FINAL REPORT for:
Local Government Commission
Energy Upgrade California Statewide Program

Prime Contractor Name: **Local Government Commission**
Contract Agreement Number: **#400-10-004**
Contract Term (reporting period): **10-28-2010 to 3-31-2012**
Project Manager: **Kate Meis, Associate Director**
Date Final Report Submitted: **June 18, 2012**

ARRA SEP contracts have not been granted confidentiality status for any contract deliverables, therefore, the Final Report is a public document and must be completed before the contract termination date of the contract. The contractor should use the outline below to complete the report. Each contractor should receive approval from their Commission Contract Manager to ensure the Final Report meets the needs of each individual contract.

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CHAPTER I: EXECUTIVE SUMMARY

Background

Working in collaboration with the California Energy Commission (Energy Commission), the California Public Utilities Commission (CPUC), California Investor Owned Utilities (IOU) and Publically Owned Utilities (POU), the **Local Government Commission (LGC)** has engaged in an unprecedented partnership with federal, state and local government agencies, utilities, businesses, nonprofit organizations and educational institutions to deliver **Energy Upgrade California Program (Program) under Contract #400-10-004.**

Funded via the American Recovery and Reinvestment Act of 2009 (ARRA), the Program aims to reduce barriers to adoption of energy efficiency, water efficiency and renewable energy generation system upgrade installations throughout California by **generating demand, creating jobs and saving energy.**

Contractor Spotlight:

*"**The program has transformed our company**. Before we got involved in Energy Upgrade California, we lacked the knowledge and ability to make these dramatic transformations for our customers and enter this new market. Our growth in business has allowed us to add 12 new jobs in sales, installation, analysts, and software specialists, which benefits our local community and economy."*

-Jerry Unruh, President
ABC Cooling & Heating

Organizational Structure

Since the Program's inception, the Contract **Program Team** (Program Team), led by LGC (Lead/Contractor) and comprised of Ecology Action (EA—Agreement Administrator & Regional Outreach Program Coordinator), Renewable Funding (RF—Information Technology Program Administrator), MIG Corporation (MIG—Marketing & Communication Provider), County of Sonoma (Residential PACE Pilot Lead), and City of Los Angeles (Commercial PACE Pilot Lead), has worked diligently to lay a strong foundation for rapid program uptake and long-term program success.

In tandem with the Program Team, a multitude[1] of additional sub-subcontractors, vendors, and stakeholders served integral roles in the program's success. In addition to the regulatory agencies and utility partners supporting the program, local, regional and state governmental agencies, workforce development providers, industry organizations, trade groups, associations, cultural groups, non-governmental organizations, building professionals and others also contributed to the effort.

This document and supporting materials serve to highlight the significant achievements completed under this contract made possible through the contributions of the Program Team and in collaboration with the Energy Commission over the contract period from **October 2010 – March 2012.**

[1] A list a subcontractors, sub-subcontractors and vendors is included as Attachment 1.

Program Organization

The program was organized into seven major program elements, designed to be highly integrated, to maximize leverage with partners and concurrent ARRA/non-ARRA complementary programs. Major program elements included:

1. **Administration**—reporting, invoicing, oversight, transparency and accountability.
2. **Implementation & Sustainability Planning**—development and implementation of detailed Program Implementation Plans (PIPs), PACE Replication Plan as well as Program Sustainability planning efforts for program continuity during and beyond the contract term.
3. **Integrated Web Portal—**design, creation, customization and maintenance of a statewide Integrated Web Portal, intended to serve as a statewide one-stop shop to provide resources and information motivating homeowners to adopt energy upgrades.
4. **Stakeholder Engagement—**property owner, building professional and local government engagement including workforce development, contractor training, homeowner outreach, customer support, marketing, and regional coordination to prepare a ready workforce, reduce barriers to participation and encourage adoption of energy upgrades.
5. **Tracking, Reporting & Quality Assurance —**development and maintenance of tracking and reporting mechanisms related to program delivery, utility coordination, training certification programs and establishment of the Energy Upgrade California Registry to ensure transparency and accountability.
6. **Innovative Financing Pilots—**support for innovative financing tool exploration including a potential statewide subsidy program, implementation of residential PACE pilot in Sonoma County (Sonoma) and commercial PACE pilots in the City of Los Angeles (LA), City/County of San Francisco (SF) and County of Placer (Placer).
7. **Financing Clearinghouse**—work with California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to consider a potential statewide financing clearinghouse.

Market Transformation

As this report illustrates, Energy Upgrade California has achieved what it set out to achieve. Momentum generated by **increased consumer demand and workforce readiness is transforming the marketplace**. Consumer engagement is supporting job creation, resulting in upgrades and realizing energy savings. Moreover the program is on track for continued success beyond the contract term drawing upon the strong results already accomplished to date.[2] These efforts have reduced barriers to participation of both property owners and building professionals, resulting in the following estimated achievements in the areas of demand generation, job creation and energy savings[3].

[2] Statistics cited throughout this document are based on the best available data at the time of reporting and may not be fully reflective of all final results attributable to this program.

3 These principle achievement categories are discussed in greater detail throughout this report. A glossary is presented in Attachment 2.

Enthusiasm for Energy Upgrade California is growing, building momentum and achieving concrete results:

Demand Generation & Consumer Education:

- ✓ **2,177,470 total page views** to the web portal
- ✓ **169 million paid and earned media** coverage gross impressions
- ✓ **104,000 person-to-person** direct stakeholder technical assistance interactions
- ✓ **7,000 web portal** consumer to contractor or rater inquiries
- ✓ **334 workshops** educating and inspiring homeowner, contractor/rater, real estate/lender action
- ✓ **2 in 3** homeowner workshop attendees **scheduled or completed assessments**
- ✓ **780** residential and commercial **PACE energy audits** totaling over **29,401,390** ft^2 completed
  - o **341 commercial energy audits** totaling 28,542,700 ft^2
  - o **439 residential energy audits** totaling 858,690 ft^2
- ✓ **543** residential and commercial **PACE projects** completed or in progress
- ✓ **3,605 whole-house energy upgrades** in progress and/or completed

"So what we are doing is helping the planet, but we're also helping the homeowner get a more comfortable, more durable home.

We're addressing the moisture problems, we're improving indoor air quality and we're reducing their electric bill. So, it's a win, win, win, win, win."

-Kathryn Orfino, President Alpine Green Property Services

Job Creation & Workforce Development:

- ✓ **Doubling** of the number of **BPI-BA** trained building **professionals**
- ✓ **96 contractor certification trainings** provided**,** reaching **1051 workers**
- ✓ **553 participating contractors and raters registered** on the statewide web portal
- ✓ **2,113 jobs created or retained** through contract and leveraged dollars
- ✓ Approximately **$451 million reinvested** into California's local economies

Energy Savings & Greenhouse Gas Reduction[4]:

- ✓ **30%** average **energy efficiency savings** for each completed upgrade
- ✓ **274 billion BTUs of energy saved annually** from the **3605** upgrades completed or in progress and **543** PACE projects completed to date, comprised of:
  - o **117 billion BTUs** of energy saved annually from the **1907** upgrades completed to date
  - o **219 billion BTUs** of energy saved annually from the **3605** upgrades completed or in progress
  - o **55 billion BTUs** saved annually from **543** PACE projects completed to date
- ✓ **2.19 trillion BTUs** saved by 2020 through the **3605** upgrades completed or in progress and **543** PACE projects completed to date
- ✓ **18,336 metric tons of CO2** equivalent greenhouse gas emissions reduced annually; **146,688** by 2020
- ✓ Annual **emissions savings** is equivalent to taking **3,595** passenger cars off the road, recycling **6,389** tons of waste, avoiding consumption of **2,055,686** gallons of gasoline or planting **470,172** tree seedlings

[4] Upgrade and energy savings reductions estimates are based on data provided by IOUs through the forum of the Steering Committee and are accurate as of February 2012. Additional upgrades completed or in progress in March and April 2012 are not included in this report due to incomplete data availability; Calculation methodology is presented in Attachment 3.

CHAPTER 2: GOALS

High Level Goals Established: Global & Local Context

California has set lofty greenhouse gas reduction goals through the California Global Warming Solutions Act of 2006 (AB32)[5] and Executive Order S-03-05[6]. The AB 32 Scoping Plan[7] highlights the improvement of energy efficiency in existing residential and nonresidential buildings as the most important activity to reduce greenhouse gas emissions in the electricity and natural gas sectors (Energy Commission, 2011). Energy efficiency gains in these sectors are estimated to account for 17.9% of the 146.7-mmt state reduction target outlined in the legislation. AB 758 (2009) aims to increase the energy efficiency of all of California's existing buildings. In addition, California's Energy Action Plan[8], the Integrated Energy Policy Report[9], and the Long-Term Energy Efficiency Strategic Plan[10] identify ambitious energy efficiency, renewable generation and climate change mitigation targets set for California. The concept of **market transformation** is highlighted as a primary policy objective in several of these policy documents as the mechanism to promote and establish a self-sustaining presence of energy efficient technologies in the marketplace.

> *"Energy efficiency is one of the fastest and cheapest ways to create jobs, save money, and cut down on harmful pollution."*
>
> *-President Barack Obama*

During this same time period, the United States faced one of the worst economic crises in a century. In the face of this great recession, congress enacted an economic stimulus package, the **American Recovery and Reinvestment Act of 2009[11] (ARRA)** with the primary objective of saving and creating American jobs. Secondary objectives were to invest in infrastructure, education, health, and **'green' energy**. The ARRA initiative sought to address these seemingly divergent challenges with a single uniform solution: **create green jobs through initiatives that reduce environmental emissions**.

Achieving desired energy savings, like an average of 40% reduction in energy use in existing homes, will require mass-scale upgrade adoption by everyday Californians, to the tune of over 1 million homes per year. To meet this challenge, the Energy Commission and the CPUC engaged in this unprecedented partnership to define the technical requirements and programmatic best practices that are necessary for an effective, consistent and sustainable statewide energy efficiency and renewable energy retrofit program. These California agencies committed to working together to create a cohesive program and ensure a consistent approach. Enabled by the influx of ARRA stimulus and leveraging concurrent efforts already underway by the Energy Commission and the CPUC, a new mass-scale energy efficiency program was created.

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[5] http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf
6 http://www.dot.ca.gov/hq/energy/ExecOrderS-3-05.htm
7 http://arb.ca.gov/cc/scopingplan/scopingplan.htm
8 http://www.energy.ca.gov/2008publications/CEC-100-2008-001/CEC-100-2008-001.PDF
[9] http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.PDF
[10] http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf
[11] http://www.recovery.gov/About/Pages/The_Act.aspx

Overview of Goals Accomplished

Energy Upgrade California was born out of this global and local context, as a multifaceted solution-oriented program to leverage the infusion of ARRA stimulus funding to springboard the state of California into a market transformed and ready for rapid scalable adoption of the whole-house performance approach over the next decade. Through the resources invested and leveraged under this contract, Energy Upgrade California has achieved the primary goal it set out to accomplish: establish a strong foundation for the whole-house marketplace in California to generate demand, create jobs and save energy. Along the way, the program also served to reduce greenhouse gas emissions, improve homeowner home health and safety, ensure transparency, and plant seeds for long-term behavior change. **In all these ways, Energy Upgrade California has been a tremendous success**.

The ambitious and multifaceted goals and objectives set forth in agreement #400-10-004 can be characterized into 4 major categories:

(1) ***Establish and support*** *an innovative whole-house energy upgrade program*
(2) ***Integrate and leverage*** *concurrent and complementary program efforts*
(3) ***Adhere to ARRA and SEP*** *program guidelines and transparency requirements*
(4) ***Boost the adoption*** *and quality of energy upgrades in California*

A comparison of these original goals and objectives to actual accomplishments is provided below.

(1) Establish and support an innovative whole-house energy upgrade program

Work completed under this contract has served as the central statewide effort under which the innovative whole-house program, Energy Upgrade California, was established and supported. The team streamlined concurrent efforts within the energy efficiency marketplace including the investor owned utilities' Whole-House Retrofit Program (WHRP) and ARRA-funded local government and POU residential retrofit programs, and applied a unified collective approach to **maximize impact and minimize potential market confusion**. Led by the LGC Program Team and with cooperation from utilities, regulatory agencies and local government programs, a unified brand, web portal, outreach effort, workforce training, and financing pilot program was established. **This unprecedented integration**, facilitated over a period of just a few months, required the buy-in and participation of both state energy regulatory agencies, all four major IOUs, local POUs and countless localized agencies, organizations, industry groups and training programs. All entities agreed to adhere to **consistent messaging** and marketing materials in order to present a consistent brand to the consumer. The creation and launch of a centralized one-stop web portal integrated utility, state and local resources **to link building owners** to program information. The on-the-ground outreach and education team served as the person-to-person connective tissue throughout the state—training, recruiting and inspiring homeowners and contractors, reducing barriers to participation, **preparing a ready workforce** and generating consumer demand. Finally, the program integrated several innovative financing pilot programs

testing both **commercial and residential PACE models** to reduce capital barriers that might otherwise pose a challenge for interested property owners. Together, Energy Upgrade California was established and supported by the collective adoption of the program brand, the launch of integrated web portal, the high-touch outreach and training efforts of the on-the-ground delivery team, and the targeted PACE financing pilot programs, all serving to **generate demand, create jobs and save energy**.

