MW and 1.3 GWh, returning over \$195,000 in incentives to the Napa region. In 2013, NCEW was successful in driving energy efficiency solutions and climate action planning efforts in Napa County.

Redwood Coast Energy Watch

Redwood Coast Energy Watch (RCEW) is a partnership between PG&E and Redwood Coast Energy Authority (RCEA). RCEA is a Joint Powers Authority whose members include the County of Humboldt; the Cities of Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, and Trinidad; and, the Humboldt Bay Municipal Water District. RCEW achieves energy savings through a comprehensive, locally-driven approach in Humboldt County.

RCEW provides comprehensive energy management services and incentives through three main program elements. The small business Direct Install program offers hard-to-reach, small businesses with turnkey services as well as project management by a RCEA energy specialist. The Residential Program offers single-family homeowners no-cost energy assessments and installs a range of low-cost and no-cost measures while promoting PG&E's residential rebate program. RCEA also offers larger customers project management assistance with nonresidential retrofit projects.

Services provided by RCEW include the Small Business Energy Efficiency Program, a Residential Direct Install program, a nonprofit Energy Efficiency Program, and a Public Agency Energy Efficiency Program.

Accomplishments for RCEW include a reduction of .10 MW and .7 GWh, returning over \$118,000 in incentives to the RCEW region. In 2013, RCEW was successful in serving its rural hard-to-reach region with customized energy efficiency solutions as well as building a robust pipeline of projects for 2014.

San Francisco Energy Watch

San Francisco Energy Watch (SFEW) is a Partnership between the City and County of San Francisco and PG&E to deliver a broad spectrum of energy efficiency measures and savings for businesses as well as multifamily facilities in San Francisco. SFEW provides comprehensive energy management services and incentives through three main program elements. The small business Direct Install program offers hard-to-reach, small businesses turnkey services, and complete project management by a program-assigned contractor. The Commercial Plus and Multifamily Plus Programs use a market-based, vendor-driven model to offer property owners and larger businesses technical assistance and energy assessments for installing a wide range of low-cost measures. SFEW also offers larger customers incentives for calculated, nonresidential retrofit projects.

Services provided by SFEW include the LGP commercial Direct Install program and the LGP residential Direct Install program.

Accomplishments for SFEW include a reduction of 2.03 MW and 8.3 GWh, returning over \$2 million in incentives to the SFEW region. In 2013, SFEW successfully launched

a pilot titled the “Retirement Plan for Commercial Food Service Refrigeration.” The pilot is in partnership with the Food Service Technology Center, and aims to study the possibilities for transforming the market so that newer, more efficient refrigeration equipment can become a more cost-effective option for San Francisco businesses, especially restaurants and convenience stores. In 2013, the pilot replaced seven refrigeration units, completed energy use monitoring on an additional 85 units, and completed 80 customer surveys.

San Luis Obispo County Energy Watch

San Luis Obispo County Energy Watch is a partnership between PG&E, SCG, the County of San Luis Obispo, and the seven incorporated cities within San Luis Obispo County. The County of San Luis Obispo serves as the partnership implementer and the Economic Vitality Corporation of San Luis Obispo County provides a business outreach program to small and medium sized businesses.

The partnership provides assessments and the direct installation of energy saving measures to qualifying residences, businesses, and municipal facilities throughout the San Luis Obispo County service area. The partnership also works to encourage the efficient use of energy by providing energy efficiency information at community events, by providing public and municipal education programs, and by providing audits and financial assistance to municipal customers for the energy efficient retrofit of municipal facilities.

Accomplishments for San Luis Obispo Energy Watch include a reduction of 0.25 MW and 1.9 GWh, returning over \$417,000 in incentives to the San Luis Obispo region. In 2013, San Luis Obispo Energy Watch worked closely with County Supervisors to develop and implement a small community outreach program.

San Mateo County Energy Watch

San Mateo County Energy Watch (SMCEW) is a partnership between the City/County Association of Governments of San Mateo County (C/CAG) and PG&E. SMCEW’s goal is to reduce energy usage through energy efficiency in San Mateo County, including its twenty cities and unincorporated areas. C/CAG is a Joint Powers Authority consisting of all twenty cities and the County of San Mateo that enables direct contact to all levels of management at the city and county governments.

SMCEW delivers a comprehensive portfolio of energy efficiency services to public agencies, nonprofits, small businesses, schools, and residential customers including direct install programs for lighting and refrigeration measures, audits, benchmarking, technical assistance for more complex energy efficiency projects through PG&E’s Customized Retrofit program, and energy efficiency training, education workshops, and classes.

Services provided by SMCEW include the GP/3P Direct Install program and MIDI.

Accomplishments for SMCEW include a reduction of .32 MW and 3.4 GWh, returning over \$791,000 in incentives to the SMCEW region. In 2013, SMCEW supported the

schools in San Mateo County through several efforts. SMCEW hosted a Proposition 39 funding workshop for all school districts in San Mateo County. The program also benchmarked 173 schools in San Mateo County.

Santa Barbara County Energy Watch

Santa Barbara County Energy Watch is a partnership between PG&E, SCG, the County of Santa Barbara, and the cities of Buellton, Guadalupe, Santa Maria, and Solvang. The Santa Maria Valley Chamber of Commerce serves as the partnership implementer within PG&E's service area which covers only the Northern County area.

The partnership provides assessments and the direct installation of energy saving measures to qualifying residences, businesses, and municipal facilities throughout the Northern Santa Barbara County service area. The partnership also works to encourage the efficient use of energy by providing energy efficiency information at community events, by providing public and municipal education and training programs, and by providing audits and financial assistance to municipal customers for the energy efficient retrofit of municipal facilities.

Accomplishments for Santa Barbara County Energy Watch include a reduction of .17 MW and 2.4 GWh, returning over \$694,000 in incentives to the Santa Barbara region. In 2013, Santa Barbara County Energy Watch worked closely with County Supervisors to develop and implement a small community outreach program.

Sierra Nevada Energy Watch

Sierra Nevada Energy Watch (SNEW) is a partnership between PG&E and Sierra Business Council, a nonprofit sustainability organization serving the Sierra Nevada region. The SNEW territory is comprised of 14 rural Sierra counties, including Lassen, Butte, Sutter, Plumas, Yuba, Sierra, Nevada, Placer, El Dorado, Amador, Calaveras, Alpine, Tuolumne, and Mariposa. SNEW is dedicated to providing innovative energy efficiency solutions for local governments and businesses throughout the Sierra. SNEW coordinates the strengths of PG&E and the counties and cities within the foothill region to overcome energy-efficiency barriers and better serve the unique needs of small mountain and rural communities.

SNEW provides comprehensive, sustained technical services to municipal, nonprofit, and small business customers. SNEW's commercial program includes the Energy Watch Tune-up Program to help businesses save energy and money. This regional program provides a comprehensive energy assessment, delivers money-saving measures, and connects businesses with other energy saving opportunities. The Energy Watch municipal program offers assistance with benchmarking and energy assessments of government facilities and provides low-cost energy efficiency equipment. SNEW also offers climate and energy planning assistance to reduce community energy usage.

Services provided by SNEW include the small commercial Direct Install program and the GP/3P Direct Install program.

Accomplishments for SNEW include a reduction of .44 MW and 3.3 GWh, returning over \$761,000 in incentives to the Sierra region. In 2013, SNEW successfully leveraged relationships with a local contractor workforce to deliver energy efficiency solutions to municipal and business customers in a rural eight-county region.

Silicon Valley Energy Watch

Silicon Valley Energy Watch (SVEW) provides targeted energy efficiency education, outreach, energy savings delivery, and overall energy program coordination in Santa Clara County. Implemented locally by the City of San José and in coordination with the County of Santa Clara, SVEW works closely with local stakeholders and third party providers to augment the success of regional programs through enhanced coordination and outreach, and ensure that targeted customers take advantage of the broad range of audits, rebates, benchmarking, and energy efficiency training, education workshops, and classes.

Services provided by SVEW include the GP/3P Direct Install program and the MIDI program.

Accomplishments for SVEW include a reduction of .48 MW and 5.3 GWh, returning over \$1.1 million in incentives to the SVEW region. In 2013, SVEW formally launched its Schools initiative, providing no-cost services to schools in Santa Clara County. SVEW actively worked with school districts to provide energy support including benchmarking, direct installation audits and implementation, updates on pertinent legislation, and other relevant resources.

Sonoma County Energy Watch

The Sonoma County Energy Watch (SCEW) offers a comprehensive portfolio of energy efficiency programs that primarily target municipalities with elements that also provide outreach to small and medium businesses, nonprofits, and residential customers. The local administrator, County of Sonoma Department of General Services, aims to lead by example and is working in partnership with other cities in the county to promote programs and initiatives in energy conservation and efficiency, clean energy generation, and environmental programs.

Services provided by SCEW include the GP/3P Direct Install program and MIDI program.

Accomplishments for SCEW include a reduction of .39 MW and 2.6 GWh, returning over \$392,000 in incentives to the Sonoma County region. In 2013, SCEW was successful in driving energy efficiency solutions throughout Sonoma County through effective outreach strategies, including direct outreach to elected officials about the benefits of energy efficiency.

Local Government Energy Action Resources

The Local Government Energy Action Resource (LGEAR) Program was established in 2006 to support the development of new partnership pilot programs during a given

funding cycle. LGEAR provides a mechanism to engage new partners in counties traditional underserved by partnership programs as well as to support high-performing partnerships. In 2013, PG&E was successful in its continued utilization of LGEAR to develop new partnerships and engage new strategic partners, with an emphasis on supporting under-served, rural communities in the Central Valley. Each of these partnerships is described below.

Accomplishments for LGEAR include a reduction of .32 MW and 7.4 GWh, returning over \$1.2 million in incentives to the LGEAR regions (listed below).

i. North Valley Energy Watch

North Valley Energy Watch (NVEW) is a new partnership in 2013 focused on Shasta, Tehama and Glenn counties. NVEW serves the small to medium-sized businesses that are hard to reach. NVEW utilizes locally-based entities to create inroads in the SMB community. In addition to the direct install program that features lighting and refrigeration measures, NVEW offers energy efficiency training and educational workshops for local contractors, interested business owners and residents.

Services provided by NVEW include the GP/3P Direct Install program.

ii. Butte/Yuba/Sutter Energy Efficiency Partnership

The partnership between the counties of Butte, Yuba and Sutter is lead by Yuba City, and offers a comprehensive portfolio of energy efficiency programs that promote energy efficiency services for residential customers. The partnership focuses on implementing outreach strategies that increase residential program participation and achieves deeper retrofits by providing customer education and information through local government and community channels.

iii. Northern San Joaquin Valley

PG&E partners with the Great Valley Center (GVC) to offer services in Merced, Stanislaus and San Joaquin counties. GVC provides technical assistance, tools and training to assist Central Valley area local governments with their climate planning, specifically, development of GHG emissions inventories. Services include tool kit, GHG emissions data, technical assistance, and training and information-sharing. GVC also supports an Agricultural Internship Program, in partnership with PG&E's account services organization. Interns will provide outreach on energy efficiency for Agricultural and SMB customers in the Northern San Joaquin Valley.

In 2013, GVC offered a first-ever forum on energy efficiency and local government in the Valley. The event included a keynote from a State Senator, and reached over seventy local government representatives. GVC also successfully launched the Agricultural Energy Efficiency (AGEE) intern program, selecting seven students from local Community Colleges, CSU's and State universities to participate in a program which educates and provides technical

assistance to local farmers on energy efficient solutions that may help to reduce energy costs, improve sustainable practices, and build capacity within Central Valley communities.

iv. Solano Energy Watch

Solano Energy Watch (SEW) is a new partnership in 2013 focused on Solano County. SEW provides comprehensive energy efficiency services to municipalities, nonprofits, special districts, small and medium businesses, and residential customers. The partnership is comprised by three parties; Solano Economic Development Corporation, the County of Solano, and Rising Sun Energy Center. Each partner specializes in different target markets and brings their local expertise to bear. Services include audits, retrofits and outreach. The partnership launched in 2014 and in its early days showed strength in outreach to Solano County residents, small and medium commercial customers, and municipalities.

Services provided by SEW include the GP/3P Direct Install program and residential direct install with the California Youth Energy Services Program.

v. Valley Innovative Energy Watch

Valley Innovative Energy Watch (VIEW) is a new partnership in 2013 focused on Kings and Tulare counties. VIEW is a unique cooperative partnership between PG&E, SCE, SCG, the County of Kings, the County of Tulare and the partner cities within these counties. The San Joaquin Valley Clean Energy Organization serves as the partnership implementer.

The Partnership provides assessments and the direct installation of energy saving measures in qualifying residences and businesses and benchmarking, audits and project management assistance for City and County facilities located in the PG&E service area. The partnership also works to encourage the efficient use of energy by providing energy efficiency information at community events, by providing public and municipal education and training programs, and by providing financial assistance to municipal customers for the energy efficient retrofit of municipal facilities.

In 2013, VIEW successfully coordinated with Kern Energy Watch, Santa Barbara Energy Watch, and San Luis Obispo counties to develop and implement a small community outreach program with County Supervisors in Kern, Kings, Tulare, Santa Barbara and San Luis Obispo Counties.

vi. Yolo Energy Watch

Yolo Energy Watch (YEW) promotes energy efficiency and the reduction of greenhouse gas emissions in local government operations in Yolo County. In addition, YEW promotes the reduction of greenhouse gas emissions throughout the community primarily through programs targeting government facilities, nonprofit organizations, small businesses, residences, farms, schools and

factories in Yolo County. The YEW provides a direct-install program that provides energy efficient measures to municipal facilities, nonprofit businesses, special districts and hard-to-reach small to medium sized businesses. In addition to the direct install program, the YEW brings energy efficiency training and workshops to the residents making the classes easier to attend.

Services provided by YEW include the GP/3P Direct Install program.

In 2013, YEW collaborated with Yolo County Office of Education, City of West Sacramento, and Woodland Tree Foundation to successfully implement the School Energy Efficiency Program. The goal of the program is to provide education on energy efficiency to students of all ages. This program hires college interns to conduct classroom energy assessment lessons to high school students and teachers in order to broaden implementation of the Energy Leaders program. Interns also perform work on specific energy efficiency projects for businesses.

vii. Lake County Energy Watch

Lake County Energy Watch (LCEW) offers a comprehensive portfolio of energy efficiency programs that targets municipalities, special districts, nonprofit businesses, and hard-to-reach small to medium sized businesses in Lake County. The LCEW program includes a direct-install program which includes lighting and refrigeration measures. The program also provides energy efficiency training and educational workshops for local contractors and residents.

viii. California Green Business Program

PG&E supported the energy efficiency-related implementation of the California Green Business Program (GBP) by partnering with the California Green Business Network. GBP is a state recognized program to guide small to medium sized businesses (SMBs) toward more sustainable operations including solid waste, pollution prevention, energy efficiency and water conservation. A network of GBPs at the city and county level across the state have formed the California Green Business Network (CAGBN) to share resources. PG&E funding in support of the GBP has allowed for the use of student interns from various green jobs training programs to conduct energy audits and provide technical assistance to SMBs. LGEAR funding supported the energy-component of the GBP implementation, including internships, and the maintenance of a green business database essential to the function of all GBPs statewide. In 2013, PG&E dispersed funding to eight local GBPs and the administrator of the statewide database.

STRATEGIC ENERGY RESOURCES

In 2013-14, PG&E consolidated the 2010-2012 Innovator Pilot and Green Communities programs into one effort, entitled Strategic Energy Resources (SER). PG&E also introduced an embedded SER budget into each individual partnership to support climate

planning work previously accomplished through the Green Communities programs as well as other innovative expansion initiatives that promote deep energy savings.

Summary/Highlights of 2013 Strategies/Accomplishments for Strategic Energy Resources:

- Five Innovator Pilot projects selected in the 2010-2012 cycle were completed.
- ICLEI, as part of the Statewide Energy Efficiency Collaborative (SEEC), developed a new online platform for cities and counties to perform in-depth analyses necessary for long-term energy and climate planning.
- PG&E initiated seven task forces to support and further develop the expansion activities introduced in 2013 to achieve deeper energy efficiency savings at the local and regional level.

Strategic Energy Resources: Innovator Pilots

In the 2010-2012 funding cycle, PG&E initiated the Innovator Pilot program to allow communities that are leaders in energy and greenhouse gas reduction activities to test creative approaches to energy efficiency. PG&E awarded funds to 15 local government agencies and nonprofits. Although no new Innovator Pilot solicitations will be initiated during the 2013-2014 cycle, PG&E will provide continued funding for Innovator Pilots initiated in 2010-2012 but not completed by the end of 2012. Funding for innovative initiatives was also incorporated into individual partnerships to provide local governments a more integrated and comprehensive approach to implementing energy efficiency programs.

Of the 12 remaining Innovator Pilot projects, four were completed by the end of 2013. The remaining eight will be completed in 2014.

Alameda County Office of Education

The Alameda County Office of Education (ACOE) Leadership in Energy Efficiency Program (LEEP) seeks to develop a new, replicable model for improving energy efficiency in an especially hard-to-reach and financially constrained sector: Public school districts. By providing energy efficiency expertise and management assistance at the office of education level, LEEP leverages internal resources and relationships unique to school districts in order to actualize results. LEEP energy managers will test their hypothesis in 36 school districts.

Status: Completed in April 2014

City of Chico

The pilot plans to help customers with moderate-income households not eligible for low-income programs but who cannot typically afford to install energy savings measures on their own. The pilot will achieve measurable energy savings by bringing their homes into compliance with Chico's Residential Energy Conservation Ordinance (RECO). This pilot has two primary goals: 1) to identify the most cost-effective path of coming into

RECO compliance and achieving significant energy savings in moderate-income homes, and 2) to test the impacts of access to different types of energy consumption information (e.g., in-person; telephone, online) on influencing customer behavior. The pilot not only promotes the local green economy by hiring nearby businesses to provide the audits, but also helps our customers achieve significant energy savings in their home.

Status: Completed in 2013.

Sierra Business Council

This project includes three components: 1) establishing an Energy and Climate Leadership (ECL) Institute for the purpose of developing grassroots leadership; 2) providing an Energy Efficiency Training Program (EETP); and, 3) enhancing energy use information and management for small businesses and municipalities using energy monitoring software, or sMeasure. Overarching goal is to demonstrate that climate change, with its expected environmental impacts, also presents regional economic opportunities to respond to the imperative to mitigate those expected impacts by decreasing energy usage. The ECL Institute is designed to develop and support collaborative leadership across key members of Sierra communities for the purpose of driving projects which reduce greenhouse gas emissions in their communities. The EETP component provides a paid training for local contractors to increase the suite of services offered to potential customers to include energy audits, solar plumbing, energy retrofits, and other installations in areas where local capacity is lacking. The third component assesses the success of implementing no-cost energy-monitoring software (sMeasure) aimed at SMBs to determine the extent to which it drives energy efficiency savings through the identification of achievable solutions and lower overall energy costs. This tool uses data from My Energy to analyze a customer's energy usage and compare it to similar users in similar weather zones.

Status: Completed in 2013.

QuEST/Cities of Oakland, Berkeley, and Emeryville

It is more cost-effective to provide commercial customers with a single, comprehensive audit than the current model where direct installation contractors audit only the specific technology that they sell, leaving customers uninformed about all of their options and creating lost opportunities. This will ease customer confusion about which energy savings investments are best for their situation, ultimately leading to increased project implementation and deeper energy savings compared to historical utility funded energy efficiency programs.

Status: Completed in 2013

Santa Clara County (Silicon Valley Energy Watch)

Pilot expands the ability of municipal housing departments to incorporate Whole House energy efficiency measures into standard rehabilitation work. The City of San Jose Housing Department provides a range of affordable housing programs and services to San Jose residents, including financial and technical assistance. This pilot will provide homeowners with financial assistance in the form of loans and grants to make repairs

and improvements to their homes. The program will serve low- and moderate-income, hard to reach residential communities. The pilot coordinates outreach education and energy savings projects across Santa Clara County in order to ensure a maximally comprehensive, innovative, and strategic approach to energy savings.

Status: Completed in 2013

City of San Francisco

This pilot is studying opportunities for transforming the market so that newer, more efficient refrigeration equipment can provide a more cost-effective option for SMBs. The City will do this by collecting accurate estimates of the energy savings associated with the targeted equipment and show results of how permanent retirement and disposal of inefficient commercial refrigeration from the marketplace may help improve the efficiency of refrigeration programs for SMBs.

Status: Incorporated into the San Francisco Energy Watch program as a Strategic Energy Resource activity and initiated in 2013

Mendocino County

The Community Development Commission of Mendocino County is developing a program to assist Public Housing Authorities (PHAs) in facilitating market transformation within their internal operations and in hard to reach communities by embedding energy efficiency practices into its policies and procedures. This pilot program will create a new procurement and purchasing policy for PHAs that incorporates long-term energy savings into cost analyses while aligning with local, state and federal rules and regulations.

Status: Anticipated completion in December 2014

Humboldt County

This pilot will test the Redwood Neighborhood Energy Challenge (RNEC) concept, which will engage neighborhoods and individuals to reduce energy consumption on behalf of a local school. To encourage participation and residential energy reductions, the RNEC will utilize concepts from community based social marketing. Regardless of energy saving outcomes, the RNEC will evaluate social marketing based outreach strategies, behavioral change strategies, and the assumption that awareness, knowledge and attitudes towards energy efficiency are associated with energy use.

Status: Anticipated completion in March 2014.

Santa Clara County

Correctional facilities and campuses are traditionally high consumers of energy and pose special challenges for implementing efficiency and conservation. This category of buildings is often not effectively addressed with efficiency retrofits because there are no comparable benchmarks. Successful results require specialized equipment and changes in operational procedures. To address this particular niche need, Santa Clara County will develop a program to create benchmarking standards specifically for various types of correctional facilities.

Status: Anticipated completion in March 2014.

San Luis Obispo County

This pilot seeks to prove the concept that “group purchasing of energy efficiency” for small and medium businesses is cost-effective. Group purchasing is the collective participation in a regional account of products and services by a group of independent facilities; in this case, SMBs. By pooling the buying power of more than one facility, SMBs can save time and resources obtaining and implementing products that reduce their energy costs while improving facility quality.

Status: Anticipated completion in June 2014.

Napa County

To realize long-term impacts from physical improvements requires changes in behaviors of the people using those systems. The capacity to make those changes varies from organization to organization. This pilot will develop, test, and evaluate strategies to educate building maintenance staff and occupants about systems, procedures and day-to-day behaviors that will improve energy efficiency, assure comfort, reduce operating costs and reduce GHG emissions.

Status: Anticipated completion in December 2014

Alameda County (StopWaste.org)

By enacting the transparency of energy performance for existing single family, multifamily and commercial buildings, energy asset ratings help buyers and renters take energy efficiency into account when making housing decisions. As such, transparency may also stimulate building owners to improve the energy efficiency of existing buildings, assuming higher property values if energy improvements are capitalized in building prices.