(2) Integrate and leverage concurrent and complementary program efforts

The Program Team coordinated the integration of utility, agency and local program efforts into a single united program delivery model, leveraging concurrent and complementary resources to maximize collective program reach and cost effectiveness. On-the-ground delivery teams led local and regional complementary program integration with all Program Team members contributing to various coordination efforts on the regional and statewide level. The team worked with utility partners to integrate contractor participation workshops with local outreach efforts to **increase consumer and workforce engagement**; coordinated with workforce training agencies to connect building professionals and workers to free statewide trainings and locally available resources to **create jobs**; collaborated with local government and agency partners to promote homeowner workshops, educate consumers, **connect homeowners to contractors/raters** and link complementary program resources to drive demand; leveraged financing opportunities such as energy efficiency mortgages, California Homebuilders Fund (CHF) Residential Energy Retrofit Program[12] and PACE Pilot Programs where available to **reduce financial barriers to participation**; connected professionals to access and reproduce program materials via the online Resource Library to increase marketing material use, promotional impact and consistency in core brand messages; worked with local governments to provide **local customization on the web portal** balancing consistent statewide information with additional local resources to further uptake; coordinated with existing utility rebate programs for consistent messaging, brand and web resources; coordinated with the Energy Commission and training providers to integrate **Home Energy Rating System (HERS) Whole-House Home Energy Rating** and Building Performance Contractor (BPC) models to expand rater services; and leveraged concurrent multifamily program work to **launch a multifamily** program component and web presence. Each of these efforts served to expand audiences and resources to **generate demand, create jobs and save energy**.

(3) Adhere to ARRA and SEP program guidelines and transparency requirements

Consistent with the goals of ARRA stimulus dollars, the program adhered to unprecedented levels of transparency and accountability. Energy Upgrade California successfully complied with these requirements by establishing rigorous **tracking and reporting** procedures and coordinating with the Program Team and the

[12] CHF is a government entity that provides affordable housing finance options for low-to-moderate income individuals and families in California. Recently CHF utilized ARRA SEP funded through a separate but complementary contract with the Energy Commission to expand their service offering to also provide competitive financing and grants to homeowners interested in making energy efficiency improvements to their home as part of the CHF Residential Energy Retrofit Program. More information available at: http://www.chfloan.org/Programs/Energy/energy_program.html

Energy Commission to stay on track and on task. All **ARRA required reporting** and documentation was provided in line with contract requirements. **Leverage funding** in excess of 5 times that of the total contract award supported program efforts and expanded the overall program reach and impact. **Economically disadvantaged areas** of the state were incorporated through the statewide effort, providing program resources to underserved and/or remote communities such as Trinity County in Northern California and San Joaquin County in Central California, which have an unemployment rates in excess of 16 percent[13]. Workforce training programs engaged **unemployed, underemployed** and other disadvantaged populations by providing highly subsidized workforce training to increase the availability of a trained and able workforce. **Disadvantaged** homeowners who were not good candidates for Energy Upgrade California were connected to locally appropriate assistance programs like the Low Income Home Energy Assistance Program (LIHEAP). **Ethnic minority and non-English speaking communities** benefited from program outreach efforts providing workshops and materials in multiple languages such as Mandarin, Korean and Spanish.

The Program adhered to all **time criticality requirements** by continually making significant progress within tight timeframes. This is illustrated by the effort to launch an integrated program web portal, marketing guidelines and develop a localized regional approach targeted to six unique California regions within three months of an approved implementation plan; by refining and enhancing program offerings within six months of the program launch; and achieving more than **3,600 upgrades completed or in progress** in just twelve months of implementation. As originally conceived, the program was designed to achieve its program goals over a three-year program term; as actually implemented, these accomplishments were achieved in just 1/3 of this timeframe. In addition to this aggressive implementation timetable, program design was structured to reinforced Energy Commission policy to **emphasize loading order** of at least 10% energy efficiency prior to renewable energy generation system installations for projects financed with program funds, as evidenced by PACE pilot program documents, policies and procedures. This important concept was also emphasized in community interactions and workshops, and reiterated throughout outreach materials and messages. **Eligible improvements**, or those measures recognized for utility rebates, were incorporated as defined by the utilities through the basic and advanced program pathways and within the PACE pilot programs to emphasize **2nd tier and 3rd tier measures** for deeper upgrades[14]. Projects completed under Energy Upgrade California are required to conform to all **applicable California laws**, an effort reinforced with outreach to local planning and building departments, industry groups/associations and utility program protocols. The program complied with **quality assurance requirements** through intensive coordination with utility programs, third party training programs, and the California State Licensing Board (CSLB). Finally, the team worked to **maximize program cost-effectiveness**, achieving an estimated annual **energy savings of** 274 billion BTUs, attaining 94% of the program's cost-effectiveness goal for total program funds expended, or 114% of cost effectiveness goal for non-PACE program expenditures over the contract term.

[13] http://www.labormarketinfo.edd.ca.gov/

[14] 2nd and 3rd tier measures refer to those upgrade measures, which are intended to support deep retrofits that achieved above 10% energy efficiency and are based upon assessment recommendations completed prior to installation. Eligible improvements are those measures accepted by utility rebate program as eligible to receive rebate funds, and/or those measures eligible for PACE financing. Basic package measures are generally considered to be 1st tier measure, while Advanced measure may include 2nd and/or 3rd tier measures.

(4) Boost the adoption and quality of energy upgrades in California

Prior to the launch of the statewide Energy Upgrade California program, utilities in California had not yet initiated their Whole-House Retrofit Programs (WHRP). A new initiative within the 2010-2012 portfolio cycle, WHRP packages had not previously been available to the public. In the absence of an integrated program, individuals approached whole-house energy efficiency with a piecemeal methodology, putting together various available measures and working with contractors who may not have been trained in whole-house building science. Those few utility pilot programs that had been launched were striving to define program procedures and protocols within a nascent marketplace. After the successful integration of a uniform Energy Upgrade California program brand, integrated web portal, regional complementary programs, and high-touch marketing and outreach campaigns, **consumer awareness and lead generation** trends have continually increased throughout the contract term, translating into **accelerated upgrade adoption** in recent months. Over half of all 3,605 upgrades currently completed or in progress were reported between Nov 2011-Feb 2012. Beyond this **dramatic boost in awareness and upgrade adoption,** the program also helped to **increase the quality** of upgrade installations through intensive integration of utility and third party training and certification courses, the finalization of HERS Whole-House Home Energy Rater/BPC certification processes by the Energy Commission during the contract term, and broad outreach to the building professional industry to increase **understanding and compliance** with QA processes and protocols. The integration of BPI and HERS Whole House/BPC lead by the utilities incorporated safety testing of the area surrounding a combustion appliance known as the Combustion Appliance Zone (CAZ) as a central program requirement to protect homeowner health and safety. Furthermore, **achieved energy savings** resulting from installed measures has consistently yielded an average energy efficiency of over 30%, with an estimated 3,244 kWh and 374 therms of energy saved on each project.

Each of the goals discussed above served to support the following desired program outcomes:

- ☒ **Generating Demand** by engaging tens of millions of Californians, linking consumers and service providers and reducing barriers to participation;
- ☒ **Creating Jobs** by providing over 1000 workers with valuable certification training, supporting supplemental training, registering over 550 participating building professionals on the web portal and generating demand for building professional upgrades**;** and
- ☒ **Saving Energy** by an average of 30% per upgrade, or more than 274 billion BTUs annually from upgrades completed or in progress or PACE projects financed, and reducing greenhouse gas emissions by more than 18,336 metric tons of CO2e[15].

[15] CO2e denotes carbon dioxide equivalent

Primary Program Barriers

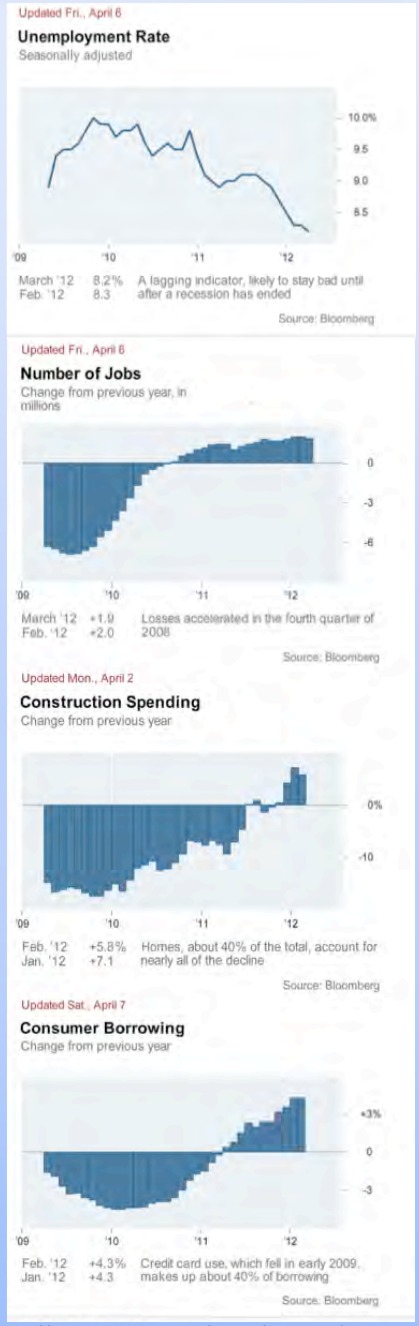
These significant results have been achieved in the first phases of program implementation. Like building a bridge while trying to travel across it, much of the program elements, processes and approaches have been themselves "under construction." As this program continues to grow in step with market maturation, and the proverbial bridge construction is completed, energy savings and emissions reductions are expected to far exceed current levels. Such substantial outcomes this early in a market transformation program highlight the opportunity for significant emission reductions placing California in compliance with AB 32 and other climate action goals by 2020.

It should be recognized that the achievements of Energy Upgrade California were accomplished during:

- One of the worst recessions in US history
- Declining housing values effecting equity and perceived credit worthiness
- Reduced availability of credit and lender willingness to lend
- High unemployment rates and high levels of market uncertainty
- Compressed timeline requiring early launch
- Incomplete program design, procedures and protocols
- Insufficient trained workforce prepared to receive generated demand
- A nascent marketplace, lacking consumer understanding
- Postponed adoption of predicted Home Star regulation at the federal level
- Absence of originally anticipated wide spread PACE financing availability originally anticipated via PACE financing districts

Energy Upgrade California has accomplished outstanding results over a short period of time, despite the challenge of very real and concrete obstacles.

Charts demonstrating economic conditions over time from New York Times Business Day 4/10/12:



http://www.nytimes.com/pages/business/economy

CHAPTER 3: ACCOMPLISHMENTS

Program Accomplishment Dashboard

Demand Generation & Consumer Education:

- ✓ **2,177,470 total page views** to the web portal, approximately **770 visitors a day**
- ✓ **169 million gross impressions** through **paid** and **earned** media coverage
- ✓ **104,000 person-to-person** direct stakeholder technical assistance interactions
- ✓ **7,000 web portal** consumer to contractor or rater inquiries
- ✓ **334 workshops** educating and inspiring homeowners, contractor/rater, lender/real estate professional action
- ✓ **2 in 3** homeowner workshop attendees **scheduled or completed assessments**
- ✓ **3,605 whole-house energy upgrades** in progress and/or completed, **543** PACE projects completed

Job Creation & Workforce Development:

- ✓ **Doubling** of the number of **BPI-BA** trained building **professionals;** increasing **HERS Whole-House Home Energy Raters/Building Performance Contractors**
- ✓ Providing **96 contractor certification trainings,** reaching **1051 workers** and expanding preparedness
- ✓ Registering **553 participating contractors and raters** on the statewide web portal
- ✓ **2,113 jobs created or retained** through contract and leveraged dollars
- ✓ Approximately **$451 million reinvested** in local economies

Energy Savings & Greenhouse Gas Reduction:

- ✓ **30%** average **energy efficiency savings** for each upgrade
- ✓ **274 billion BTUs** of energy saved annually from the **3605** upgrades completed/in progress, **543** PACE projects to date
- ✓ **2.19 trillion BTUs** saved by 2020 by the **3605** upgrades completed/in progress, **543** PACE projects completed to date
- ✓ **18,336 metric tons of CO2** equivalent greenhouse gas emissions reduced annually; **146,688** by 2020
- ✓ Annual **emissions savings** is equivalent to taking **3,595** passenger cars off the road or recycling **6,389** tons of waste

PACE Pilot Accomplishments

☒ **341 commercial energy audits** totaling 28,542,700 ft^2 identified an estimated potential energy savings of 575 billion BTUs

☒ **439 residential energy audits** totaling 858,690 ft^2 identified an estimated potential energy savings of 10.3 billion BTUs

☒ **518 residential projects**, achieved an estimated energy savings over 30.2 billion BTUs*

☒ **25 commercial retrofit projects**, achieved an estimated energy savings of 48 billion BTUs

☒ Reduced barriers to market participation:

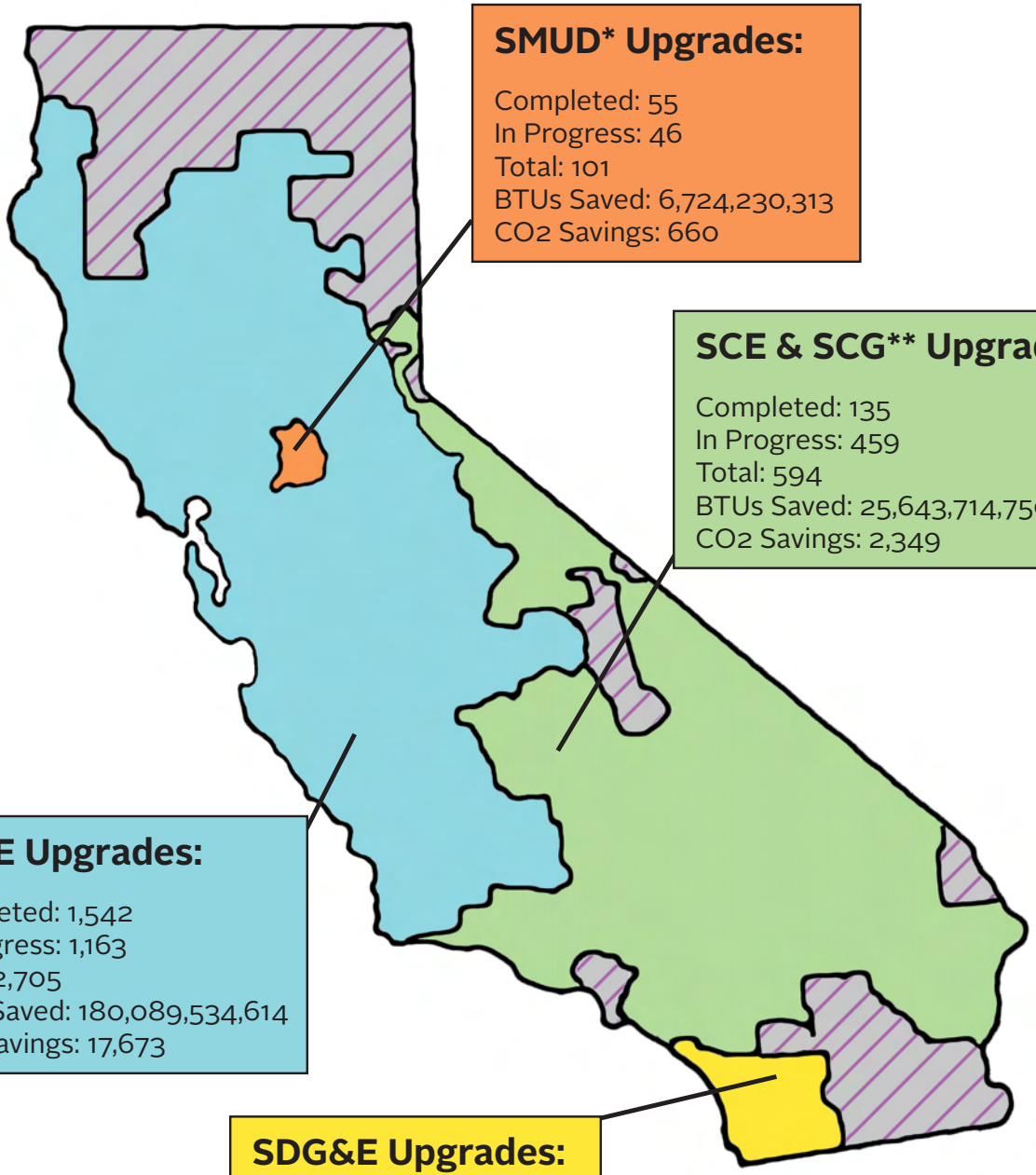
- **San Francisco $1,372,600 debt service reserve fund**
- **Los Angeles $2M debt service reserve fund**
- **Sonoma $1M line of credit**

☒ **1st PACE** pooled bond and alternative financing strategy **feasibility analysis complete**

☒ **Comprehensive PACE Replication Kit** completed as a long-term resource for other programs across the nation

Energy Upgrades by Utility Region

Completed: 1,908 In Progress: 1,755 Total: 3,663
CO_2 Savings are measured in metric tons



SMUD* Upgrades:

Completed: 55
In Progress: 46
Total: 101
BTUs Saved: 6,724,230,313
CO_2 Savings: 660

SCE & SCG** Upgrades:

Completed: 135
In Progress: 459
Total: 594
BTUs Saved: 25,643,714,750
CO_2 Savings: 2,349

PG&E Upgrades:

Completed: 1,542
In Progress: 1,163
Total: 2,705
BTUs Saved: 180,089,534,614
CO_2 Savings: 17,673

SDG&E Upgrades:

Completed: 176
In Progress: 87
Total: 263
BTUs Saved: 7,181,446,455
CO_2 Savings: 686

*Does not include 1,033 upgrades in progress, reported by PG&E in shared territory
** 58 of these upgrades are in SCG-only territory
Data accurate as of February 2012

Energy Upgrade California Regional Activities Map

Total Statewide Activities
Workforce Trainings: 173 **Homeowner Workshops: 157**
Large Format Press Events: 16 **Stakeholder Meetings: 1,913**

North Coast Region

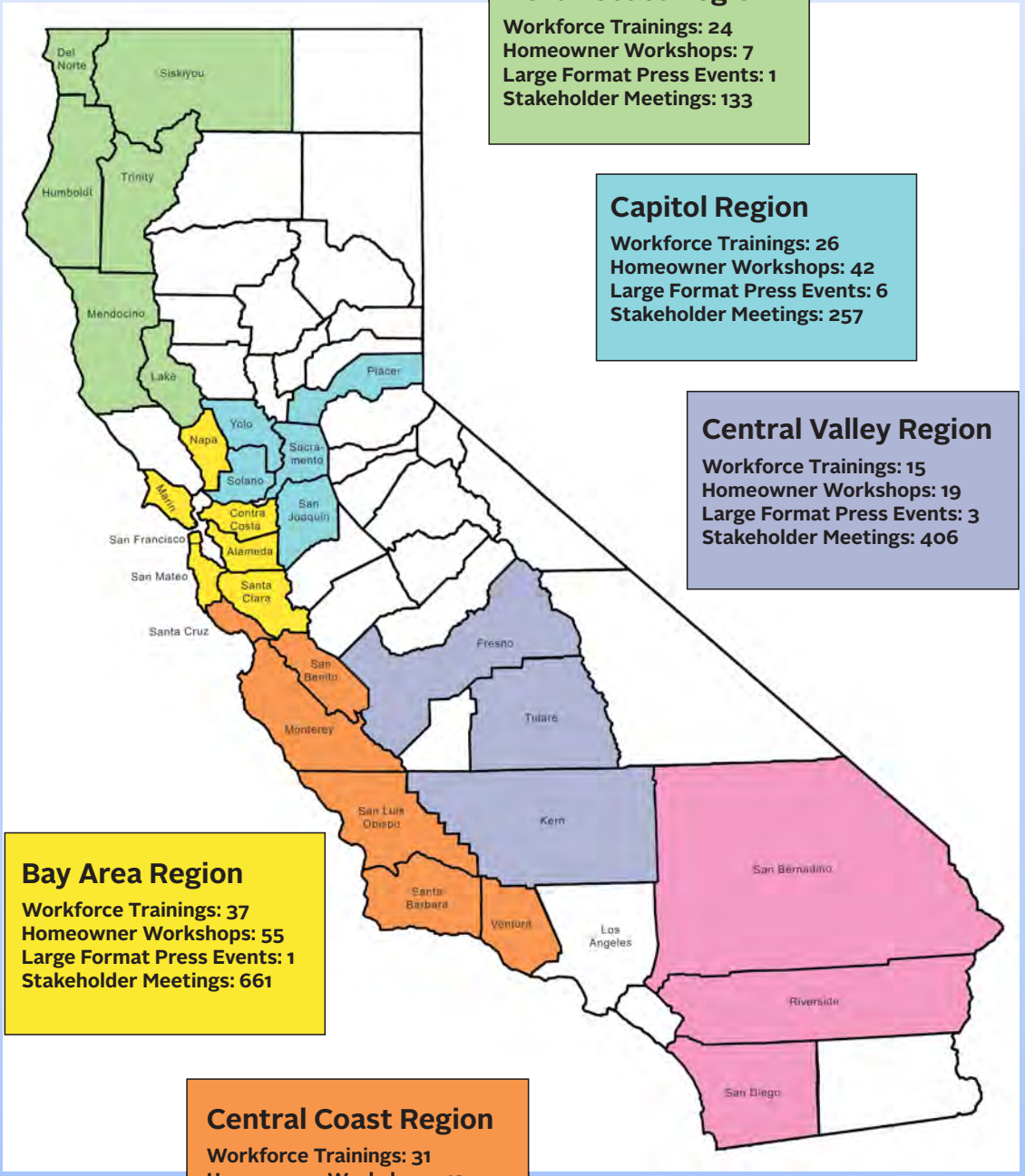
Workforce Trainings: 24
Homeowner Workshops: 7
Large Format Press Events: 1
Stakeholder Meetings: 133

Capitol Region

Workforce Trainings: 26
Homeowner Workshops: 42
Large Format Press Events: 6
Stakeholder Meetings: 257

Central Valley Region

Workforce Trainings: 15
Homeowner Workshops: 19
Large Format Press Events: 3
Stakeholder Meetings: 406



Bay Area Region

Workforce Trainings: 37
Homeowner Workshops: 55
Large Format Press Events: 1
Stakeholder Meetings: 661

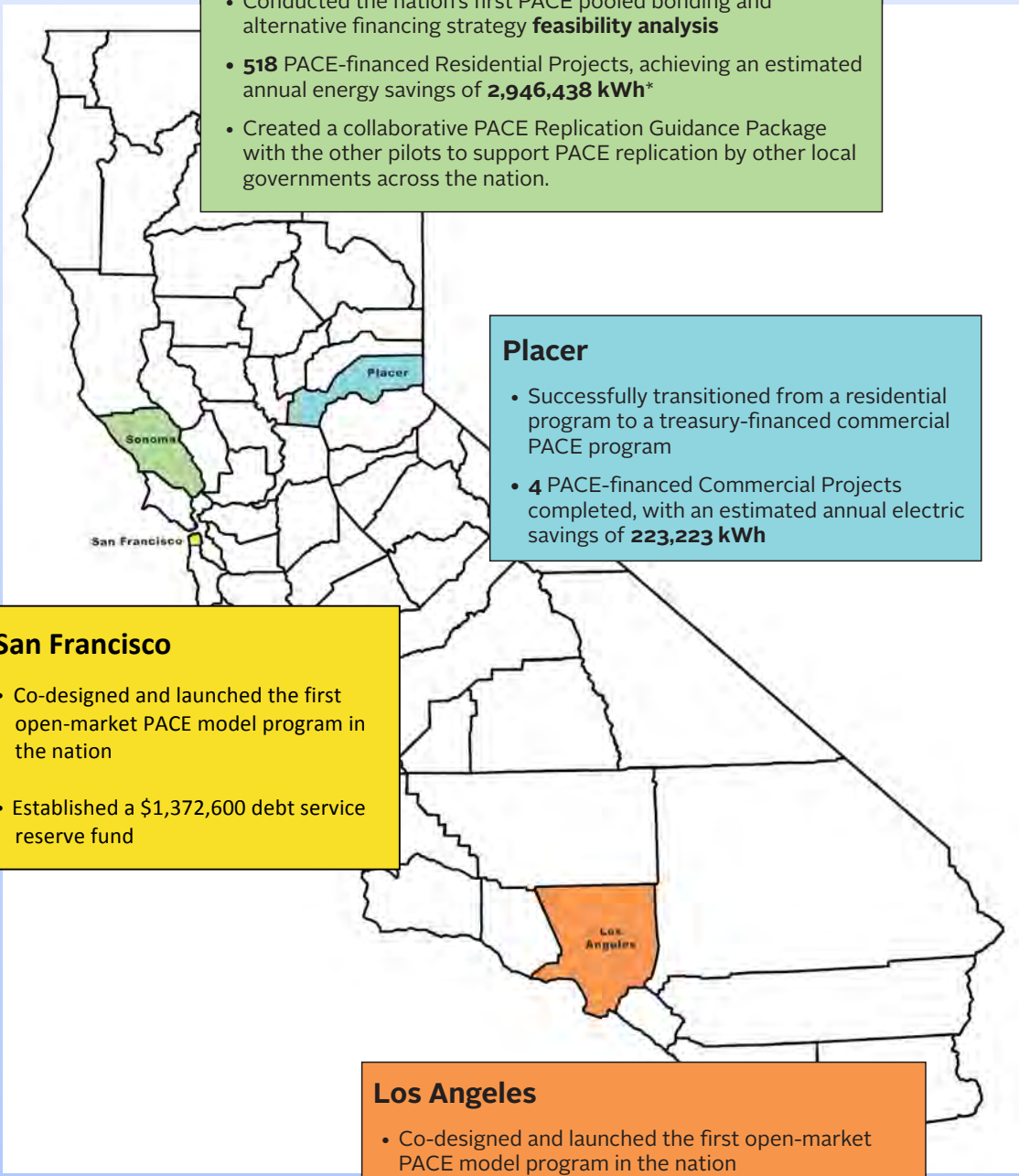
Central Coast Region

Workforce Trainings: 31
Homeowner Workshops: 13
Large Format Press Events: 4
Stakeholder Meetings: 339

Southern California Region

Workforce Trainings: 40
Homeowner Workshops: 21
Large Format Press Events: 1
Stakeholder Meetings: 117

Energy Upgrade California PACE Success Map



Sonoma

- Conducted the nation's first PACE pooled bonding and alternative financing strategy **feasibility analysis**
- **518** PACE-financed Residential Projects, achieving an estimated annual energy savings of **2,946,438 kWh***
- Created a collaborative PACE Replication Guidance Package with the other pilots to support PACE replication by other local governments across the nation.