Status: Anticipated completion in March 2014

Strategic Energy Resources: Statewide Energy Efficiency Collaborative

The Statewide Energy Efficiency Collaborative (SEEC) is a collaborative effort among three statewide nonprofit organizations and California’s four investor owned utilities. SEEC provides education and tools for climate action planning, venues for peer-to-peer networking, technical assistance and recognition for local agencies that reduce greenhouse gas emissions and energy use. SEEC partners include the Local

Government Commission (LGC), the Institute for Local Government (ILG), and ICLEI – Local Governments for Sustainability. PG&E acts as lead coordinator for ICLEI’s involvement in SEEC.

In 2013, ICLEI carried out a new round of resource development under SEEC. ICLEI performed the work in coordination with the SEEC partners, as well as the California Air Resources Board (CARB) and the Governor’s Office of Planning and Research (OPR) to ensure that the tools were consistent with other State policies and effort to engage local governments on climate change, in particular California Environmental Quality Act (CEQA) and General Plan guidance under development at OPR.

The focus was to develop the next generation of tools to support local governments and their consultants in taking key steps to reduce GHG emissions including: conducting a local government operations inventory, conducting a community-scale inventory, developing an emissions reduction target, and developing and implementing a climate action plan. Central to this effort was the creation of SEEC ClearPath California, a powerful web application where multiple users from a community can perform emissions analysis, with data linked between each step of the climate action planning process. An Inventory Module was created that now allows users to do emissions inventories consistent with the US Community Protocol, endorsed by OPR as the state standard in October 2012. A new Forecasting Module was developed to enable local governments to do business-as-usual forecasts that automatically account for key State policies such as the Renewable Portfolio Standard and Pavley fuel efficiency regulations. Data is linked to the inventory analysis, whereas in previous versions users had to manually transfer data to an Excel-based tool.

ICLEI also produced instructions documents and tool Users Guides to assist SEEC participants in using the resources. ICLEI maintained the SEEC website, undertook a variety of marketing efforts, and produced three webinars to increase uptake. As a result, 54 new communities registered to use the tool, raising the total number of users to 133.

Partnership Expansion Activities

Based on direct input and proposals from over 30 local and regional partners, PG&E expanded the scope of Partnership programs in 2013 by adding complementary offerings focused on achieving deeper energy efficiency savings on a local and regional level. PG&E and its local and regional partners were in agreement that for a Partnership to expand in 2013-2014, the new initiative must achieve deeper energy efficiency savings while complementing existing and continuing programs. Local and regional partners associated with each Partnership submitted expansion proposals which meet these criteria.

Expansion/Task Force initiatives include:

1. **RCx Targeting Smaller Facilities:** PG&E is working with interested local and regional partners as well as current RCx providers to explore designing and implementing a program that cost effectively targets medium-sized municipal

facilities and businesses that do not meet the size threshold for current RCx programs.

2. Benchmarking Assistance: Interested partnerships are providing full service energy and benchmarking support for municipal and other non-residential customers who own complex buildings and must meet new benchmarking/audit requirements.
3. Codes and Standards: PG&E has connected the statewide Codes and Standards (C&S) team with interested partners to consider adopting more stringent energy efficiency codes and/or improving compliance with existing code.
4. Emerging Technologies: PG&E is working with local and regional partners to connect our existing and robust Emerging Technologies (ET) program with interested local governments who might be interested in participating in an ET pilot project.
5. Water-Energy Nexus: Interested partners are exploring new ways to connect energy and water efficiency efforts beyond what PG&E currently offers.
6. Climate Action Planning: Previously a part of the Green Communities Pilot Program, partners have continued efforts to produce greenhouse gas inventories and energy/climate action plans.
7. K-12 School Support: Partners are collaborating to serve K-12 public schools due to the significant amount of overlap with their services for municipal governments.

PG&E initiated a task force for each expansion initiative comprised of representatives from interested local or regional partners, appropriate PG&E staff, and other stakeholders. Task forces allow PG&E and partners to share experiences, lessons learned, and best practices. Creating synergies between Partnerships also prevents duplication of efforts while creating streamlined and uniform program processes that drive deeper energy savings. Each partnership's participation in expansion activities is summarized in the table below.

Strategic Energy Resources – Expansion Activities per Partnership

		Rx for Small Facilities	Benchmarking Assistance	Codes and Standards	Emerging Technology	Water/Energy Nexus	Climate Planning	K-12 Schools
Partnership								
San Francisco Bay Area	East Bay	X	X				X	X
	Marin County						X	X
	Napa County					X	X	
	San Francisco	X	X		X		X	
	San Mateo County				X	X	X	X
	Silicon Valley		X					X
	Sonoma County	X				X	X	
San Joaquin Valley	Fresno		X	X		X		
	Madera		X		X		X	
	Kern		X				X	
Tri-County Area	Santa Barbara							
	San Luis Obispo County		X				X	
Other Regions	AMBAG		X	X			X	X
	Mendocino County						X	
	Redwood Coast	X	X				X	X
	Sierra Nevada		X			X	X	
	LGEAR		X	X	X	X	X	X

THIRD PARTY PROGRAMS

Third Party programs represent an important delivery for PG&E. In 2013, PG&E continued to leverage its network of third party partners to support the Residential, Commercial, Industrial and Agricultural sectors, as well as provide workforce, education and training opportunities to a variety of PG&E customers and industry stakeholders. In 2013, PG&E's third party partners focusing on the Residential sector saved customers close to 11 GWh, Commercial, Industrial and Agricultural customers saved over 160 GWh. In total, PG&E customers saved over 7MM therms.

In addition, PG&E launched six new Innovative Designs for Energy Efficiency Approaches (IDEEA365) Third Party Programs, focused on the Residential; Municipal, University, Schools, and Hospital (MUSH); and Agricultural sectors.

Third Party programs support the statewide programs and are described in more detail below.

RESIDENTIAL SECTOR

- 1. Implementer:** Heschong Mahone Group (HMG)
Program: California Multifamily New Homes Program (CMFNH)

CMFNH encourages multifamily residence builders to construct homes that exceed California's T-24 energy efficiency standards by at least 15 percent. CMFNH facilitates energy efficient design and construction in multifamily housing through design assistance and cash incentives. CMFNH benefits include energy efficiency services for developers, architects, engineers, energy consultants and owners. CMFNH offers resources for owner/developers of qualified multifamily new construction.

- 2. Implementer:** Proctor Engineering Group
Program: Cooling Optimizer Program

The Cooling Optimizer Program (previously called the Enhanced Time Delay Relay Switch Program) is a direct install mass market program serving single family and mobile home residential customers in Climate Zones 2, 4, 11, 12, 13 and 16 and multifamily residential customers in Climate Zones 11, 12 and 13. The program improves the sensible efficiency of air conditioners by running the fan at the end of the compressor cycle, evaporatively cooling the air returning to the building. The program also supports the introduction of retrofit high efficiency variable speed brushless permanent magnet (BPM) fan motors with enhanced time delay integrated into the motor that reduces fan power consumption during heating, cooling, ventilation and fan time delay. Proctor Engineering Group recruits and trains the subcontractors who deliver this program to the customer as well as performing QA/QC activities of the installations.

3. Implementer: Synergy Companies

Program: Direct Install for Manufactured and Mobile Homes

This Direct Install for Manufactured and Mobile Homes Program is designed to be a direct installation, no-cost-to-the-customer, resource program that serves the hard-to-reach (HTR) moderate-income customers in PG&E's service area and focuses 25 percent of its efforts toward regions outside of the nine-county Bay Area and the Central Valley. It also targets non-English speaking customers, including those who speak Spanish, Russian and a variety of Asian languages. The program targets manufactured/mobile home customers that would not otherwise receive program benefits from public-purpose funding. It includes evaporative cooler fan depowerment and enhanced pad measures in mobile homes with evaporative cooling. The evaporative cooling elements and diagnostic measures for central air conditioning are shown to reduce energy use during afternoon peak loads.

COMMERCIAL SECTOR

4. Implementer: Portland Energy Conservation, Inc. (PECI)

Program: AirCare Plus

The AirCare Plus program provides incentives to maintenance service contractors for rooftop HVAC units for refrigerant charge and airflow modifications, economizer retrofits, and thermostat replacements and adjustments. The program targets small- and medium-sized commercial customers with HVAC rooftop units (from 3-60 tons). Customers include high tech and restaurant businesses and others for whom HVAC loads match the specified load above. In particular, the program provides service contractor technicians with on-site energy efficiency training and ongoing technical support, including use of a hand-held software device that uses proprietary AirCare Plus software and accepts data about the HVAC units and provides instructions on how to conduct the retrofit, including proper installation in compliance with Title 24. In addition, pre- and post-retrofit technical data and implemented measures are automatically recorded by the handheld diagnostic tool. After completing the rooftop HVAC unit maintenance, technicians upload their activity information through a wireless connection to the implementer's (PECI) website to identify savings and additional tune-up opportunities. Using energy savings estimates generated by the AirCare Plus software, these technicians are able to show building owners or managers how increased energy efficiency saves them money. Incentives are paid directly to the HVAC contractor.

5. Implementer: Enovity

Program: Commercial and Industrial Boiler Efficiency Program (CIBEP)

CIBEP is an incentive program that implements large commercial and industrial fuel-fired boiler system energy efficiency improvements that will result in both natural gas and electrical energy savings. This program combines boiler engineering evaluations and technical implementation assistance with financial incentives that make the projects more economically attractive to PG&E customers. Primary markets for CIBEP include:

- small and large offices;
- colleges and universities;
- large hospitality;
- hospitals and large medical facilities;
- gaming and entertainment;
- industrial and manufacturing;
- hi-tech and laboratories;
- laundries; and
- food processing.

6. Implementer: Portland Energy Conservation Inc. (PECI)

Program: Energy Smart Grocer

Energy Smart Grocer provides grocers with energy audits, rebates and information about energy-efficient technology and operations. The program promotes energy-efficient lighting, HVAC, and refrigeration systems. Specific services include no-cost energy audits, energy savings reports, contractor enrollment, technical consultation, and financial rebates and rebate application assistance.

7. Implementer: KEMA

Program: Enhanced Automation Initiative (EAI)

EAI promotes investments in enhanced automation and control technologies. EAI targets large commercial customers who want to improve their process controls or building automation systems and the functionality of their existing energy management systems (EMS). The program offers free on-site assessments, technical assistance, and incentives for EMS reprogramming and/or hardware improvements.

8. Implementer: Enovity

Program: Monitoring-Based Persistence Commissioning (MBPCx)

The MBPCx program uses a building automation system (BAS) to track the ongoing performance of HVAC systems and facilitate the reporting and correction of deviations from optimal performance. The program initially involves a traditional retro-commissioning approach where site surveys are performed, the HVAC and BAS systems are thoroughly documented, and energy efficiency measures are

identified through functional testing. The program then uses a Performance and Continuous Recommissioning Analysis Tool (PACRAT) as the main persistence commissioning tool. PACRAT is a comprehensive automated diagnostic tool for HVAC systems performance that automatically collects trend data from the BAS and has built-in diagnostic tools to identify system anomalies from historical data, generating reports of system anomalies and associated energy and operational cost savings at regular user-defined intervals. Customers receive incentives for participating in the program.

This program targets large commercial buildings (office, retail, hotel, hospital, college/university, high tech office/lab/manufacturing).