Placer

- Successfully transitioned from a residential program to a treasury-financed commercial PACE program
- **4** PACE-financed Commercial Projects completed, with an estimated annual electric savings of **223,223 kWh**

San Francisco

- Co-designed and launched the first open-market PACE model program in the nation
- Established a $1,372,600 debt service reserve fund

Los Angeles

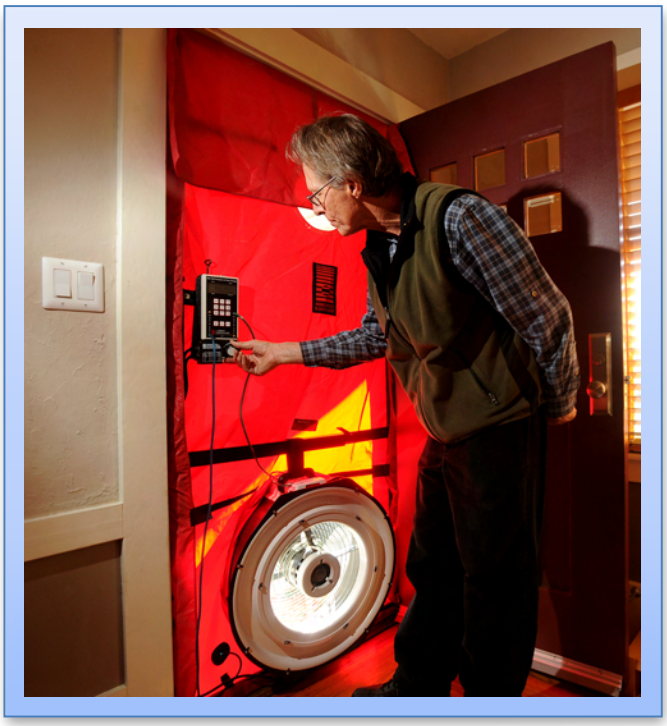
- Co-designed and launched the first open-market PACE model program in the nation
- **337** Commercial energy audits funded totaling **28,542,700 sq. ft.**, identified an estimated annual energy savings potential of **56,200,000 kWh**
- Established a **$2,000,000** debt service reserve fund

*savings associated with **370** solar improvement measures only. Energy savings from energy efficiency unavailable at this time.

Market Transformation

Transforming a marketplace such that energy upgrades are as valued to homeowners as a new granite countertop is no easy task, but Energy Upgrade California has made great strides toward this effort. The CPUC defines market transformation as: *long-lasting, sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where continuation of the same publicly-funded intervention is no longer appropriate in that specific market* (PUC 2008). In the course of just one year of implementation, Energy Upgrade California has successfully set into motion both structural and market changes to reduce barriers to the adoption of energy efficiency in a manner that will have long-lasting effects in the marketplace.

Workforce Development



Energy Upgrade California provides jobs and prepares building professionals for marketplace demand. Through coordination with Workforce Investment Boards, training programs and other complementary services, the program integrated concurrent workforce training efforts to create and retain jobs across the job classification spectrum, doubling the number of BPI trained professionals, increasing the number of HERS Whole-House Home Energy Raters, and connecting thousands of building professionals and workers to training opportunities. These trainings resulted in a more robust qualified workforce, with the knowledge and ability to provide better upgrade installations and adhere to quality assurance protocols. It is estimated that the $194 million in ARRA and leveraged funds under this contract created or retained 2,113 jobs[16]. Moreover, each dollar invested in energy efficiency represents additional dollars reinvested into local economies[17] resulting in an estimated 451 million dollar economic investment. Furthermore, the program will continue to support job creation and retention beyond the contract term as the emerging whole-house marketplace continues to take hold.

[16] Total Job Creation and Retention estimates based, as directed by the Energy Commission, on the Council of Economic Advisers' Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009, May 2009: The total investment of SEP funds plus all leveraged funds divided by $92,000.

[17] The Jobs Connection: Energy Use and Local Economic Development, USDOE

Demand Generation and Consumer Education

Energy Upgrade California is educating consumers and generating demand. The statewide effort applied a three-pronged strategy for consumer generation which included: (1) consistent statewide brand and messaging across regions and utilities, (2) one-stop integrated web portal with statewide and regionally appropriate information and resources for consumers, building professionals and local governments, as well as (3) a robust regionally focused on-the-ground marketing, education and outreach strategy aimed at raising awareness, educating consumers and generating demand. Each of these achievements was made possible by the ongoing collaboration of the many stakeholders and contributors to the development of these elements and the program overall.

> *"**I have more work than I can handle right now**. Getting into the building performance industry and becoming an Energy Upgrade California participating contractor isn't easy…but it's worth it. If you're considering it, I highly recommend it."*
>
> *-Jim Apperson, Apperson Energy Management North Coast Region*

The unified brand linked concurrent promotional efforts and supported a statewide paid media advertising campaign to build brand awareness and impact. **The one-stop web portal** served as a centralized resource for both utility and local government incentives, financing and contractor/rater services, as a key component to the success of the program. **Regional on-the-ground marketing, education and outreach** served as the principal demand generation element by providing ongoing direct person-to-person stakeholder support through a multifaceted promotional effort that included homeowner workshops, contractor workshops, real estate/lender finance workshops, stakeholder presentations, awareness events, supplemental training, professional certification training, customer support, local government and technical advisory committees, and ongoing program refinement. Finally, targeted Innovative PACE Financing Pilots offered additional services and resources to increase program uptake. As a result the program increased contractor and consumer awareness, reduced barriers to property owner and building professional participation, stimulated program interest and ultimately generated increased upgrade demand. In addition, the team increased workforce capacity and preparedness to be responsive to this new demand, aided interested consumers in connecting with raters and contractors, linked consumers and professionals to locally available financing options, folded in additional locally appropriate incentives and resources and helped to support all stakeholders in successfully maneuvering through this newly developing marketplace.

Energy Efficiency

Energy Upgrade California is improving building energy efficiency, reducing energy use and eliminating greenhouse gas emissions in California. Energy Upgrade California has successfully established itself as a comprehensive retrofit program consistently achieving an average energy efficiency of over 30% in all homes upgraded to date. 94% of all consumers choosing upgrades have selected an advanced upgrade package reaching as high as 20%, 30%, 40% or greater calculated energy savings. Moreover, as the marketplace continues to mature, Energy Upgrade California is poised to direct property owners toward deeper gains in

efficiency of 50% and beyond, leading to zero-net energy. To date, it is estimated that the 3,605 upgrades completed or in progress to date will save over 11.6 million kWh and 1.3 million therms of energy annually[18], equivalent to 219 billion BTUs. By 2020, these 3605 upgrades and 543 PACE projects completed to date will have saved over 2.19 trillion BTUs of energy and have resulted in the elimination of 146,688 metric tons of greenhouse gas emissions.

Accomplishments by Task

The following narrative provides an overview of the accomplishments under the original program goals including activities undertaken and key program outcomes achieved in each task area.

Task 1.0 Program Administration, Activities: A-N

Program administration of this contract included adhering to **unprecedented levels of transparency and accountability**, working with the Energy Commission and the Program Team to establish tracking and reporting systems, providing thorough and consistent program monitoring and being responsive to Energy Commission and other agency requests and inquires throughout the contract term. Highlights include: submission of kickoff meeting deliverables, (51) invoices, (26) progress reports, (17) ARRA reports, (39) subcontractor, sub-contractor or vendor agreements and appropriate amendments, (2) critical program reviews, (1) draft final report (1) final report, (1) National Historic Preservation Act (NHPA) Consultation Package, (2) Waste Management Plans, and over (180) major deliverables. In addition, over $165M in leveraged funds were successfully obtained and utilized within the contract term, further increasing the breadth, reach and impact of the state and federal resources. A summary of program metrics achieved under each major activity area is presented in Attachment 5.

Task 2.0 Technical Tasks & Program Delivery

Accomplishments identified under Tasks 2.1 through 2.6 support local and statewide program delivery, targeted services to Program Plus Counties, and localized efforts toward PACE pilot programs.

Task 2.1 Implementation and Sustainability Planning

A global Draft Implementation Plan was prepared within the initial 30 days of the contract term, and involved contributions from all members of the Program Team, representing a significant and coordinated effort to plan and **outline the program's implementation strategy within a rapid timeframe**. The Final Implementation Plan was completed in late 2010, following Commission Contract Manager (CCM) feedback. Additional implementation plans were completed for each of the (4) PACE Pilot programs, reflecting the local strategy and approach of each program. While the precise implementation details were subject to adjustment throughout the contract term these **implementation plans served as integral guidance documents** in assisting the team in establishing and supporting program outcomes throughout the contract term. In addition to these implementation guidance documents, two additional efforts were undertaken to forge similar and enduring foundational outcomes for the program beyond the contract term. These efforts

[18] kWh and therm energy savings estimates based on IOU Steering Committee data; Calculation methodology is presented in Attachment 3.

included **Sustainability Planning** undertaken by the entire Program Team, and the **PACE Replication Kit**, undertaken by the PACE Pilot Program Team.

The results of the sustainability planning effort are highlighted in Chapter 5 of this document. Most notably, the Program Team provided presentations, data and materials to assist in regulatory discussions regarding program administration and support beyond the contract term. The effort resulted in strong recommendations by the CPUC for continuation of Energy Upgrade California program both during the remaining period of the 2010-12 portfolio funding cycle as well as within the 2013-14 portfolio cycle extension. This effort helped to clear the path for this foundational ARRA investment to continue to prove its value through the test of time. The PACE Replication Manual[19] is submitted as Attachment 6 to this Final Report, contributed to by each of the PACE Pilot programs. The document is designed to assist other local governments interested in starting their own PACE programs, while drawing upon the expertise of this groundbreaking team and the critical lessons learned along the way. The following major accomplishments were achieved related to this task:

Task 2.1.A. Draft Implementation Plan

- ✓ (**1) Draft** Program Implementation Plan
- ✓ (**4) Draft** PACE Pilot Implementation Plans (Sonoma, Los Angeles, San Francisco, Placer)

Task 2.1.B. Final Implementation Plan

- ✓ (**1) Final** Program Implementation Plan
- ✓ (**4) Final** PACE Pilot Implementation Plans (Sonoma, Los Angeles, San Francisco, Placer)

Task 2.1.C. Sustainability Plan

- ✓ Provided **support, data and documentation** to inform Energy Commission/CPUC coordination relative to establishing long-term program support as part of CPUC energy efficiency portfolio
- ✓ **Established knowledgebase** within the tracking and reporting system ProMARS to facilitate BMP sharing and continued refinement among EA delivery field staff
- ✓ **Long-Term Program Sustainability Plan** *(included as Chapter 5 of this report)*

Task 2.1.D. PACE Pilot Replication

- ✓ **(1**) Comprehensive Pilot Team **PACE Replication Model Start-Up Kit**, including contributions from all (4) PACE Pilot programs
- ✓ **Documented case studies**, best practices and/or lessons learned *(included in Replication Kit)*
- ✓ **Program guidance**, marketing, application, contract, Requests for Proposals/Qualifications (RFP/Q), resolution and/or related documents included within, referenced within the Replication Kit *(Resource Library)*

[19] The PACE Manual is attached to this report. The complete PACE Replication Kit includes additional documents and materials too extensive to attach. The full kit was submitted as a program deliverable via an FTP site during the contract term.

Task 2.2 Integrated Statewide Web Portal

Work completed under this task, began as a coordinated effort in summer 2010 to establish a working protocol and timeline for the development of a statewide web portal to promote the Energy Upgrade California program, provide professional resources for building professionals and program partners, and most importantly, connect homeowners to local contractors and raters. With the execution of the LGC contract, work on the web portal began in earnest in November 2010 focused on three principal activities areas: (A) Design & Implementation, (B) PACE, Local Government, & Multifamily Program Customization, and (C) Web Portal Maintenance. Attachment 4 includes a summary of work done on features in this task. A detailed explanation of all work done under this contract was provided in each monthly report submitted to the Energy Commission during the contract term. The following major **web portal accomplishments** were achieved:

Task 2.2.A Design and Implement Integrated Statewide Web Portal

By February 14, 2011, the Energy Upgrade California web portal was successfully launched in all 58 California counties providing:

- *One-stop-shop* for homeowners looking for information about energy efficiency incentives and connection to home performance experts,
- Information about local trainings for contractors and raters with resources to help increase their connection to clients,
- Local governments with the ability to promote specific programs and rebates through dedicated county pages, and
- Dedicated county pages equipped with a locally customized Action Plan, Rebate and Incentive Directory, Contractor and Rater Directories, Local Financing, and Local Information (if available).

As outlined in the scope of work, the program website design was produced using style guides established by the concurrent CPUC energy efficiency behavioral change campaign, Engage360[20]. A consistent look and feel was created that served as a template for all statewide and individual county navigation pages. Site content was created with a comprehensive review process including all stakeholder groups (e.g., Energy Commission, CPUC, PG&E, SCE, etc.) to ensure that all program elements were presented accurately. A decision tree tool was created to assist in streamlining the content development process among multiple stakeholder groups.