9. Implementer: Ecology Action
Program: Lodging Savers

Lodging Savers delivers multi-measure comprehensive retrofits and RCx to small, medium and large lodging facilities in PG&E's service area. Predominate measures include lighting, HVAC controllers, refrigeration measures, and water saving measures. Ecology Action provides audits and financial incentives to encourage measure adoption.

10. Implementer: Resource Solutions Group (RSG)
Program: School Energy Efficiency Program (SEE)

SEE provides school facility benchmarking, audits, technical assistance (including developing and evaluating a request for proposal to hire a contractor to install recommended measures) and incentives to qualifying preschool (pre-kindergarten) through 12th grade schools, both public and private. In addition, this program targets qualifying college campus housing customers with specific and applicable measures in campus housing facilities. Customers can choose to receive incentives, technical assistance in lieu of incentives, or a combination of both. The program serves customers throughout PG&E's service area.

11. Implementer: Richard Heath and Associates (RHA)
Program: Energy Fitness Program (EFP)

EFP serves small- and medium-sized nonresidential customers in the area north of Sacramento with a no-cost/low-cost, direct-install program. The EFP performs an audit of each facility and provides direct installation of a tailored package of energy efficiency measures such as lighting, exit signs, vending machine controllers, and occupancy sensors. Energy efficiency measures may also include installation of window film and HVAC condenser coil cleaning. Applicable recommendations for lighting, refrigeration, HVAC, motors, building envelope and food service are given to each participant in a customized energy audit report. In addition, the EFP provides energy education and personalized technical assistance to each customer as well as referrals to other applicable programs.

12. Implementer: Ecology Action

Program: RightLights

The RightLights program is a multilingual, direct install program implemented by Ecology Action that delivers comprehensive lighting retrofits to businesses in Monterey, San Benito, Santa Clara, Santa Cruz and San Mateo Counties with A-1, A-6, or A-10 rate schedules. RightLights' measure list includes lighting, pre-rinse spray valves, refrigeration tune-ups, refrigeration fan motor drop-in replacements, refrigeration heater door controls, strip curtains, interactive refrigeration controls and vending machine controls.

13. Implementer: KEMA

Program: Small Commercial Comprehensive Refrigeration - Cool Biz

Cool Biz is an incentive program designed to provide comprehensive refrigeration energy efficiency upgrades to small- and medium-sized commercial businesses in selected areas. This targeted market encompasses convenience stores, butcher shops/meat markets, fish markets, small independent restaurants/cafes, drugstores, liquor stores, retail bakeries, caterers, cafeterias, assisted living facilities, gas station/convenience stores and independent grocery stores. The program offers:

- A free facility assessment to identify energy saving equipment opportunities;
- A detailed proposal that includes a list of recommendations and estimates of energy savings, project cost, payback period and the rebate amount to be paid by Cool Biz;
- Installation of the approved energy-saving equipment by a local, approved contractor and well as pre- and post-installation inspections to assure quality and verify energy savings; and
- Prescriptive measures including refrigerator controls, cooler door heater controls, freezer door heater controls, electronically-commutated (EC) motors, novelty cooler controllers, custom refrigeration measures, compact fluorescents, fluorescent fixture upgrades, LED exit signs, custom lighting upgrades, HVAC system tune-ups, HVAC controls, and custom electric measures.

14. Implementer: EFM Solutions, LLC

Program: Energy-Efficient Parking Garage (EEPG)

The Energy-Efficient Parking Garage Program is designed to fill a niche within the PG&E program portfolio with simple, proven technologies, quick installation, and a non-abrasive application/participation process, that will provide fast and plentiful energy savings. EEGP seeks out any above-ground parking garage within the PG&E area and will offer an incentive of \$0.05/kWh (equal to that of the PG&E Customized Program) for either T8 Fluorescent or Induction lamp retrofits along with daylight controls for the perimeter fixtures.

15. Implementer: Matrix Energy Services, Inc.
Program: Furniture Store Energy Efficiency

The objective for the Retail Furniture Store Energy Efficiency Program is to improve energy efficiency for retail furniture stores throughout PG&E's service area. The program will replace the existing lamps with high-efficiency lamps and will perform low-cost/no-cost maintenance tune-ups, such as economizer repair, refrigerant charging, filter replacement and coil cleaning. Additionally, Matrix will work with store management to assist them in promoting CFL and other efficient lighting products to their customers.

16. Implementer: Energy Solutions
Program: LED Accelerator

Energy Solutions' LED Accelerator (LEDA) program bridges the gaps between manufacturers of new LED lighting technology and major customers that can install LED technology in large numbers. Current LED products with broad potential application include:

- LED spotlights to replace low voltage halogen spotlights;
- LED reflector lamps to replace incandescent/halogen PAR lamps; and
- LED freezer case lights to replace fluorescent fixtures.

17. Implementer: EnerNOC, Inc.
Program: Monitoring-Based Commissioning

The program helps commercial customers gain better information about the energy usage at their facilities, participate in a comprehensive audit, implement cost-effective measures with help from incentive funds, and engage in an ongoing, monitoring-based commissioning process. The Monitoring-Based Commissioning (MBCx) program seeks to bridge the gap between DR and EE. MBCx refers to the combination of RCx and continuous commissioning activities, coupled with ongoing, technology-based monitoring to ensure persistence of savings. Selected facilities are analyzed to identify and implement cost-effective RCx activities that typically require little or no capital investment.

18. Implementer: Ecology Action
Program: CasinoGreen

This program, in partnership with Nexant and California Nations Indian Gaming Association (CNIGA), will deliver comprehensive, hybrid direct install efficiency upgrades to tribal casino customers of PG&E. End uses addressed include lighting, HVAC, refrigeration, food service, motors, controls and others.

19. Implementer: Willdan Energy Solutions DBA Intergy Corporation
Program: Healthcare Energy Efficiency Program (HEEP)

Intergy Corporation, in partnership with Putnam Price Group, Mazzetti and Associates, California Hospital Association (CHA) and California Society of Healthcare Engineering (CSHE), created HEEP to address the complex issues of this industry's hesitancy to adopt energy efficiency behaviors, initiate facility upgrades, and achieve cost-effective energy savings. The program targets independent medical facilities, including medical office buildings, acute care facilities, skilled nursing facilities and other associated ancillary building types on medical campuses. HEEP primarily targets projects that are exempt from OSHPD requirements.

20. Implementer: Willdan Energy Solutions DBA Intergy Corporation
Program: Ozone Laundry Energy Efficiency

The Ozone Laundry Energy Efficiency Program (OLEEP) is a hardware program that will capture natural gas energy savings for laundry equipment used in hospitality, nursing/rehab home, industrial and other commercial segments within PG&E's service area. A vendor-neutral program, OLEEP will promote ozone laundry systems from a number of different vendors. Nursing/rehab homes and hotels are expected to have the majority of on-site laundry systems and will be the primary target areas. The heavily regulated hospital environment, particularly in regards to laundry water temperatures, has prevented the implementation of ozone technology. Intergy and the various ozone vendors will continue to work diligently with the healthcare regulating agencies to allow exceptions for ozone when safe and appropriate, but the hospital sector does not appear to have the potential that it was originally thought to have.

21. Implementer: Matrix Energy Services
Program: K-12 Private Schools and Colleges Audit Retro

Matrix ESI provides comprehensive energy efficiency services to private preschools and K-12 schools, private colleges and universities and trade/technical schools market segments. The primary objective of the program is to help these facilities realize both short-term and long-term energy savings in a cost effective manner.

22. Implementer: The Energy Alliance Association (TEAA)
Program: Energy Savers

The Energy Savers Program is a multi-measure multilingual direct install program and provides comprehensive turnkey energy efficiency services to small and medium businesses (500 kW or less) to reduce peak demand and energy usage through short-payback energy efficiency measures. Incentives are available for eligible measures (e.g., lighting, occupancy sensors, replacement of inefficient unitary HVAC systems, AC tune-ups).

23. Implementer: Resource Solutions Group (RSG)
Program: Analytics-Enabled Retrocommissioning Program

Resource Solutions Group's (RSG's) Analytics Enabled Retrocommissioning (RCx) Program for schools and municipalities uses an RCx "Lite" approach and advanced analysis tools to identify low-cost and no-cost Operational and Maintenance energy efficiency savings opportunities based on historical customer interval data. Results guide RSG's team of RCx experts to high priority opportunities in the field.

- 24. Implementer:** Portland Energy Conservation, Inc. (PECI)
Program: Analytics-Enabled Retrocommissioning Program

PECI's Analytics-Enabled Retrocommissioning (AE-RCx) Program will deliver retrocommissioning services to state agencies, schools, grocery stores, and commercial office buildings within PG&E's service territory. The program is designed to bridge the gap in current PG&E energy efficiency (EE) programs available to these facilities by deploying remote analytics to cost-effectively reach facilities averaging 75,000 sq. ft. The AE-RCx program will use interval meter data analytics to identify buildings with high savings potential, engage building owners and staff, remotely identify opportunities, and monitor customer buildings for savings persistence and additional energy savings opportunities.

- 25. Implementer:** Nexant
Program: Enhanced Retrocommissioning Program

Nexant's Enhanced Retrocommissioning (ERCx) program will deliver retrocommissioning services to schools and municipal buildings within PG&E's service territory. The program is designed to bridge the gap in current PG&E energy efficiency (EE) programs available to school and municipal facilities by deploying state-of-the-art analytics to cost-effectively reach facilities averaging 50,000 sq. ft. The ERCx program will use smart meter data to capture energy savings through RCx opportunities that are deemed too costly within standard incentive programs.

- 26. Implementer:** Enovity, Inc.
Program: School and Municipal Advanced Retro-commissioning and Tune-up (SMART) Program

The School and Municipal Advanced Retro-commissioning and Tune-up (SMART) Program is an analytics-enabled RCx Program that targets public K–12 school and municipal buildings with an average gross area of 50,000 square feet. The SMART program combines data analysis, direct installation and incentive features with the objective of identifying, implementing and verifying deeper and more comprehensive energy savings as quickly as possible.

INDUSTRIAL SECTOR

27. Implementer: QuEST

Program: California Wastewater Process Optimization Program (CalPOP)

CalPOP targets wastewater treatment plants and provides facility audits, engineering assistance, project management support and incentives based on potential energy savings. Anaerobic digester optimization takes advantage of available gas savings at wastewater treatment facilities.

28. Implementer: Global Energy Partners (now EnerNOC)

Program: Energy Efficiency Services for Oil Production

The Energy Efficiency Services for Oil Production Program provides a turnkey custom measure incentive program targeting PG&E hard-to-reach oil and gas customers located in PG&E's service area. It implements a variety of energy efficiency measures including: conversion of outdated pumping systems, pump-off controllers, motor controllers, proper sizing of motors, pumps, and premium efficient motors, variable frequency drives, water reduction technologies, and splitting water injection systems into high and low pressure. Global Energy Partners provide on-site surveys to identify energy efficiency opportunities and post-installation surveys to determine impacts and certify installations.

The program assists all producers by identifying qualifying projects, calculating energy savings, completing applications, verifying energy savings and submitting all necessary documentation to the utility.

29. Implementer: Lockheed Martin Services

Program: Heavy Industry Energy Efficiency Program (HIEEP)

HIEEP identifies and facilitates the implementation of major process-oriented and other energy efficiency upgrades for PG&E's heavy industry customers. Customers that install energy efficient systems and equipment receive incentives based on the annual kWh or therm savings achieved.

Services provided by the program include, but are not limited to:

- Identifying all opportunities (energy efficiency, demand response, and renewable energy systems) and assessing their economies;
- Performing studies and assessments to: (1) identify efficiency improvements; (2) quantify these savings and other benefits to be produced by these improvements; and (3) explain/quantify the investments needed to achieve the benefits;
- Marketing collateral design and production;
- Assisting the participant to apply for program incentives;

- Assisting the participant in vendor and contractor selection;
- Monitoring installation for quality, conformance, and participation in commissioning; and
- Processing and tracking of incentive applications.

30. Implementer: Nexant, Inc.

Program: Refinery Energy Efficiency Program (REEP)

REEP offers Nexant's refining expertise from its Petroleum and Chemical division and demand-side management program implementation experience from its Energy Management division. REEP also fully uses the current three-year funding cycle to specifically address the long lead-time for refinery projects. REEP provides the following services:

- Identifying cost-effective projects and providing and applying industry-specific experience for selection and design of energy efficiency projects;
- Using incentives to offset capital investments; and
- Project management/coordination.

31. Implementer: Nexant

Program: Industrial Retrocommissioning

The program targets all industrial end uses in PG&E's service area. It is designed to tap into the large savings potential associated with optimizing and maintaining the performance of energy systems. The objective of this program is to reduce the substantial energy losses that routinely occur in industrial facilities due to poorly controlled or malfunctioning equipment

32. Implementer: Ecova

Program: Compressed Air Solutions

The Industrial Compressed Air Program focuses on industrial facilities with installed compressed air systems under 700 hp. This comprehensive turnkey program pays up to 50 percent of the project cost for eligible measures including air compressor replacement and compressed air system optimization.

AGRICULTURAL SECTOR

33. Implementer: EnSave Inc.

Program: Dairy Energy Efficiency Program (DEEP)

DEEP offers rebates to smaller dairy producers and dairy food processors throughout PG&E's service area. Measures include milking vacuum pump variable speed drives, plate coolers, compressor heat recovery units, milk transfer pump variable speed drives, scroll compressors, premium efficiency motors, box fans,

high-volume, low-speed fans and lighting. EnSave works with the manufacturers of the technologies, dairy equipment dealers, and agricultural organizations to promote the program and enroll customers.

34. Implementer: VaCom Technologies

Program: Industrial Refrigeration Performance Plus Program (IRPP)

IRPP targets refrigerated warehouses, food processors and related cooling operations that operate year-round or seasonally in the food and beverage sector, including processing, storage and distribution operations with industrial refrigeration systems. Under IRPP, existing facilities are retrofitted, emphasizing refrigeration system improvements as well as lighting, envelope, pumping, air handling and related process equipment. Whole-facility simulation is used to quantify savings and economics. Two years of web-based automated performance monitoring and associated operator education is included to provide transparency and long-term permanence of savings. IRPP provides more complex, comprehensive integrated solutions, higher savings levels and institutes a continuous improvement paradigm delivered through real-time performance monitoring and training.

35. Implementer: Resource Solutions Group (RSG)

Program: Wine Industry Efficiency Solutions (WIES)

WIES addresses energy efficiency and resource management in smaller wineries and implements a process that ensures demand and energy savings. WIES identifies efficiency improvement opportunities and provides incentives through either installation support services or rebates for customers who agree to implement the recommendations. RSG developed the Resource Management Advisor model for businesses that require more than rebates to encourage program participation. This model assists customers in implementing efficiency projects such as equipment specification, bid package development, contractor selection, project financing and project management.

36. Implementer: Global Energy Partners (now EnerNOC)

Program: Comprehensive Food Process Audit & Resource Efficiency Program

This program delivers electric and natural gas savings and demand reduction for the food processing industry throughout PG&E's service area. Measures include energy-efficient natural gas equipment, such as condensing economizers, condensate return optimization, heat recovery, process boilers, steam traps, and pipe and tank insulation; and electric equipment, such as custom refrigeration, processing and pumping, condensers and controls for refrigeration systems, premium efficiency motors and variable speed drives, and lighting. The measures address every major gas and electric end use in food processing facilities.

- 37. Implementer:** Resource Solutions Group (RSG)
Program: Dairy Industry Resource Advantage Program (DIRA)

The Program identifies comprehensive efficiency solutions through dairy facility energy audits, and includes facilities as well as pumping and irrigation systems. The program provides detailed and prioritized recommendations for efficiency upgrades, and offers deemed and customized incentives to dairy customers in PG&E service area to encourage comprehensive and swift installation of measures.

- 38. Implementer:** BASE Energy, Inc.
Program: Process Wastewater Treatment EM Program for Ag Food Processing

The objective of the program is to assist the existing and new/expanding food processing facilities to reduce their energy and demand on their wastewater treatment facilities in PG&E's service area. Facilities include dairies, fruit beverage manufacturers, dry fruit producers, poultry farms, ice cream production plants, tomato plants, yeast production plants, and wineries.

- 39. Implementer:** Richard Heath and Associates (RHA)
Program: Light Exchange Program

The Light exChange Program (LCP) works with local schools and community organizations, to provide a no-cost replacement of older mercury vapor lights for high pressure sodium lighting. RHA will involve schools and organizations by offering them an exchange incentive for each lighting change-out operating mercury vapor fixture brought in and exchanged for a high pressure sodium yard light.

- 40. Implementer:** Staples Energy
Program: Low Pressure Irrigation Direct Install Program

The Low Pressure Irrigation (LPI) Direct Install Program serves small and medium business agricultural and other irrigation customers by installing low pressure sprinkler nozzles and converting existing sprinkler irrigation systems to drip irrigation. The LPI Program works with a network of trade allies and partners to market and implement a direct installation program throughout PG&E's service area.

WORKFORCE, EDUCATION & TRAINING SECTOR

- 41. Implementer:** ConSol
Program: Builder Energy Code Training (BECT)

BECT provides training by the building industry to the building industry to improve compliance with Title 24 energy codes for residential new construction.

BECT provides the fundamentals of energy-efficient construction and an understanding of materials, assemblies, building systems and subsystems in the context of energy codes. In addition, in response to the major changes in Title 24

requirements, the focus of BECT has been to improve compliance with the new mandatory lighting standards and to provide information and training to encourage use of energy efficiency measures that reduce peak consumption and load, especially the quality construction code elements that require third-party inspections and tests. These inspections and tests are not widely used by builders but provide cost-effective and verified savings.

42. Implementer: Build It Green

Program: Green Building Technical Support Services (GBTSS)

GBTSS promotes a green building strategy to achieve greater energy efficiency in new and existing homes. The focus of the program is to promote healthy, durable, energy and resource-efficient buildings in California. In order to accomplish this objective, Build It Green uses education and outreach to connect consumers and building professionals with the tools and technical expertise they need to build quality green buildings. Build It Green strives to foster collaboration with key stakeholder groups to accelerate the adoption of green building standards, policies, and programs.

THIRD PARTY IDEEA365 PROGRAMS

In 2013, PG&E launched a “targeted” solicitation process for new programs as part of the Innovative Designs for Energy Efficiency Approaches (IDEEA365) Statewide initiative. As a result, six new programs were awarded. These programs consisted of a residential high-efficiency water heater program, an agricultural low-pressure irrigation system and four analytics-enabled retro-commissioning programs for schools and municipal buildings.

Along with “targeted” programs, PG&E completed an “innovative” solicitation under IDEEA 365 and selected nine new programs for contract negotiations in the latter part of 2013. Program implementation is slated to commence in the first quarter of 2014. The programs complement PG&E’s portfolio of programs in the commercial, industrial and WE&T sectors.

THIRD PARTY PROGRAM CLOSURE

43. Implementer: Low Income Investment Fund (LIIF)

Program: California Preschool Energy Efficiency Program (CPEEP)

CPEEP provided energy efficiency retrofits to the largest preschool centers. The program brought together the key stakeholders in this segment to leverage additional energy efficiency funds and outreach expertise. CPEEP is a partnership with the California Department of Education and California Head Start Association.

In 2013, the CPEEP Program was closed¹⁶ at the request of the third party implementer due to declines in energy savings in the 2013-2014 program cycle for lighting and HVAC measures that made up most of the total program energy savings during 2010-2012. As a result, the program was no longer economically feasible to implement and the implementer chose to close it down.

¹⁶ PG&E Advice Letter 3413-G/4283-E was approved effective September 19, 2013.

TABLES

SECTION 1 ENERGY SAVINGS

Table 1

Table 1: <i>Electricity and Natural Gas Savings and Demand Reduction</i>						
Annual Results	CPUC Goals			% of 2-year Goals	Balance (4)	
	Installed Savings (2)	Adopted in D.12-11-015	% of Goals			
2013 Energy Savings (GWh) – Annual (1)						
PG&E Programs (gross)	826	599	138%	69%	366	
PG&E Codes and Standards Advocacy (net)	254	254	100%	52%		
2014 Energy Savings (GWh) – Annual (1)						
PG&E Programs (gross)		593				
PG&E Codes and Standards Advocacy (net)		239				
TOTAL Energy Savings (GWh) – Annual (3) (gross)	826	1,192	69%	69%	366	
2013 Energy Savings (GWh) – Lifecycle						
PG&E Programs	14,706					
TOTAL Energy Savings (GWh) – Lifecycle (3)	14,706					
2013 Natural Gas Savings (MMth) – Annual (1)						
PG&E Programs (gross)	31	21.0	150%	76%	10	
PG&E Codes and Standards Advocacy (net)	0.07	0.07	100%	12%		
2014 Natural Gas Savings (MMth) – Annual (1)						
PG&E Programs (gross)		20.3				
PG&E Codes and Standards Advocacy (net)		0.55				
TOTAL Natural Gas Savings (MMth) – Annual (3) (gross)	31	41	76%	76%	10	
2013 Natural Gas Savings (MMth) – Lifecycle						
PG&E Programs	371					
TOTAL Natural Gas Savings (MMth) – Lifecycle (3)	371					
2013 Peak Demand savings (MW) (1)						
PG&E Programs (gross)	160	114	140%	75%	54	
PG&E Codes and Standards Advocacy (net)	30.6	30.6	100%	48%		
2014 Peak Demand savings (MW) (1)						
PG&E Programs (gross)		100				
PG&E Codes and Standards Advocacy (net)		32.5				
TOTAL Peak Demand savings (MW) (3) (gross)	160	214	75%	75%	54	

PG&E Notes:

- (1) All annual energy savings values are shown on a gross basis, except Codes and Standards (C&S) that are shown on a net basis.
- (2) Installed savings includes PG&E's Energy Savings Assistance (ESA) Program, BayREN savings from their 2013 Annual Report dated 4/1/2014; and MCE savings from their December 2013 Monthly Report. Savings from CFLs rebated in 2006-2012 that were installed in 2013 are not included.
- (3) Total savings shown excludes C&S. D.12-05-015 established separate annual goals for IOU programs (on a gross basis) and C&S Advocacy (on a net basis). C&S goals were adjusted in D.12-11-015. It is not appropriate to total portfolio energy savings across two different types of savings.
- (4) The "Balance" values reflect the difference between the CPUC adopted 2-yr goal and the annual installed savings. The negative values are a result of installed savings exceeding the adopted 2-yr goals.

SECTION 2 EMISSION REDUCTIONS

Table 2

Table 2: <i>Emission Reductions</i>								
Annual Results	Annual tons of CO ₂ avoided	Lifecycle tons of CO ₂ avoided	Annual tons of NO _x avoided	Lifecycle tons of NO _x avoided	Annual tons of SO _x avoided	Lifecycle tons of SO _x avoided	Annual tons of PM10 avoided	Lifecycle tons of PM10 avoided
2013 Total	795,393	8,614,942	213	2,567	-	-	41	422
PG&E	795,393	8,614,942	213	2,567	-	-	41	422

PG&E Notes:

- (1) All environmental impact values are derived from gross energy savings.
 (2) Includes Energy Savings Assistance (ESA) Program; excludes CFLs rebated in 2006-12 that were installed in 2013, BayREN, and MCE.