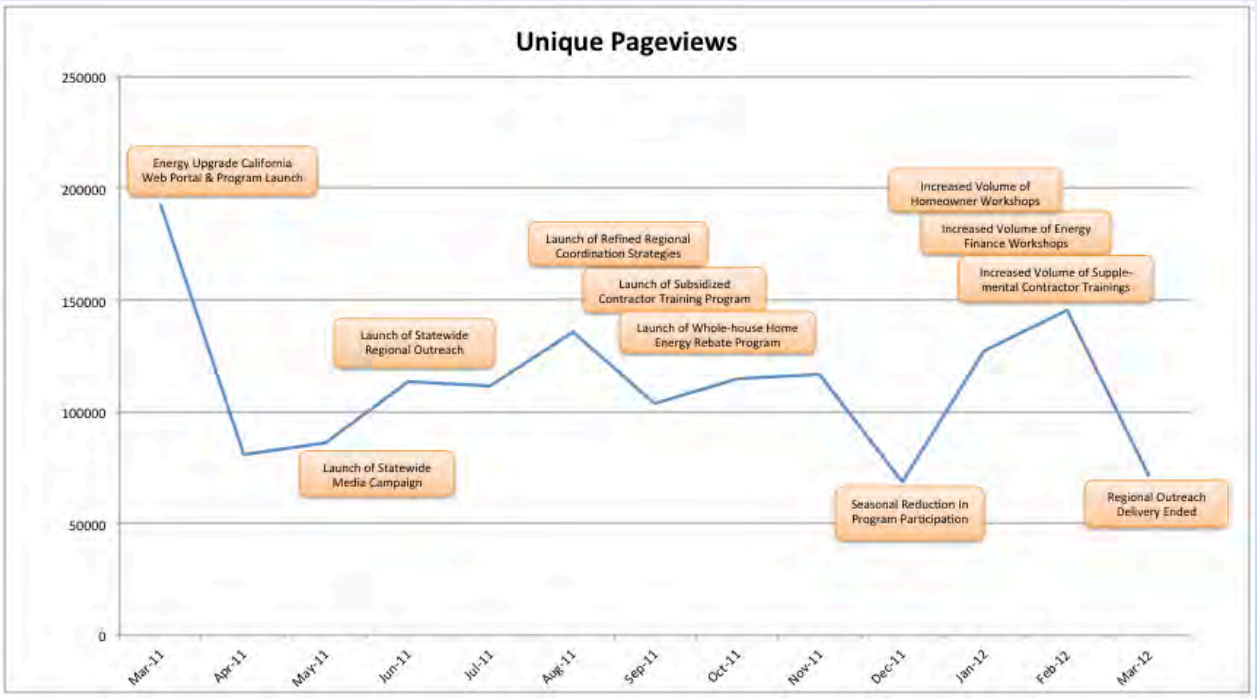
The content areas developed include:

- Statewide Pages
- Interactive Home Tour
- County Landing Pages
- About the Program
- Contractors and Raters
- Rebates and Incentives
- Local Information
- My Action Plan

Accomplishments (Results/Outcomes):

- ✓ **Design & Implementation** of the Integrated Statewide Web Portal: Energy Upgrade California: www.energyupgradeca.org
- ✓ **Significant and enduring web portal utilization** throughout the contract term yielding:
  - 327,314 total visitors since launch, approximately 770 visitors/day
  - 2,177,470 total page views since launch, approximately 5,000 page views/day
  - Over 5,920 user accounts created
  - Nearly 7,000 contractors and raters emailed through the web portal

[20] Engage 360 served as a statewide Marketing, Education, and Outreach (ME&O) effort outlined in the 2008 CPUC Strategic Plan to increase consumer awareness and participation in demand-side management activities and to encourage behavior changes that save energy, reduce greenhouse gas emissions, and support clean energy solutions The statewide, multi-year project has a goal of ensuring a brighter and stronger future for everyone by inspiring and guiding Californians to achieve a 20 percent reduction in their home energy use by 2020. CPUC and Energy Commission direction, Energy Upgrade California was established as a complementary brand to Engage 360 and thus utilized the colors and fonts from the Engage360 Brand Guidelines in the design of the website. Energy Upgrade California then expanded upon these to customized an entirely distinct yet complementary set of Brand Guidelines that incorporated many of the foundational elements of the Engage 360 brand.



The figure above illustrates statewide web portal unique page view trends over the contract term. The graph demonstrates a significant bump in web portal visits in March 2011 related to the program launch and concurrent paid media push, especially related to the Los Angeles Home Energy Makeover contest, followed by a reduction in web activity as the program focused on workforce and partner preparedness for long-term responsiveness to consumer demand generated in latter months. In May 2011, both statewide paid media and regional on-the-ground outreach activities began in earnest, demonstrating a steady upward trend in user activity throughout late spring and summer. Jun-Aug 2011 represents broad promotional awareness event engagement by delivery teams, regional summits and earned media in each Program Plus area. Aug 2011, a refined regional outreach delivery approach was launched supported by significant local earned media coverage and regionally focused homeowner and contractor oriented workshops. Sept 2011 marked the launch of the SCTP and Whole -House Home Energy Rebate Program, as well as continued homeowner and contractor workshops maintaining high levels of web activity through Nov 2011. Dec 2011 experienced one of the most significant drops in web activity related to holiday reductions in program activity and participant engagement. In 2012, stakeholder engagement increased dramatically in relationship to a final workshop and training push, the addition of real estate/lender trainings, and increased online paid marketing including the addition of Pandora. These activities reached a 2nd major peak in web activity in Feb 2012. A sharp decline is noted post March 2012, as regional outreach and all major program activities come to a close.

Task 2.2.B Customize Integrated Statewide Portal

Following the launch of the statewide portal, ongoing services to enhance and improve the website continued throughout the contract term. These enhancements included updates to the overall site, refinements to the site in order to support messaging, inclusion of new programs such as multifamily, customized content for individual county programs and initiatives and customized content for the four PACE Pilot programs. The team developed tools for residential and commercial PACE programs as well as for the multifamily building sector resulting in a comprehensive front-end user portal for the Sonoma County Energy Independence Program application as well as a back-end tool for processing finance requirements such as notifications, payment fees and bond document creation. A commercial PACE portal was developed to serve Los Angeles and San Francisco Counties with program information and applications. A multifamily navigation tool was launched as part of a broader multifamily web portal, helping multifamily property owners to manage upgrades across a portfolio of buildings and connect to potential rebates. The web portal also allowed individual counties to promote customized content such as local contests, promotions, news and events and case studies. A password-protected Online Resource Library was developed for local governments, participating contractors and program partners to access marketing materials, including customizable templates and local materials. New content to support additional program elements that came online after the launch of the public site, including the HERS Whole-House Home Energy Rating Rebate Program was also developed and incorporated into the portal. The end result was a dynamic and multifaceted portal that responded to the needs of the program, met the needs of local governments, and adhered the overall marketing and outreach goals.

Web portal **enhancements included:**

- Ongoing updates to the overall site performance
- Regular refinements to the site content in order to support marketing messaging and program additions
- Incorporated new statewide programs such as the HERS Whole-House Home Energy Rating Rebate Program
- Customized local content for individual county programs, resources and initiatives, including the Counties of Los Angeles, Alameda, San Mateo, Sonoma and others
- Updated key program information pages throughout the term to increase conversion to upgrades including revised County Landing page and About the Program page designs
- Created a Resource Library of useful materials for governments, realtors, contractors and partners
- Drafted initial and posted ongoing News coverage and Events announcements
- Developed and launched the multifamily program web portal and navigational tool for targeted multifamily program pilots in the Counties of Alameda, Los Angeles, Sacramento, San Diego and San Francisco
- Supported customization and development of targeted PACE Pilot program web integration in the Counties of Los Angeles, Placer, San Francisco and Sonoma
- Launched PACE Commercial web portal highlighting programs in each PACE Pilot area

Accomplishments (Results/Outcomes):

- ✓ Development of PACE application tracking tool
- ✓ Commercial PACE portal - https://commercial-pace.energyupgradeca.org/
- ✓ Multifamily Navigation Tool and Web portal – https://multifamily.energyupgradeca.org/

Task 2.2.C Maintain Integrated Statewide Web Portal

Ongoing maintenance of web portal content and "bug fixes" were provided throughout the contract term ensuring fresh and dynamic services and seamless functionality as a useful tool for all target audiences. Stakeholder web-based customer support was provided through a cooperative network of program partners utilizing a customer support tool, called ZenDesk. A reporting application was also developed to provide up-to-date availability of web analytics for program partners. In addition, complementary pages were added to support the establishment and maintenance of the program Resource Library for anytime access to program collateral, templates and promotional materials for partners and stakeholders. In addition, a "Print on Demand" website was established to allow counties to access customizable templates, submit changes online, request brand manager review and approval of the documents, and send final content directly to a printer. Content related to news coverage and local events were regularly updated by content and coverage generated by regional field activities and partner coordination. More comprehensive site marketing content customization and enhancements is described in 2.2B above. An escrow account was established and portal code deposited to ensure portal longevity in event of transition at contract end.

Accomplishments (Results/Outcomes):

- Web portal report analytic information accessible at https://analytics.energyupgradeca.org/reports
- Zendesk Customer support tool provided more than 2,000 stakeholders with online customer and technical assistance
- Print on Demand portal was established and maintained
- Resource Library maintained with over 23,000 page views, linking local governments, contractors, real estate professionals and other stakeholders to up to date collateral and templates
- Added access to professional print services through a Resource Library "Print on Demand" website
- Over 120 local news features and 4 statewide news features posted to the web portal press room
- Over 250 local and 31 statewide events posted to appropriate county and/or statewide event pages
- Highly functional fresh and dynamic integrated web portal maintained throughout the term

Task: 2.3 Workforce, Property Owner & Stakeholder Outreach & Engagement

The goal of this subtask, to support the regional 'boots on the ground' marketing, outreach and educational activities and resource development necessary to motivate the market towards rapid uptake of energy upgrades, was successfully accomplished. The subtask is comprised of four principal elements: (A) Workforce Development, (B) HERS Whole-House Home Energy Rater/Building Performance Contractor (HERS BPC) Integration, (C) Outreach, Marketing & Customer Support, and (D) Regional Coordination.

Task: 2.3.A Align with Workforce Development & Other Complementary Programs

The goals of this activity can be broken into two major categories: (1) research and connect program participants to complementary programs and incentives to drive program demand, and (2) provide a workforce training program to interested building professionals to create jobs and support demand.

1. **Complementary Programs and Incentives Research and Connection**

By working with stakeholders and partners, the field delivery team, led by Ecology Action, worked to identify and connect program participants to locally appropriate complementary programs that supported such efforts as workforce development, energy efficiency education, renewable energy generation, water efficiency, energy efficiency financing and green building to inform local outreach efforts, to leverage federal dollars against pre-existing local activities, and to support program participants. In addition, the Whole-House Home Energy Rating Rebate Program was launched and administered to incentive property owner participation by offering homeowners up to a $500 rebate toward the completion of a Whole-House Home Energy Rating (see 2.3.B). All applicable locally available utility incentives were listed on the web portal, and kept up to date by regular feeds from an IOU maintained rebate directory.

2. **Workforce Development Subsidized Contractor Training Program (SCTP)**

SCTP was designed to support whole-house market transformation through the availability of a trained workforce, ready and able to support the emerging marketplace and newly generated consumer demand. The program provided significant subsidies for Building Performance Institute Building Analyst (BPI-BA) and/or HERS Whole-House Home Energy Rater training to approximately 1,051 contractors throughout the state, successfully increasing the number of qualified building performance contractors in the State of California by more than 50% in a 6-month timeframe and helping to support workforce preparedness for this emerging market.

"The amount of work I can now distinguish on building projects has increased dramatically as a result of doing the contractor training program, and all of that work directly contributes to lowering the long term operating costs and increasing the health and safety of the occupants as well as increasing the durability of the structure."

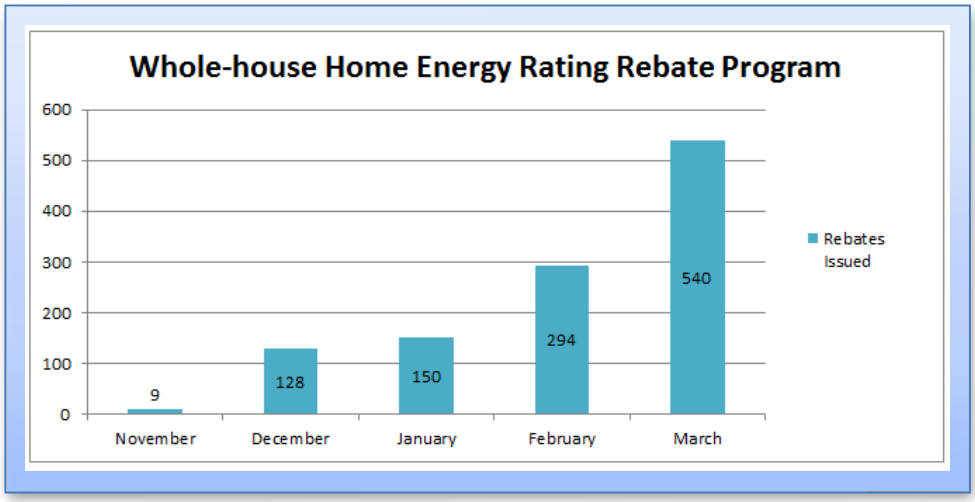
-Kenyon Lorbati, Contractor

Accomplishments (Results/Outcomes):

- ✓ Development of the list of complementary programs and incentives
- ✓ Local support for web portal customization related to complementary programs
- ✓ Design and delivery of the SCT Program, resulting in[21]:
  - 96 BPI-BA trainings held in 28 Program Plus Counties, including 6 trainings by Community Colleges
  - More than 1,000 contractors and building professionals trained
  - Increased number of certified BPI-BA professionals by more than 50% as compared to those reported by BPI as of Dec 2010
  - Supported increase in certified HERS Whole-House Home Energy Raters through CalCERTS, by providing 177 incentives to students, including 70 HERS Whole-House Home Energy Rater course discounts, 49 field exam incentives and 39 BPC incentives
  - Accomplished goal of supporting DVBE by allocating over 20% of the SCTP budget to GC Green, a veteran owned and operated organization

Task: 2.3.B HERS Whole House and Building Performance Contractor Integration

The goal of this effort sought to establish HERS Whole House Ratings as a prominent element of the whole-house upgrade concept by integrating HERS Whole House Ratings into the program, website, education and outreach materials to achieve increased homeowner participation, support HERS Whole-House Home Energy Rating Rebate Program uptake, and educate partners, building professionals, contractors and raters about the program.