Table 2 reports incremental environmental impacts of PG&E's Energy Efficiency Portfolio for 2013. The E3 calculator (version PG&E_2013_v1c6-Draft) has been updated by the Commission Staff consultant for the calculation of carbon dioxide (CO₂), nitrogen oxide (NO_x) and particulate matter under 10 microns (PM10). The E3 calculator includes a greenhouse gas adder of \$30 per tonne in 2013 using generation avoided cost inputs from the most recent Commission adopted Market Price Referent, and natural gas avoided costs for energy efficiency resources using natural gas price data.

All of PG&E's resource programs that provide energy savings contribute to the emissions reductions reported in the table above. The emissions reductions are directly related to the amount of kWh and therms saved, so the programs and strategies that were most successful in reducing emissions are the same ones that were most successful in reducing electric (kWh) and gas (therms) usage.

PG&E uses the E3 calculator for all emissions calculations except for sulfur oxide (SO_x). The SO_x reductions are not calculated in the E3 calculator, but these reductions are expected to be zero since none of the California IOUs use coal fueled power.

SECTION 3 EXPENDITURES

Table 3

Summary of Portfolio Expenditures	Adopted Program Budget	Total Annual Expenditures	Percentage of Portfolio Budget	Percentage of Total Annual Expenditures
Total 2013-14 EE Program Expenditures				
Administrative-Implementer	64,055,289	5,553,329	0.7%	1.8%
Administrative-IOU Support		37,937,772	5.0%	12.0%
Marketing	42,299,727	12,459,319	1.7%	3.9%
Rebates/Incentives/Direct Install (2)	338,813,048	119,980,376	15.9%	37.8%
Direct Implementation	308,182,392	141,290,575	18.8%	44.5%
Total EE Program Expenditures	\$ 753,350,455	\$ 317,221,372	42.1%	100.0%
Core Programs				
Administrative-IOU Support	24,546,879	22,926,859	3.0%	7.2%
Marketing	30,924,186	6,129,567	0.8%	1.9%
Rebates/Incentives/Direct Install	209,145,867	69,370,128	9.2%	21.9%
Direct Implementation	148,032,617	70,492,289	9.4%	22.2%
Sub total	\$ 412,649,548	\$ 168,918,844	22.4%	53.2%
3P Programs				
Administrative-Implementer		2,562,328	0.3%	0.8%
Administrative-IOU Support	17,743,229	8,759,125	1.2%	2.8%
Marketing	1,970,763	2,659,904	0.4%	0.8%
Rebates/Incentives/Direct Install	74,196,198	28,326,704	3.8%	8.9%
Direct Implementation	80,559,253	34,082,741	4.5%	10.7%
Sub total	\$ 174,469,443	\$ 76,390,803	10.1%	24.1%
LGP Programs				
Administrative-Implementer		2,487,930	0.3%	0.8%
Administrative-IOU Support	21,765,181	6,246,793	0.8%	2.0%
Marketing	9,404,778	2,580,335	0.3%	0.8%
Rebates/Incentives/Direct Install	55,470,983	22,283,544	3.0%	7.0%
Direct Implementation	52,832,567	27,229,145	3.6%	8.6%
Sub total	\$ 139,473,509	\$ 60,827,746	8.1%	19.2%
Non-IOU Programs (3)				
Administrative-Implementer	-	503,072	0.1%	0.2%
Administrative-IOU Support	-	4,993	0.0%	0.0%
Marketing	-	1,089,513	0.1%	0.3%
Direct Implementation	26,757,955	9,486,400	1.3%	3.0%
Sub total	\$ 26,757,955	\$ 11,083,978	1.5%	3.5%
EM&V				
EM&V IOU	9,323,526	1,637,778	4.8%	98.4%
EM&V Joint Staff	24,583,785	26,234	0.1%	1.6%
Total EM&V Expenditures	\$ 33,907,311	\$ 1,664,012	4.9%	100.0%
On-Bill Financing Loan Pool (4)	\$ 32,000,000	9,728,311	30.4%	100.0%
GRAND TOTALS	\$ 819,257,766	\$ 328,613,694	40.1%	100.0%

(1) The format of Table 3 has been modified from previous Annual Reports to conform with the Commission's 2011 EE audit report recommendation and to show BayREN and MCE expenditures under "Non-IOU Programs".

(2) "Rebates/Incentives/Direct Install" include expenditures accrued but not paid as of December 31, 2013.

(3) Non-IOU programs represent PG&E's payments to BayREN and MCE.

(4) Expenditures include loans issued and repaid.

Table 3.1: Pre-2013 Carryover Expenditures

Summary of Carryover Expenditures	Pre-2013 Carryover	Total Annual Expenditures	Percentage of Carryover	Percentage of Total Annual Expenditures
Total Pre-2013 Carryover EE Expenditures				
Rebates/Incentives/Direct Install (2)	56,138,731	40,157,145	61.5%	82.5%
Direct Implementation	9,121,494	8,542,033	13.1%	17.5%
Total EE Program Expenditures	\$ 65,260,225	\$ 48,699,178	74.6%	100.0%
Core Programs				
Rebates/Incentives/Direct Install	44,285,224	28,817,925	44.2%	59.2%
Direct Implementation	4,775,000	4,834,523	7.4%	9.9%
Sub total	\$ 49,060,224	\$ 33,652,448	51.6%	69.1%
3P Programs				
Rebates/Incentives/Direct Install	6,653,506	6,322,191	9.7%	13.0%
Direct Implementation	4,346,494	3,707,510	5.7%	7.6%
Sub total	\$ 11,000,000	\$ 10,029,701	15.4%	20.6%
LGP Programs				
Rebates/Incentives/Direct Install	5,200,000	5,017,029	7.7%	10.3%
Direct Implementation	-	-	0.0%	0.0%
Sub total	\$ 5,200,000	\$ 5,017,029	7.7%	10.3%
EM&V				
EM&V IOU	11,458,970	3,333,177	8.7%	25.0%
EM&V Joint Staff	26,902,414	10,023,417	26.1%	75.0%
Total EM&V Expenditures	\$ 38,361,384	\$ 13,356,595	34.8%	100.0%
GRAND TOTALS	\$ 103,621,609	\$ 62,055,773	59.9%	100.0%

(1) Table 3.1 has been added to show PG&E's authorized pre-2013 program carryover funds spent in 2013.

(2) Incentives, Rebates, & Direct Install include expenditures accrued but not paid as of December 31, 2013.

Table 3 reports PG&E's annual expenditures for 2013, the first year of the 2013-2014 Energy Efficiency Portfolio cycle.

Table 3.1 reports pre-2013 carryover expenditures recorded in 2013.

SECTION 4 COST-EFFECTIVENESS

Table 4

Table 4: Cost Effectiveness									
Annual Results	Total Cost to Billpayers (TRC) (1)	Total Savings to Billpayers (TRC)	Net Benefits to Billpayers (TRC) (1)	TRC Ratio (2) (3)	Total Cost to Billpayers (PAC) (1)	PAC Ratio (2) (3)	PAC Cost per kW Saved (\$/kW) (4)	PAC Cost per kWh Saved (\$/kWh) (5)	PAC Cost per therm Saved (\$/therm) (5)
PG&E	\$ 674,158,784	\$ 916,471,460	\$ 242,312,676	1.36	\$ 381,969,610	2.40		\$ 0.05	\$ 0.52

PG&E Notes:

- (1) The cost-effectiveness calculations for 2013 are based on the actual accomplishments recorded in 2013. Includes ESPI payment of \$21.6M in 2013 (D. 10-12-049), Codes and Standards costs and benefits, ESA Program costs and benefits; BayREN program costs, savings, and benefits from their 2013 Annual Report submitted on 4/1/2014; MCE program costs and savings from their December 2013 Monthly Report (MCE benefits excluded as their Annual Report is not available). Excludes Statewide Emerging Technology costs per D.12-11-015. OBF Loan Pool Financing Program costs of \$9.7M are excluded per D.09-09-047. CFLs rebated in 2006-12 that were installed in 2013 are also excluded as Staff confirmation of values are not available.
- (2) PG&E used reported project costs and incremental cost factors to calculate the cost effectiveness for non-residential retrofit customized projects.
- (3) All savings values include 5% market spillover in cost-effectiveness calculations per OP #37 in D.12-11-015 excluding Codes and Standards .
- (4) The adopted avoided cost methodology does not provide information to determine a meaningful value for PAC Cost per kW. The adopted avoided cost methodology created kWh cost values that vary for each hour of the year that includes kW generation capacity costs. The current PAC Cost per kWh includes ratepayer financial costs incurred in producing electric savings. The same costs would have to be reallocated if a PAC Cost per kW were presented. Additionally, the current approved E3 calculator does not have the capability to calculate discounted kW.
- (5) PAC cost per kWh or per therm is leveled PAC cost per kWh or therm, respectively. The current E3 calculator does not calculate leveled cost for the claims with incentive values that do not have energy savings or measure costs. Even though there are no electric or gas energy savings, the TRC and/or PAC cost is calculated only for gas for such savings claims.

Table 4 shows the various cost-effectiveness values used in the Total Resource Cost (TRC) test and the Program Administrator Cost (PAC) test. The cost-effectiveness calculations have been performed using the E3 calculator (version identified in Section 2, above) with avoided costs updated by the Commission Staff consultant.

The TRC ratio is greater than 1.0 and the TRC net benefits are positive, as required for the portfolio, indicating that the avoided costs of energy exceed the energy efficiency program costs and provide a net resource benefit from a broad societal perspective. The PAC ratio is greater than 1.0, as required for the portfolio, indicating that the avoided costs of energy exceed the energy efficiency program costs and have a net resource benefit from a program administrator perspective.

The energy savings and incremental costs are from the Database for Energy Efficiency Resources (DEER) database where applicable and are otherwise documented in workpapers submitted to the CPUC. The effective useful lives (EUL) and net-to-gross values are taken from DEER where applicable and are otherwise documented in workpapers.

SECTION 5 BILL IMPACTS

Table 5

Table 5: <i>Ratepayer Impacts</i>						
2013	Electric Average Rate (Res and Non-Res) \$/kwh	Gas Average Rate (Res and Non-Res) \$/therm	Average First Year Bill Savings (\$)		Average Lifecycle Bill Savings (\$)	
PG&E	\$ 0.1535	\$ 1.2440	\$ 154,504,986	\$ 1,606,977,224		
PG&E Average	\$ 0.1535	\$ 1.2440	\$ 154,504,986	\$ 1,606,977,224		

PG&E Notes:

Notes: (Consistent with SPM TRC/PAC/RIM tests, all savings used from actuals and forecasts in this table are net not gross)

- 1) Average first year electric bill savings is calculated by multiplying an average electric rate with first year net kWh energy savings.
- 2) Average first year gas bill savings is calculated by multiplying an average gas rate with first year net therm energy savings.
- 3) Total average first year bill savings is the sum of Notes 1 and 2.
- 4) Average lifecycle electric bill savings is calculated by multiplying an average electric rate with lifecycle net kWh energy savings.
- 5) Average lifecycle gas bill savings is calculated by multiplying an average gas rate with lifecycle net therm energy savings.
- 6) Total average lifecycle bill savings is the sum of Notes 4 and 5.
- 7) Total Average Bill Savings by Year and Lifecycle Bill Savings include C&S net lifecycle savings; and excludes ESA Program, BayREN and MCE savings.

Table 5 shows the first year and lifecycle bill savings based on 2013 reported savings and PG&E’s 2013 electric and gas average rates for residential and non-residential customers. The gas average rate is calculated using PG&E’s gas procurement rate as a proxy for customers that receive gas transportation-only service from PG&E.

PG&E’s notes above define the data to be reported in this section as agreed in the IOUs’ conference call with Commission Staff on August 17, 2007.

SECTION 6 GREEN BUILDING INITIATIVE

Table 6

Table 6: <i>Green Building Initiative (1, 2)</i>										
2013	Expenditures (3)	Goal	GWH		Goal	MW		Goal	MMth	
			Annual	% of Goal		Annual	% of Goal		Annual	% of Goal
PG&E	\$ 57,334,931	N/A	321	N/A	N/A	52	N/A	N/A	8	N/A
PG&E	\$ 57,334,931		321			52			8	

PG&E Notes:

- (1) All energy savings numbers are on a gross basis.
- (2) Does not apply to ESA Program, Codes & Standards; excludes Nonresidential Audits, BayREN, and Marin Clean Energy (MCE) since these are unavailable.
- (3) Expenditures include paid incentive dollars for 2013.

Governor Arnold Schwarzenegger signed [Executive Order S-20-04](#) (Green Building Initiative) regarding Green Buildings on December 14, 2004. It established the State of California's priority for energy and resource-efficient high performance buildings.

The Executive Order sets a goal of reducing energy use in state-owned buildings by 20 percent by 2015 (from a 2003 baseline) and encourages the private commercial sector to set the same goal. The order also directs compliance with the [Green Building Action Plan](#) (PDF file, 166 kb), which details the measures the state will take to meet these goals.

More details about the project can be found on the CEC's webpage at <http://www.energy.ca.gov/greenbuilding/>

Table 6 shows the expenditures and energy savings in 2013 for the Governor's Green Building Initiative (GBI). In the 2013-2014 Energy Efficiency Portfolio cycle, the following programs with their respective program codes and descriptions contributed to the GBI. Additional PG&E programs that supported the GBI with integrated and coordinated energy savings include Local Government Energy Watch Partnerships, Third Party Programs, and PG&E core program offerings, including the Self Generation Incentive Program.

EEGA_CODE	EEGA_DESCRIPTION
PGE2110011	California Community Colleges (CCC)
PGE2110012	University of California/California State University (UC/CSU)
PGE2110013	State of California
PGE2110014	Department of Corrections and Rehabilitation (CDCR)

Since 2004, the California Department of Corrections and Rehabilitation, University of California, California State University, and California Community College systems have engaged with PG&E through formal energy efficiency contracts to achieve energy savings reductions and receive funding from California’s IOUs.

In 2006, PG&E entered into a Memorandum of Understanding (MOU) with the State of California and formed the State of California / IOU Energy Efficiency Partnership. The purpose of this MOU was to provide a foundation for the IOUs to collaborate with the Green Action Team and facilitate the mutual implementation of energy efficiency projects that will assist the State of California agencies in complying with Executive Order S-20-04 (EO), and to achieve cost-effective energy savings through energy efficiency retro-commissioning (RCx) and retrofits of state-owned facilities in accordance with D.05-09-043 and the IOUs’ Commission-approved EE and DR programs.

The non-resource programs in PG&E’s 2013-2014 Energy Efficiency Portfolio don’t contribute savings but contributed significantly to achieving the goals of the GBI by introducing customers to the general benefits of energy efficiency as well as to specific measures that could increase the energy efficiency of their homes and businesses.

Education, training, and online components are offered to State of California employees through PG&E’s Energy Training Centers in San Francisco and Stockton.

Efforts continue with all statewide partnerships and the IOUs. Commitments are being made through the 2013-2014 program cycle to support reducing energy use in state-owned buildings.

SECTION 7

SHAREHOLDER PERFORMANCE INCENTIVES

Shareholder earnings that were accrued during the 2013 program year are from activities performed in 2011. The mechanism and payment associated with 2011 was based on a management fee of 5% plus up to 1% more based on how well PG&E complied with ex ante activities. PG&E scored a 68 out of 100 making the final management fee 5.68%.

The earnings recorded during program year 2013 are for the 2011 Risk Reward Incentive Mechanism as approved in D.12-12-032. The payment for program year 2013 was approved in Resolution G-3491 in response to IOU advice letters that requested the earnings, per direction from D.12-12-032.

The table below contains the authorizing resolution and final payment awarded to PG&E for program year 2011 that was awarded in 2013.

Program Year for Activities Paid	Year Incentive Recorded	Authorizing Decision	Shareholder Incentive
2011	2013	Resolution G-3491	\$21.6 million

SECTION 8 SAVINGS BY END-USE

Table 8

Table 8: <i>Annual Savings By End-Use (1) (2)</i>							
	GWH	% of Total	MW	% of Total	MMTh = 1,000,000 therms	% of Total	
Residential	253	31%	53	33%	3	10%	
Appliances	10	1%	6	4%	1	2%	
Consumer Electronics	18	2%	0	0%	(0)	-1%	
Cooking Appliances	-	0%	-	0%	-	0%	
HVAC	14	2%	6	4%	1	2%	
Lighting	79	10%	12	8%	(1)	-3%	
Pool Pump	6	1%	1	1%	-	0%	
Refrigeration	17	2%	4	3%	(0)	-1%	
Water Heating	1	0%	0	0%	0	0%	
Other	108	13%	23	14%	3	11%	
Nonresidential	531	64%	98	61%	26	84%	
HVAC	132	16%	22	14%	4	13%	
Lighting	193	23%	29	18%	(1)	-2%	
Office	13	2%	1	1%	(0)	0%	
Process	113	14%	30	18%	18	59%	
Refrigeration	36	4%	4	3%	0	1%	
Other	44	5%	11	7%	4	12%	
Energy Savings Assistance Program	43	5%	9	6%	2	6%	
Codes & Standard Energy Savings	254	100%	31	100%	0	100%	
PG&E ANNUAL PORTFOLIO SAVINGS (3)	826	100%	160	100%	31	100%	

PG&E Notes:

- (1) All energy savings numbers are on a gross basis except Codes and Standards are net.
- (2) Includes ESA Program, BayREN from their 2013 Annual Report submitted on 4/1/2014, MCE savings from their December 2013 Monthly Report (MCE's 2013 Annual Report is not available); excludes CFLs rebated in 2006-12 that were installed in 2013.
- (3) Totals exclude C&S. D.12-05-015 established separate annual goals for IOU programs on a gross basis, and Codes and Standards Advocacy on a net basis, as adjusted in the later decision D.12-11-015.
It is not appropriate to total portfolio energy savings across two different types of savings.

Table 8 shows the 2013 annual savings of all programs by end use. The energy savings recorded by PG&E's Energy Efficiency Portfolio comply with the Commission's policy rules in the Energy Efficiency Policy Manual, Version 5.0, as well as with subsequent Commission decisions and rulings.

The Energy Savings Assistance (ESA) Program energy savings reported above are from the ESA Program 2013 Annual Report that will be provided to the Commission in May 2014. ESA measure savings are defined in D.12-08-044.

SECTION 9 COMMITMENTS

Table 9

Table 9:				
<i>Commitments (1)</i>				
Commitments Made in the Past Year with Expected Implementation <i>by</i> December 2013				
2013	Committed Funds (2) \$	GWH	Expected Energy Savings	
			MW	MMth
PG&E	-	-	-	-
PG&E Total	-	-	-	-
Commitments Made in the Past Year with Expected Implementation <i>after</i> December 2013				
2013	Committed Funds (2) \$	GWH	Expected Energy Savings	
			MW	MMth
PG&E	\$ 84,937,951	269	87	107
PG&E Total	\$ 84,937,951	269	87	107

PG&E Notes:

- (1) All energy savings numbers are on a gross basis.
- (2) Committed Funds include incentives related to PG&E EE projects committed in prior year(s) but not yet completed by December 2013.

Table 9 shows the incentive commitments at the end of 2013 for energy efficiency projects that are expected to be completed after December 2013. All projects use Nonresidential Retrofit and Nonresidential New Construction calculated applications and procedures to make long-term commitments on projects that require lead times or long construction schedules. Many of these are large commercial projects, complex industrial projects, or projects with complex administrative requirements such as schools or government buildings. The Residential New Construction subprogram also receives long-term projects such as subdivisions that will be built out over several years.

In addition, a number of third-party implementers and government partnerships serve larger customers and have program commitments for projects to be completed after 2013.

APPENDICES

APPENDIX A PG&E PROGRAM NUMBERS

Program ID	Program Name	Date Added (new programs)	Date Removed
PGE2100	Residential Energy Efficiency Program		
PGE21001	Residential Energy Advisor		
PGE21002	Plug Load and Appliances		
PGE21003	Multifamily Energy Efficiency Rebates Program		
PGE21004	Energy Upgrade California™ Home Upgrade		
PGE21005	Residential New Construction		
PGE21006	Residential HVAC		
PGE2101	Commercial Program		
PGE211025	Savings By Design		
PGE21011	Commercial Calculated Incentives		
PGE21012	Commercial Deemed Incentives		
PGE21013	Commercial Continuous Energy Improvement		
PGE21014	Commercial Energy Advisor Program		
PGE21015	Commercial HVAC		
PGE2102	Industrial Program		--
PGE21021	Industrial Calculated Incentives		
PGE21022	Industrial Deemed Incentives		
PGE21023	Industrial Continuous Energy Improvement		
PGE21024	Industrial Energy Advisor Program		
PGE2103	Agricultural Program		
PGE21031	Agricultural Calculated Incentives		
PGE21032	Agricultural Deemed Incentives		
PGE21033	Agricultural Continuous Energy Improvement		

Program ID	Program Name	Date Added (new programs)	Date Removed
PGE21034	Agricultural Energy Advisor Program		
PGE2104	Lighting Program		
PGE21041	Primary Lighting		
PGE21042	Lighting Innovation		
PGE21023	Lighting Market Transformation		
PGE2105	Codes and Standards		
PGE21051	Building Codes Advocacy		
PGE21052	Appliance Standards Advocacy		
PGE21053	Compliance Improvement		
PGE21054	REACH Codes		
PGE21055	Planning and Coordination		
PGE2106	Emerging Technologies Program		
PGE21061	Technology Development Support		
PGE21062	Technology Assessments		
PGE21063	Technology Introduction Support		
PGE2107	Workforce Education and Training		
PGE21071	Centergies		
PGE21072	Connections		
PGE21073	Strategic Planning		
PGE2108	Statewide DSM Coordination & Integration		
PGE21081	Statewide DSM Coordination & Integration		
PGE2109	Financing		
PGE21091	On-Bill Financing		
PGE21092	Third-Party Financing		
PGE21093	New Financing Offerings		
PGE2110	Government Partnership Programs		
PGE2110011	California Community Colleges		