Whole-House ratings were successfully integrated into Energy Upgrade California program. The Program Team worked to establish and promote the Whole-House Home Energy Rating Rebate Program, which launched to the public on Sept. 22, 2011 and has experienced an increase in uptake every month since launch. The Program Team encouraged incentive uptake and offered trainings to program partners on the details of home energy ratings, in support of both the short-term statewide rebate for HERS Whole House Ratings and the long-term goal of integrating HERS Whole-House Home Energy Raters into the Energy Upgrade California program.

[21] Final Reports submitted by statewide SCTP implementing vendor, CSG is presented as Attachment 13.

Accomplishments (Results/Outcomes):

The Program Team worked to:

- ✓ Develop key messages and marketing collateral for Raters, Cities/Counties and outreach teams
- ✓ Developed a research-based Whole-House Home Energy Rating marketing program and toolkit
- ✓ Conduct outreach to interested property owners, participating contractors and HERS Whole-House Home Energy Raters to promote the program, answer questions, and increase uptake
- ✓ Host a series of webinars for participating contractors, HERS Whole-House Home Energy Raters and Energy Upgrade California Program administrators
- ✓ Design, launch and maintenance of the HERS Whole-House Home Energy Rating Rebate Property Owner web portal application and program information pages
- ✓ Developed a system of rebate administration to guard against fraud, waste & abuse
- ✓ Issued 1,137 Whole-House Home Energy Rating rebates, totaling $324,800

"We knew our utility bills were higher than our neighbors, but we weren't sure why. It turns out our house was leaking…[W]ith all our upgrades, we hit 40% energy savings. And I can't wait to see the next bill!"

-Homeowner Stephen & Colleen Kienzle

Task: 2.3.C Outreach, Marketing & Customer Support (Previously 2.1.12)

The goal of this activity was to provide outreach, marketing and customer support to property owners, contractors and additional stakeholders, and to develop the retrofit market and promote the installation and financing of upgrades. All these goals were successfully achieved. The Program Team engaged in a highly collaborative effort to create and establish a strong and enduring Energy Upgrade California brand. The team accomplished this through Program Team and ARRA partner education to build both support for the brand, and to educate a wide variety of "brand ambassadors" about how to use the program brand and materials. The team-generated program marketing materials, templates and brand guidelines, created training and outreach materials and supported statewide and localized paid and earned media promotion[22]. As a result of this integrated team approach, Energy Upgrade California program benefited from the leveraged promotional resources of all entire Energy Upgrade California program partners, from local government programs to utility wide promotional efforts. Through one statewide brand, all marketing and outreach efforts were furthered as each individual promotional effort served to buoy the collective promotional impact, thereby increasing total program reach and resonance throughout the service territory.

[22] Both paid and earned media campaigns were utilized under this program. Paid media efforts were led by MIG and entailed the design, production and purchase of online, radio, and social media advertising throughout the state of California. Earned media efforts were led by EA and refers to favorable publicity gained through proactive and reactive efforts other than advertising, obtained through communication with print, online, radio and TV outlets, with the goal of securing third-party validation in articles written by journalists; letters-to-the-editor; op-eds; interviews, editorial boards; and PSAs, etc.

While stakeholder engagement activities completed under this task are highly integrated with other program tasks including the web portal, workforce development and regional coordination, generally all outreach activities fall into four major categories: (1) brand management and marketing material creation, (2) regional outreach and training support, (3) multifamily program integration, (4) public relations and media promotion.

Accomplishments (Results/Outcomes):

Brand management and material generation:

- ✓ Developed a research-based[23] Energy Upgrade California statewide marketing program to support local partners to implement Energy Upgrade California in cities and counties across the state
- ✓ Coordinated with IOUs and state and regional agencies on all facets of Energy Upgrade California marketing
- ✓ Developed Energy Upgrade California brand (logo, mark and messaging)
- ✓ Developed Brand Guidelines and provided brand training so that multiple marketing partners could implement brand across multiple media and maintain brand integrity
- ✓ Supported and maintained marketing toolkits, including templates, fact sheets, brochures, technical photos, and other materials
- ✓ Made materials accessible through the Resource Library and Print on Demand Site for eligible users (participating contractors and raters, cities and counties, public agencies, energy champions, etc.)
- ✓ Developed co-op marketing program pilot and expansion exploration in Association of Bay Area Governments (ABAG) territory
- ✓ Developed "A Guide to Marketing Energy Upgrade California" Marketing Decision Making Tool for counties and cities

"I was a bit skeptical about what they said the results would be. The new heating and air conditioner unit is actually bigger, but it is a lot quieter. Because the insulation holds the heat in, it comes on less often, and the temperature is more even throughout the house. We've saved money, too. My PG&E bill is usually its highest in the summer; ***last summer my bill went from $450 down to $220 per month****."*

-Homeowner Steve Henson
Central Valley Region

Regional outreach and training support:

- ✓ Launched integrated marketing strategy featuring an aggressive mix of earned media outreach online/social media (Facebook, LinkedIn and EventBrite), community-level targeted advertising and grassroots community outreach
- ✓ Secured 664 earned media coverage stories in local/regional television, radio, print and online news outlets, representing an estimated 28 million impressions

[23] Brand and market research helped establish the target audiences most likely to participate in the program, as well as the trigger events and messages most likely to encourage homeowners to participate in the program.

- ✓ Utilized printed and electronic collateral materials including more than 170 flyers, 160 html email invites and 130 online registration pages (capturing more than 3,000 attendee registrations) to promote a combination of small-format events targeting homeowners, contractors and real estate professionals, and large-format events that targeted key community influencers
- ✓ Developed, conducted and drove attendance to 334 homeowner workshops, contractor trainings and workshops, realtor/lender workshops, homeowner success events and regional launch events
- ✓ Developed and conducted 3 marketing focused stakeholder trainings for contractors and raters on how to market and sell Energy Upgrade California to consumers
- ✓ Created and utilized event promotional kits and materials including standing banners and table displays for outreach team awareness events, homeowner workshops and workforce trainings

Multifamily program integration:

- ✓ Conducted a marketing needs assessment for multifamily pilot programs, and researched and analyzed appropriate messaging strategies to leverage existing programs
- ✓ Developed a multifamily Marketing and Communications Implementation Plan designed to assist the multifamily pilot programs in the Counties of Alameda County, Los Angeles, San Diego and San Francisco
- ✓ Created a multifamily design tailored for individual county needs while retaining a consistent brand and image that can be scaled statewide at a later date
- ✓ Developed a variety of multifamily marketing collateral, including FAQs for web sites, flyers/meeting announcements, event materials, case study fact sheets, and stock photos (in a photo library) for pilot program use, and brochures

Public relations and media promotion:

- ✓ Conducted a statewide paid media advertising campaign to "high hit" target audiences, utilizing radio, print, and online advertisements resulting in over 141 million paid media impressions, approximately 9,715 radio commercials, and 111,580 clicks to the web portal from online advertising
- ✓ Launched local earned media campaign, generating over 664 earned media print, radio, television, and online media coverage stories, generating an estimated 28 million impressions
- ✓ Outreached to state legislators to support brand promotion, yielding uptake by 32% of legislators for program logo on legislator websites, online articles and/or within constituent newsletters
- ✓ Generated and implemented a cooperative public relations plan for both statewide and local impact
- ✓ Facilitated distribution of program events and announcements through multifaceted outreach strategy

- ✓ Developed talking point guides and fact sheets for program representatives and public relations use
- ✓ Supported social media promotion including statewide Energy Upgraded California Facebook fanpage and statewide Twitter updates
- ✓ Launched 2 interconnected YouTube sites generating 4,054 views and growing
- ✓ Created 45 videos, based on interviews with homeowner and contractor doing an actual upgrade for the Energy Upgrade California web portal

Task: 2.3.D Regional Coordination and Development

Regional Coordinators have utilized a community-based outreach and education model to facilitate widespread dissemination of Energy Upgrade California program information in 30 program plus counties. This model has utilized interpersonal interactions, leveraged partnerships, educational resources and technical assistance to maximize opportunities for property owners to engage with the program.

Coordinators have established numerous beneficial partnerships with such regionally trusted information channels as local governments, community organizations, faith groups, Chambers of Commerce, trade associations and others, to both increase message credibility and provide a targeted and appropriate message to inspire action. Additionally, coordinators have worked closely with Energy Upgrade California participating contractors, facilitating worker preparedness by connecting building professionals and raters, linking workers to training resources and technical support, and generating consumer demand for the upgrade services offered by participating professionals. Over the course of the program, these professionals also benefits from refined program design and understanding, marketing and skills training and assistance in developing more effective and sustainable business practices.

Regional coordination activities began in March 2011, following the launch of the integrated web portal and focusing on discovery and relationship building on the local level to integrate statewide program approaches with localized resources, needs and gaps of each community. Working with regional partners, local delivery teams launched an initial program outreach campaign in the summer 2011 focused on stakeholder engagement in three principal areas: (1) Homeowner Awareness, (2) Contractor Engagement, and (3) Local Government Support. Activities during this period included stakeholder education, meetings and presentations, special event attendance and awareness generation activities. Technical advisory committees (TAC) and local government advisory committees (LGAC) were formed or joined in each region to inform local design and ensure local implementation strategies best met the needs of each community. These committees were instrumental in informing local outreach, engaging complementary program and event coordination and increasing overall programmatic reach.

In late summer 2011, regional delivery teams from across the state assessed program progress to date and identified a series of best practices based on those mechanisms which had most successfully and consistently served to support the following three primary objectives: (1) Homeowner awareness, (2) contractor preparedness, and (3) Upgrade demand generation. The result of these streamlined services yielded a well-supported outreach and education strategy that has been recognized by program partners, utilities and local governments as an integral component of Energy Upgrade California's success to date. These community-based stakeholder strategies successfully connected homeowners, local government, real estate professionals, and contractors while at the same time demystifying the program processes, helping participants understand program benefits and incentives, and offering homeowners and building professionals extended customer assistance as they continued along the upgrade path. Best practices and lessons learned are presented in Chapter 4.

Outreach efforts utilized several strategies including:

- ✓ Local Government coordination, including convening/participating in 58 LGACs meetings
- ✓ Industry and workforce coordination, including convening/participating in 63 LTACs meetings
- ✓ Awareness and outreach activities, such as tabling and community presentations in the form of verbal discussions, announcements or short demonstrations to a particular target groups to drive users to the website, or encourage workshops and trainings attendance
- ✓ Information distribution activities, such as event postings, flyers, emails and social media announcements promoting upcoming workshops and events
- ✓ Interactive homeowner workshops providing an integrated understanding of program processes, incentives, rebates, financing and the opportunity to meet participating contractors
- ✓ Contractor demand generation activities including working with contractors to connect to interested homeowners and/or other industry professionals to further utilization of program resources and create opportunities to increase demand for building professional upgrade services
- ✓ Contractor supplemental training to provide contractors with

additional knowledge, skills and familiarity with program processes and equipment

- ✓ Finance trainings for real estate professionals, loan officers, and contractors to help each party understand their role and available resources in connecting homeowners to available financing
- ✓ Finance workshops geared towards contractors to introduce them to a wide variety of financial tools to support their businesses and provide value-added products to offer to their clients
- ✓ Ongoing customer assistance to contractors, homeowners, local government, and other stakeholders as they navigate program requirements
- ✓ Facilitation of earned media events celebrating Energy Upgrade success stories and increasing program demand and resonance

Accomplishments (Results/Outcomes):

- ✓ 104,608 total person-to-person direct stakeholder interactions[24] engaging:
  - 37,483 Homeowners
  - 21,019 Contractors
  - 4,610 Local Governments
  - 4,049 Non-Governmental Organizations
  - 24,106 Real Estate Professionals
  - 13,341 Other Stakeholders
- ✓ 701 promotional awareness events attended, an average of over 116 per region
- ✓ 8 upgrade success events for high visibility and earned media impact
- ✓ 11 contractor networking events and 29 Supplemental contractor-training workshops
- ✓ 96 contractor training activities, at least 1 per county and 3 per region
- ✓ 34 energy finance, real estate/loan officer workshops, an average of 6 per region
- ✓ 156 homeowner workshops, an average of 1/region every week over 6 months

Task 2.4 Tracking and Reporting and Quality Assurance (QA)

The goal of this subtask was to support QA efforts in order to balance the needs for rigor with streamlined and efficient uptake of home energy retrofits. In addition, activities under this task included those related to careful tracking and reporting of program activities including adhering to ARRA reporting requirements. This subtask was successfully accomplished.

Task 2.4.A Quality Assurance, Energy Audits and Energy Savings Verification

The Program Team successfully achieved and exceeded the goals outlined in the SOW including coordinating with the CSLB to add license numbers into each contractor listing in the Energy Upgrade California Contractor Directory. The directory links right to the contractor report on the CSLB website, allowing users to ensure that a contractor's license(s) are valid and in good standing. Additionally, the team assisted contractors in registering the appropriate "Doing Business As" (DBA) name with CSLB in order for that name to be displayed in the directory.