Program ID	Program Name	Date Added (new programs)	Date Removed
PGE2110012	University of California/California State University		
PGE2110013	State of California		
PGE2110014	Department of Corrections and Rehabilitation		
PGE2110051	Local Government Energy Action Resources (LGEAR)		
PGE2110052	Strategic Energy Resources		
PGE211007	Association of Monterey Bay Area Governments (AMBAG)		
PGE211009	East Bay		
PGE211010	Fresno		
PGE211011	Kern		
PGE211012	Madera		
PGE211013	Marin County		
PGE211014	Mendocino County		
PGE211015	Napa County		
PGE211016	Redwood Coast		
PGE211018	San Luis Obispo County		
PGE211019	San Mateo County		
PGE211020	Santa Barbara		
PGE211021	Sierra Nevada		
PGE211022	Sonoma County		
PGE211023	Silicon Valley		
PGE211024	San Francisco		
PGE21007	California New Homes Multifamily		
PGE21008	Enhance Time Delay Relay		
PGE21009	Direct Install for Manufactured and Mobile Homes		
PGE210110	Monitoring-Based Persistence Commissioning		
PGE210111	LodgingSavers		

Program ID	Program Name	Date Added (new programs)	Date Removed
PGE210112	School Energy Efficiency		
PGE210113	Energy Fitness Program		
PGE210114	Energy Savers		
PGE210115	RightLights		
PGE210116	Small Business Commercial Comprehensive		
PGE210117	Energy-Efficient Parking Garage		
PGE210118	Furniture Store Energy Efficiency		
PGE210119	Light Emitting Diode (LED) Accelerator		
PGE210120	Monitoring-Based Commissioning		
PGE210122	Casino Green		-
PGE210123	Healthcare Energy Efficiency Program		
PGE210124	Ozone Laundry Energy Efficiency		
PGE210125	California Preschool Energy Efficiency Program		9/19/13
PGE210126	K-12 Private Schools and Colleges Audit Retro		
PGE210127	Innovative Designs for Energy Efficiency Approaches (IDEEA)		
PGE21016	Air Care Plus		
PGE21017	Boiler Energy Efficiency Program		
PGE21018	EnergySmart Grocer		
PGE21019	Enhanced Automation Initiative		
PGE210310	Dairy Industry Resource Advantage Program		
PGE210311	Process Wastewater Treatment Energy Management (EM) Program for Ag Food Processing		
PGE21035	Dairy Energy Efficiency Program		
PGE21036	Industrial Refrigeration Performance Plus		
PGE21037	Light Exchange Program		
PGE21038	Wine Industry Efficiency Solutions		

Program ID	Program Name	Date Added (new programs)	Date Removed
PGE21039	Comprehensive Food Process Audit and Resource Efficiency Program		
PGE210210	Industrial Recommissioning Program		
PGE21025	California Wastewater Process Optimization		
PGE21026	Energy Efficiency Services for Oil Production		
PGE21027	Heavy Industry Energy Efficiency Program		
PGE21028	Industrial Compressed Air		
PGE21029	Refinery Energy Efficiency Program		
PGE21074	Builder Energy Code Training		
PGE21075	Green Building Technical Support Services		

APPENDIX B

REGULATORY DECISIONS, RULINGS AND COMPLIANCE ADVICE LETTERS

Subsequent to the issuance of Decision 12-11-015, a number of decisions were issued in 2013 related to the 2013-2014 EE portfolio cycle:

- D.13-09-023, *Decision Adopting Efficiency Savings and Performance Incentive Mechanism*, was issued on September 11, 2013. This decision adopted a new Efficiency Savings and Performance Incentive (ESPI) mechanism to promote achievement of EE goals through programs. This new mechanism supersedes the Risk/Reward Incentive Mechanism (RRIM). The adopted mechanism reinforced PG&E's commitment to EE as the highest energy resource priority to meet California's energy demand. The potential for ESPI earnings available over the 2013-2014 cycle is capped at \$178 million. This decision does not impact the results shown in PG&E's 2013 EE Annual Report.

- D.13-09-044, *Decision Implementing 2013-2014 Energy Efficiency Financing Pilot Programs*, was issued on September 20, 2013. This decision authorized \$65.9 million in funding for 2014-2015 to implement six statewide pilot programs and designate the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) as the California Hub for Energy Efficiency Financing (CHEEF) to manage an open market in which the IOUs, financial institutions, EE providers and energy users can participate. The IOUs were required to file advice letters to propose PIPs and tariffs to implement the financing pilots, conduct a public workshop, provide a Data Working Group Final Report, and develop a work paper to propose methodology to estimate incremental savings. The CHEEF is also required to file quarterly reports.

The launch of the Financing Pilots has been delayed until CAEATFA's request for state legislative budget authority to act as CHEEF is approved through the regular state budget process for fiscal year 2014-2015. The CPUC anticipates that CAEATFA will gain budgetary authority to serve as CHEEF, by July 1, 2014. Commission Staff and IOUs continue to consult with CAEATFA on pilot content during this interim period, as well as on a modified schedule for launching the

pilots.¹⁷ This decision does not impact the results shown in PG&E's 2013 EE Annual Report.

- D.13-09-046, *Order Correcting Error*, was issued on September 23, 2013. This decision reproduced in their entirety Tables 1 through Tables 13 of D.12-11-015, to correct the presentation of the information in these tables, without any quantitative changes to the authorized funding or substance ordered in D.12-11-015.
- D.13-12-038, *Decision on Phase II Issues: Statewide Marketing, Education, and Outreach Plans for 2014-2015*, was issued on December 27, 2013. This decision authorized funding for the California Center for Sustainable Energy to implement a statewide marketing, education and outreach (SW ME&O) plan for residential and small business energy management to take effect in 2014 and extend through the end of 2015. The Decision adopted \$12.1 million for EE and \$7.9 million for Demand Response for the two year period, as adjusted for amounts spent for 2012 and 2013 statewide marketing transition activities and website maintenance (OP 5). The decision also clarified that statewide ME&O costs are excluded from the 6 percent cap set for ME&O costs in D.09-09-047.
- *Decision Granting Petition and Opening Rulemaking – OIR into Policies to Promote a Partnership Framework between Energy IOUs and the Water Sector to Promote Water-Energy Nexus Programs, R.13-12-011*. This Rulemaking was issued on December 30, 2013, to develop a partnership framework among the IOUs and the water utilities to approve a cost-effectiveness methodology for water and energy savings measures. There will be coordination between the new rulemaking and current and future EE proceedings to ensure consistent treatment of water/energy programs in the IOUs' EE programs.

As discussed in the Regulatory Compliance section of the Annual Report, in September 2013, the Commission approved PG&E AL 3356-G-A&B/4176-E-A-B that adopted PG&E's 2013-2014 EE program budgets and PIPs effective January 1, 2013. In addition, PG&E filed the following advice letters related to energy efficiency in 2013:

- 1) On April 2, 2013, SCE, on behalf of the IOUs and RENs, filed Joint AL PG&E 3376-G/4207-E, *et. al., Request for Energy Upgrade California Program Enhanced Basic Path*, in compliance with D.12-11-015, Ordering Paragraph (OP) 5. The AL was approved in part, effective May 30, 2013. On July 15, 2013, in response to

¹⁷ Randolph, Edward. Energy Division Director, CPUC. *Delay in Launch of Statewide Finance Pilots Letter*. January 28, 2014.

Commission Staff's request for additional information and revisions, SDG&E filed Supplemental Joint AL PG&E 3376-G-A/4207-E-A, *et. al.*, *Request for Approval of the Energy Upgrade California™ High Performing Contractor Protocols*, which was approved, effective August 14, 2013.

http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4207-E-A.pdf

http://www.pge.com/notes/rates/tariffs/tm2/pdf/GAS_3376-G-A.pdf

- 2) On June 3, 2013, PG&E filed, on the behalf of the IOUs, Joint AL 3389-G/4234-E, *et. al.*, *Request to Adopt Short-Term Program Performance Metric (PPM) Targets for 2013-2014 Statewide Energy Efficiency Programs*, in compliance with D.12-05-015 (at p. 207) and subsequent Commission Staff guidance. In response to Staff's request for additional information and revisions, PG&E filed Supplemental AL 3389 G-A/4234-E-A, *et al.*, on October 11, 2013, that superseded the original advice letter. The supplemental joint AL was approved effective January 1, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4234-E-A.pdf
- 3) On July 1, 2013, SDG&E, on behalf of the IOUs, filed Joint AL PG&E 3395-G/4241-E, *et. al.*, *Request for Upstream Incentive Program for Distributors of Residential Heating, Ventilation and Air Conditioning Equipment*, in compliance with D.12-11-015, OP 6. In response to Commission Staff's request for additional information and revisions, SDG&E filed Supplemental Joint AL PG&E 3395-G-A/4241-E-A, *et. al.*, on November 8, 2013. The Joint AL was approved effective July 30, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4241-E-A.pdf
http://www.pge.com/notes/rates/tariffs/tm2/pdf/GAS_3395-G-A.pdf
- 4) On September 3, 2013, SDG&E, on behalf of the IOUs, filed Joint AL PG&E 3412-G/4281-E, *et al.*, *Request for HVAC Code Compliance Incentive Program to Encourage To-Code Installations of Residential Heating, Ventilation and Air Conditioning Equipment*, in compliance with D.12-11-015, OP 7. The Joint AL was approved effective October 3, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4281-E.pdf
- 5) On September 19, 2013, PG&E filed AL 3413-G/4283-E *Notification of Implementer Closure of 2013-2014 Energy Efficiency Portfolio Third Party Program*, for closure of the California Preschool Energy Efficiency Program, in compliance with the Energy Efficiency Policy Manual, Version 5. The closure came at the request of the third-party program implementer, the Low Income Investment Fund (LIIF). The AL was approved effective September 19, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4283-E.pdf

- 6) On September 30, 2013, PG&E filed AL 3419-G/4291-E *Request of Pacific Gas and Electric Company for 2011 Energy Efficiency Incentive Award* requesting approval of PG&E's 2011 EE Incentive Award in the amount of \$21,561,992. The AL was filed in compliance with OP 8 of D.12-12- 032 and was approved by Resolution G-3491, effective December 6, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/GAS_3419-G.pdf
- 7) On November 19, 2013, SDG&E, on behalf of the IOUs, filed Joint AL PG&E 3432-G/4319-E, *et. al., Request for Approval of New, Emerging Lighting Equipment to Be Included in On-Bill Financing Programs*, for approval of lighting measures to be excluded from the 20 percent single end-use lighting cap adopted in D.13-09-044, OP 9. The Joint AL was approved effective November 19, 2013.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4319-E.pdf
- 8) On November 19, 2013, SoCalGas, on behalf of the IOUs, filed Joint AL PG&E 3433-G/4320-E, *et. al., Implementation of Energy Efficiency (EE) Finance Program "Fast Track" Pilots in Compliance with D.13-09-044*. The AL complies with OP 7.a. of D.13-09-044. The AL is not yet approved.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4320-E.pdf
- 9) On December 19, 2013, PG&E filed AL 3441-G/4328-E *Implementation of Energy Efficiency (EE) Finance Program Energy Financing Line Item Charge (EFLIC) Pilot*, in compliance with D.13-09-044, OP 7.a. The AL is not yet approved.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4328-E.pdf
- 10) On December 19, 2013, SoCal Gas, on behalf of the IOUs, filed Joint AL PG&E 3439-G/4327-E, *et. al., Implementation of Energy Efficiency (EE) Finance Program On-Bill Repayment (OBR) Pilots*, in compliance with D.13-09-044, OP 7.b. The AL is not yet approved.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_4327-E.pdf
- 11) On December 30, 2013, PG&E filed AL 3443-G/4338-E *Submission of On-Bill Repayment (OBR) Rate Schedule in Compliance with Decision 13-09-044*. The AL complies with OP 10 and 11 of D.13-09-044. This AL is not yet approved.
http://www.pge.com/notes/rates/tariffs/tm2/pdf/GAS_3443-G.pdf