[24] Direct stakeholder interactions reflect the number of direct interpersonal conversations accomplished by the EA on-the-ground delivery team. For instance, this includes an individual that approaches an Energy Upgrade California booth and discusses program services with an outreach team member. It would not however include total event attendees who through their attendance may have been exposed to the Energy Upgrade California message during that same event. The total number of event attendees exposed to program message is estimated to exceed 1.2 million people.

To facilitate effective QA/QC across the state, the Program Team co-chaired and staffed the Quality Assurance /Quality Control (QA/QC) Technical Advisory Sub-Committee to the Energy Upgrade California Steering Committee in order to facilitate better building professional understanding and compliance with various utility QA/QC requirements, safety provisions and protocols. This work included coordinating with the IOUs, Energy Commission, CPUC and QA/QC providers such as BPI and CalCERTS to develop a statewide QA/QC comparison matrix.

In February 2011, CalCERTS was added as a sub-subcontractor to the Energy Upgrade California Program Team, tasked with developing what was initially called the Energy Upgrade California Registry – a warehouse of project and Home Energy Rating data was proposed in order to track Energy Upgrade California project data. Relevant parties began developing and securing a technology infrastructure for that purpose. This task is progressing under Energy Commission direction, and will continue beyond March 2012. During the program term, the team has relied on upgrade data provided by the IOUs in the monthly Steering Committee reports to estimate energy savings and track progress toward program goals.

Accomplishments (Results/Outcomes):

- ✓ Monthly reports detailing # of upgrades completed and % energy reductions achieved
- ✓ QA/QC matrix which compares all of the QA/QC protocols across the state
- ✓ CSLB # on Energy Upgrade California web portal
- ✓ Successful collaboration with IOUs to support ongoing program upgrade tracking and reporting

Task 2.4.B Tracking and Reporting

The goal of this activity is to develop and oversee reporting mechanisms and collect information required for Program reports, including ARRA reports. Reporting mechanisms include spreadsheets and databases that allow the Program Team to easily track and submit required data and leveraged resources for compilation of monthly progress reports, CPR(s), and other reports. In developing and overseeing tracking and reporting mechanisms for the program, the Program Team has met all requirements in the compilation and submission of progress reports submitted for CPRs, invoices, and other requested client reports.

The ProMARS tool was developed for ease in tracking all program efforts and activities under this agreement. All partners and subs were trained in the use of the ProMARS system and given access to allow for entry of their program related activities, pertinent information, presentations, calendared events, and key contacts.

Training was also delivered to key members of the Program Team and various third party evaluation, monitoring and verification (EM&V) representatives in order to monitor team progress and evaluate activity and performance to goals over the contract term. The delivery team efforts, events, and activities including metrics, deliverables submission tracking, invoice submission, IOU Steering committee information, partner information, weekly performance metrics, best practices and other information used in reporting were tracked in the ProMARS system.

In addition, a data warehouse of project information was proposed in order to track Energy Upgrade California project data. Relevant parties began developing and securing a technology infrastructure for that purpose. A second budget amendment has further defined how the Energy Commission and its subcontractors will design, establish and provide access to a reporting portal. Initial work for the Energy Upgrade California's Data Warehouse has been completed prior to March 2012; however, the majority of the work will be done under the EM&V contract extension through April 2013.

Accomplishments (Results/Outcomes):

- ✓ Renewable Funding anticipates participating in an on-going contract to complete this work.
- ✓ Ecology Action developed the ProMARS tool for ease in tracking program efforts and activities

Task: 2.5 Innovative Financing Pilots

The program successfully implemented four innovative PACE Pilot Programs across the state: Sonoma County, City of Los Angeles, City & County of San Francisco, and Placer County. Progress was also made on the envisioned statewide finance subsidy program, although the program was unable to be fully launched within the contract term, due to insufficient RFP responses from financial institutions and subsequent direction for the Energy Commission regarding desired outcomes under this task.

Task 2.5.A. Statewide Finance Subsidy Program

Under this innovative financing pilot, the Program Team explored the possibility of establishing a statewide finance subsidy program to assist local governments in overcoming barriers to energy efficiency adoption and in an effort to further early groundwork laid in the Financial Clearinghouse effort. Recruitment of new financial institutions remains an ongoing challenge for energy efficiency financing programs. Local governments across the state have established relationships with local financial institutions and existing energy efficiency financing programs—tapping into these resources was recognized as a potential way to address this challenge. To help achieve this goal, RFPs were successfully drafted for both financial institutions

(to serve as third-party fund trustee) and consultants (to serve as technical advisors) to establish this subsidy. These RFPs were reviewed and approved by the Energy Commission, and subsequently released in accordance with contract guidelines. LGC received proposals from two potential consultants, which were promptly shared with the Energy Commission. However, upon closure of the solicitation process, no financial institution responses were received. Therefore the Energy Commission decided to pursue other goals using funds originally intended for the statewide finance subsidy program to further similar efforts under Energy Commission direction, which will continue beyond the contract term. Identifying potential partners early in the process, cultivating relationships, and engaging in active follow-up will be keys to successful recruitment moving forward. At the time of this report, all actions under this activity are closed.

Accomplishments (Results/Outcomes):

- ✓ Financial Institution RFP drafted and released
- ✓ Consultant RFP drafted and released
- ✓ Two consultant proposals received and reviewed
- ✓ Ongoing coordination with the Energy Commission

Task 2.5.B. PACE Financing Pilot Programs

The Property Assessed Clean Energy (PACE) pilot team tested their program models in their respective regions to utilize lessons learned and best practices to create a replication plan that can be used by other local governments interested in PACE, demonstrate how PACE addresses the financial barriers traditionally faced by property owners seeking to fund upgrade projects, and allay the concerns raised by the Federal Housing and Finance Agency (FHFA) and Office of the Comptroller of the Currency (OCC).

All four PACE pilot partners (Los Angeles City, San Francisco City and County, Sonoma County, and Placer County) worked together via direct communications and meetings facilitated by EA throughout the contract term to troubleshoot program challenges, develop collective program implementation strategies and share best practices.

The Cities of Los Angeles and San Francisco designed and launched the **first two owner-arranged Commercial PACE programs in the nation**[25], including development of program documents and outreach materials. The programs instituted a number of different mechanisms aimed at **increasing awareness** and **driving demand** for PACE financing in their respective regions. Los Angeles **funded**

"PACE is one of the most creative and successful solutions to our nation's energy crisis – and it is a common sense way to create good, green jobs.

"Because of PACE, and the hard work of community leaders and businesses, Sonoma Mountain Village will be a 100 percent solar powered, zero-waste community.

"PACE is a win for everyone; homeowners' and businesses' utility costs are lowered, people are put to work, and our nation gets the benefit of reduced energy use, increased energy independence and a cleaner environment."

-Congressman Mike Thompson

[25]Under the open market model, owners negotiate directly with capital providers, who are able to secure repayment through the special tax levied by the county, which is in first position on the property tax bill.

> *"With PACE, we are providing homeowners and business owners with powerful tools to take control of their energy use and create jobs at the same time."*
>
> *-Former California Governor Arnold Schwarzenegger*

energy audits to assess potential energy savings and spark interest in the program. Both Los Angeles and San Francisco **established debt service reserve funds (DSRFs)** that decrease risk to participating lenders, by covering delinquent assessment payments. Placer successfully **transitioned from a treasury-funded Residential only PACE Program to a treasury-funded Commercial PACE** Program. In addition, because of Sonoma County's hugely successful SCEIP program, they served as the **Residential PACE Model**, while also incorporating and expanding upon their commercial program. Sonoma County supported marketplace expansion for HERS Whole-House Home Energy Raters/BPC contractors, funded energy audits, transformed their web portal, and conducted the **first ever PACE** pooled bond and alternative **financing strategy feasibility analysis.** Each of these programs worked to **align their programs with the Energy Upgrade California** guidelines, transformed their program websites and integrated their local resources into the statewide Energy Upgrade California web portal.

Together the four pilot program each contributed to the creation of a **PACE Replication Kit** as a long-term resource for those jurisdictions considering the adoption of PACE programs to reduce barriers to adoption of energy efficiency, water efficiency and renewable energy generation system installations.

Accomplishments (Results/Outcome)

- ✓ **439 residential energy audits** funded totaling 858,690 ft^2 and identifying an estimated potential energy savings of 10.3 billion BTUs
- ✓ **860 residential improvements** from 518 total PACE financed projects
- ✓ **370 renewable energy generation** solar systems erected with an estimated annual generation of 2.9M kWh or 30.2 billion BTUs of avoided energy use
- ✓ **90 commercial energy audits** on **large buildings** funded totaling 28,000,000 ft^2 identifying an estimated potential energy savings of 55,000,000 kWh
- ✓ **247 commercial energy audits** on **smaller buildings** funded **totaling 542,700 ft^2 identifying** an estimated potential energy savings of 1,200,000 kWh
- ✓ **4 commercial projects completed** in Placer County with annual savings of 2.3 billion BTUs
- ✓ **25 commercial projects financed**, with an estimated electric savings of more than 46 billion BTUs
- ✓ **1 comprehensive PACE Replication Kit** serving as a valuable resource for other programs

- ✓ **2 debt service reserve funds** totaling $3,372,600, and a $1M **line of credit**
- ✓ **PACE pooled bond** issuance and alternative **financing strategy feasibility analysis**

Task 2.5.B1.Residential PACE Financing Pilot Programs: Sonoma County Energy Independence (SCEIP) Program

Sonoma County selected a team of top financial firms to **conduct a pooled bonding and alternative financing strategy feasibility analysis** that could allow jurisdictions to bring their assessments to market more quickly by pooling the individual PACE assessments in their region. A key element of a pooled bonding approach was strategic considerations of new and untested financing structures. Based on intensive research and meetings with several market participants, it became evident that an optimal financing structure given credit/interest rate requirements was not readily apparent. An RFQ was issued in order to develop a viable financing structure and to select an underwriter, private placement agent, structuring consultant or investor/lender to assist with developing and implementing a financing plan for SCEIP. Based on the structures presented as part of the RFP submissions, discussion with RBC Capital, and knowledge gained during the draft feasibility study of financing options, it appears that there may be multiple financing structures available for a successful bond transaction. However, due to the legal structural considerations, the imposed grant deadlines to consummate a bond transaction, the market's inexperience with an asset class such as this and the Securities and Exchange Commission (SEC) rule making process, a bond transaction is not feasible during this contract term. However critical work completed under this contract will enable the pursuit of a bond transaction in the near future.

The **newly improved website** provides one-stop shop services for Sonoma County energy retrofit programs. The complementary **hub tool features** consist of consumer, contractor, and administration web portals accessing an underlying central database structure that include property, applications, contractors, and rebates. Action Planning tools recently added are designed to increase consumer rates-of-action by reducing confusion over billing, incentives, tiered pricing, and allowable measures to give consumers a tailored, simple and specific plan of action. The SCEIP website supports the original goals of lower maintenance costs, optimized content for searches, and replication for other municipal governments. Collaboration with the Energy Commission, EA, RF, and Sonoma's web service providers (yoUtilBill and Weblift) was critical in meeting and exceeding what was outlined in the original SOW within the budget provided.

SCEIP utilized a **collaborative approach to the marketing and outreach events**, by partnering with the Regional Climate Protection Authority (RCPA), a local Sonoma County SEP grant (Energy Upgrade California) participant. Marketing funds and staff were leveraged from both organizations to create a comprehensive, streamlined marketing campaign and ensure staffing availability for events and presentations. Outreach was achieved through staffing booths at events and interacting with participants, and delivering presentations to local organizations, trade groups, schools, etc. Traditional paid media marketing methods were used including radio, television and print advertisements as well as articles placed in local papers and magazines.

Workforce development and outreach in the form of contractor trainings, forums and "meet and greet" events were critical to engaging contractors as a key factor in SCEIP's success, as contractors became SCEIP's primary source for educating the public about the alternative financing options available to them. In this way, SCEIP quickly became one of the "tools" they could offer to their clients in order to finance the improvements. SCEIP made a concerted effort to bring contractors and raters together to begin the partnering necessary to achieve greater understanding of each other's business models and how partnering with each other could benefit both types of businesses. To create a dialogue and to keep building professionals updated on programmatic changes, such as the incorporation of loading order requirements, SCEIP holds monthly forums, produces a monthly newsletter, established a website with contractor and rater resources, uses social media connections and delivers email blasts.

> *"**EUC has helped grow our business** and expand the public's understanding of whole-house energy upgrades. We have gotten about 18 leads from the EUC website, and about six have converted to full retrofits with an approximate average value of $9,500 per job. We have performed approximately 20 home assessments **because of the analysis rebate program**, of which we expect 10 to 12 will convert to retrofits… [the program] has significantly increased our business by perhaps 50%, and somewhat brought standardization to what had been a haphazard infant industry."*
>
> *-John Sutter,*
> *Energy Efficiency Contractor*

In addition to the outreach efforts discussed above, Sonoma County supported workforce development in several ways. The establishment of a **$2M line of credit** in response to direct contractor feedback, served as a revolving loan fund to the SCEIP program to finance projects upon completion between the monthly billing processes. Having the residential line of credit financing model available for program participants has facilitated the participation of smaller contractors that would otherwise be challenged to float installation costs. The **tool lending library** has allowed building performance contractors and HERS Whole-House Home Energy Raters to borrow, free of charge, the tools necessary to test and verify work performed during the energy upgrades. The tool lending library has become an invaluable resource for those individuals entering the energy sector. There are over 100 tools available, and 38 tool borrowers actively using the library, many from the Workforce Investment Board "Green Grant" training and the subsidized BPI or HERS Whole-House Home Energy Rater training that was offered through Ecology Action and other agencies. Additionally, the **Energy Analysis Rebate Program** was hugely successful with over 500 Sonoma County homeowner participants during the contract term, a resource that served to drive

homeowner demand for energy efficiency upgrades through an initial interest in an energy analysis. Survey results from 164 responses from the 406 homeowners participating in the energy analysis rebate program, indicated that 64% of respondents had completed or planned to complete energy upgrade work on their home. By completing an energy analysis, homeowners better understand how their home functions as a system, learn what upgrades can be performed to reduce their energy bill, as well as how to improve their safety, comfort, durability and indoor air quality issues.

Finally, Sonoma County led the collaborative effort to create a **PACE Replication Guidance Package,** working closely with each of the pilots to deliver a comprehensive resource kit highlighting strategies, lessons learned and approaches for replication of the various PACE models tested under this contract. SCEIP and pilot staff provided **guidance, training webinars and support to interested parties** throughout the contract term, from local government staff, to third party investors, community activists and lenders. With programs being considered and developed throughout 27 states and the District of Columbia, PACE program inquires were supported both within and outside of California state boundaries. Closer to home, Sonoma County provided direct assistance to Marin County, furthering Marin's efforts to launch their own PACE program.

Sonoma County Accomplishments (Results/Outcome)

- ✓ **439** residential energy audits funded totaling **858,690** ft^2, identifying an estimated energy savings potential of **1,008,335** kWh (**120,111** NG therms)
- ✓ **860** residential improvements installed through 518 PACE financed projects
- ✓ **370** renewable energy generation solar systems erected with an estimated annual generation of 2,946,438 kWh (30.2 billion BTUs equivalent)
- ✓ **43** Commercial retrofit improvements (21 projects), with an estimated energy savings over **2,200,000 kWh** (savings associated with 19 renewable energy generation improvements only)
- ✓ **28** participating HERS Whole-House Home Energy Raters, and **3** HERS BPC Contractors
- ✓ Conducted pooled bonding and alternative **financing strategy feasibility analysis**
- ✓ Established **$2M line of credit**

Task 2.5.B2.Commerical PACE Financing Pilot Program:
Los Angeles Commercial Building Performance Partnership (LACBPP) & Los Angeles County Commercial PACE Program

LACBPP was born in an effort to provide commercial building owners with a suite of no-cost resources designed to encourage holistic building improvements geared towards energy efficiency. These no-cost resources included comprehensive evaluations and recommendations by top-tier engineering firms, facilitated access to available rebate and incentive programs, and introductions and facilitated access to PACE financing opportunities.

The program, led by the Community Redevelopment Agency of the City of Los Angeles (CRA/LA) and the Community Development Department (CDD/LA), in partnership with Clinton Climate Initiative, established a model for commercial PACE programs throughout the nation. **Los Angeles City Council worked in**

> *"I am proud that my Foundation, through the Clinton Climate Initiative, is a part of the LA Commercial Building Performance Partnership. CCI has worked on more than 400 energy-saving building retrofit projects around the world, and one of the biggest challenges for projects is financing. I am excited that Los Angeles is finding new ways to finance this work. This is a great way to get Americans back to work."*
>
> *-Bill Clinton, Former President of the United States*

collaboration with the County of Los Angeles, opting in to the Los Angeles County Commercial PACE Program District on March 30, 2011. This PACE program includes the unincorporated County as well nearly all of the 88 incorporated cities of the County, although the City of Los Angeles has served as the principal target area implemented under this contract. Willdan Energy Solutions (WES) was selected as Prime Program Implementer of LACBPP while Sustento Group served as Program Management Consultant to the CRA/LA and CDD/LA serving to support this innovative countywide PACE program.

Prior to the launch of the LACBPP, WES and Sustento Group collaborated with industry associations and community organizations to leverage industry knowledge and existing customer relationships. These organizations included: vendors providing engineering support and managed by WES (Advanced Energy Innovations, Alternative Energy Systems Consulting, Arup, EMCOR Energy, Healthy Buildings, Lincus, Partner Energy, and Willdan Energy Solutions); Los Angeles County Office of Sustainability and LA County Treasurer Tax Collector's office; Building Owners and Managers Association (BOMA); Urban Land Institute – Los Angeles; U.S. Green Building Council – Los Angeles Chapter; Existing Buildings Committee; various Neighborhood Councils within the City of Los Angeles; the San Fernando Valley Green Team, and the Los Angeles Business Council. Resulting from industry and local government partner input, the decision was made that the City would pursue the "open market" (owner-arranged) commercial PACE financing model, which is designed to allow for maximum flexibility and broad participation from all interested stakeholders (i.e. building owners, lenders, mortgage holders, contractors).

WES and Sustento Group worked closely with Business Customer Division representatives from Southern California Gas (SoCal Gas) and the Los Angeles Department of Water and Power (LADWP) in order to **leverage their customer relationships and target** specific customers who had expressed interest or commitment to implementing energy efficiency projects. In particular, WES collaborated with utility companies to ensure that the most current information on incentives and rebates were captured in audit reports presented to customers. As a result utility account managers are now in a better position to support their customers' energy efficiency implementation efforts with the information presented in the LACBPP audit reports.

Program Administrators engaged with property owners and industry professionals to market program offerings, utilizing various marketing collateral and holding presentations. **Marketing collateral** included the program website and flyers. The program website provided an overview of the LACBPP and directed visitors to utilize program forms (including the PACE application), a contractor database, and a capital provider list.

In-person and webinar **presentations** on LACBPP program offerings and PACE financing were made to utility account representatives, property owners/managers, industry professionals, financial institutions, and community organizations. WES and Sustento Group held a series of webinars to educate participating engineering vendors to increase their understanding the various program benefits and processes including the structure of the Building Energy Performance Assessment (BEPA) report; training on EPAct tax incentives; and PACE financing. These presentations provided a detailed understanding of program offerings to persuade building owners to implement and finance energy efficiency measures. Webinars also empowered vendors to better serve as a resource to customers when reviewing the contents of the BEPA report, including benchmarking and financial metrics.

When developing **marketing strategies geared towards various key stakeholders**, it was vital that marketing collateral, presentations and other marketing materials catered to that stakeholder's individual **core demographic, area of expertise and level of understanding**. Flyers for the LACBPP Program were created specifically for building owners, technical contractors, and capital providers/lenders. A flyer was even translated into Korean in order to tap into a specific demographic market of building owners that represent foreign interest in local real estate.

Sustento Group worked with RF, LA County, and the Energy Commission's other consultants to develop a **customized section of the *Energy Upgrade California* web portal** for the LA County Commercial PACE Program. The website provides program information to potential participants, hosts application materials, and contains supplemental information on measurement and verification, tenant engagement, and energy aligned leases[26]; making it a one-stop-shop for information on commercial PACE in LA County. Due to budgetary constraints, the application cannot be submitted directly through the website (customers must download the application file and submit via email). However, this feature may be added at a future date. A list of PACE investors will also be added and updated periodically.

The City of LA is establishing a **$2M debt service reserve fund** within the contract term. CRA/LA's Board passed a resolution authorizing the establishment of a DSRF under this contract, and all required legal documents have been created and are awaiting final approval from the City of LA and LA County.

Energy efficiency audits through LACBPP were carried out in conformance with current industry best practices as defined by the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) and were consistent with ASHRAE Energy Audit guidelines (RP-669) with the additional data gathering to facilitate financial analyses and qualify projects for financial incentives such as EPAct tax deductions. WES worked with participating vendors to conduct **audits** that consisted of energy saving, water conservation and self-generation measures per guidelines set forth in the program Scope of Work. To

[26] Energy Aligned Leases allow property owners to avoid the "split incentives" problem, where owners bear the capital costs of energy upgrades while tenants receive the bulk of the savings through reduced monthly energy bills. Tenant leases are written to allow owners to pass-through a portion of the capital costs for energy efficiency measures. Tenants keep most of the savings from lower utility bills and the building uses less energy.

facilitate short-term program management efforts, the Program Administrator and participating vendors utilized SmartSheet, an **online organizational tracking tool** that serves as a database for several working spreadsheets that can be amended in real time (similar to Google Docs). All pertinent information regarding each customer was indicated, including all dates for all deliverables throughout entire life of program (including post-retrofit data upon implementation efforts). **Final audit reports** were produced within the appropriate margins of **accuracy to determine potential energy saving** based on adherence to ASHRAE standards. These estimated savings are derived from the report recommendations, which were reviewed by a third party reviewer to ensure that energy analyses and savings were vetted within the corresponding accuracy level. A summary of all measures according to their respective phases and energy savings will be verified after implementation on a project-by-project basis.

Since the official launch of the PACE program in September 2011, the program received and **successfully processed five reservations** (Part 1 of the application). The program approved three of the five reservations[27]. In addition WES received numerous inquiries from contractors, lenders and energy efficient product manufacturers who were interested in PACE financing for their customers. Due to the long lead-time required for commercial project completion, projects currently in the pipeline are not yet complete. It is anticipated that interest and completed financed projects will rise beyond the contract term.

City of Los Angeles Accomplishments (Results/Outcome)

- ✓ **90 Commercial energy audits** on **large buildings** funded totaling 28,000,000 ft^2, identified an estimated energy savings potential of 55,000,000 kWh
- ✓ **247 Commercial energy audits** on **smaller buildings** funded totaling 542,700 ft^2, identified an estimated energy savings potential of 1,200,000 kWh
- ✓ Approximately **150 additional small business audits** are expected to be performed by the end of the contract term
- ✓ Established a **$2M** debt service reserve fund

Task 2.5 B2. Commercial PACE Financing Pilot Program: City and County of San Francisco Green-Finance-SF Program

Between October 2010 and October 2011, the Program Team brought together key decision makers from the City and its consultants to create a strategy, plan, and required documentation to deliver a commercial PACE financing program. Under the contract, and in collaboration with the City of Los Angeles, the Clinton Climate Initiative (CCI) and other PACE Pilot partners, the team developed details to **initiate the "open market" PACE model as the vehicle to deliver capital for energy efficiency, renewable energy, and water conservation retrofits** of qualifying commercial properties in San Francisco. This approach relies on sophisticated parties (mortgage holder, property owner, retrofit lender) to negotiate specific deal terms while offering the security of the PACE lien.

[27] Rejections are based on individual circumstances of each applicant; of those received to date, one building was ineligible because it was a residential building, and another building was disqualified for being delinquent on property taxes.

During this period, great care was taken to **align San Francisco's program structure with the Los Angeles city/county program**. Ample stakeholder outreach with key program actors such as commercial real estate owners/managers, PACE lenders, contractors/service providers, and mortgage lenders was conducted during program development. As a result, Los Angeles and San Francisco are using very similar transaction documents and program requirements, allowing investors and contractors to work seamlessly across programs. In addition to this collaboration between programs and the private sector, technical assistance for the financing aspects of the program was also received through the US DOE Technical Assistance Program for ARRA grantees, and CCI.

"After several years of developing the 'open market' PACE model, we're convinced that programs of this type remain one of the most sustainable ways to leverage private capital for energy efficiency investments in existing commercial buildings.

"San Francisco is truly forward-thinking in their resolve to launch this program. We remain committed to helping cities such as San Francisco develop game-changing models for the building retrofit market and then sharing the lessons learned from those experiences with the rest of the world."

-Scott Henderson,
Clinton Climate Initiative

The sole deliverable under this contract was the **establishment of a debt service reserve** fund. Property owners and their project investors will be automatically allocated a standard share of the DSRF equal to 10 percent of the amount financed through the Program, up to a maximum DSRF allocation of $100,000 (which, at 10 percent coverage, would support financing of a $1 million project). The Program will consider requests for DSRF allocations above $100,000 on a case-by-case basis, as well as requests for more than the standard 10 percent. Property owners and their project investors also have the option to decline an allocation from the DSRF if they so wish. The DSRF will provide additional security for the PACE investor and likely result in lowering the building owner's interest rate and/or avoid the need for any governmental level guarantees. The DSRF was established in March 2012 and provides $372,600 toward this purpose.

San Francisco's PACE program is **on the leading edge of local tax lien financing programs** now proliferating around the country. The financing program complements other commercial building energy policies and programs, such as the SF Energy Watch audit and incentive program, as well as the 2011 Existing Commercial Buildings Energy Performance Ordinance, which requires owners of commercial buildings larger than 10,000 ft^2 to track and report the energy consumption of their buildings annually; and for each building to undergo an energy audit by a qualified professional once every five years. The program is looking forward to continuing its collaboration with program partners and the private sector to enable investments in building efficiency and renewable energy generation, creating economic activity in the community while protecting the environment.

San Francisco Accomplishments (Results/Outcome)

- ✓ Established a **$372,600** debt service reserve fund

Task 2.5.B. Commercial PACE Financing Pilot Programs:
Placer County - mPOWER Placer Program

With a budget of $372,600 in ARRA dollars and $1,000,000 in leveraged funding, the Placer County mPOWER Placer Program **successfully transitioned** their PACE program **from a residential PACE program** to a **commercial PACE program.**

> *"With mPOWER Placer, we were able to save money on our utility bills. This has helped with our cash flow in these tough economic times. I really feel good about using solar to generate electricity as a green energy source!"*
>
> *-John Nitta,*
> *High Ranch Nursery*

The mPOWER Placer team designed an outreach strategy that aligned with Energy Upgrade California's outreach and educational programs and was intended for contractors, energy service companies (ESCOs), property owners, lenders, and other stakeholders in order to comply with the newly developed mPOWER Placer commercial program and guidelines. mPOWER Placer also utilized leveraged funds to completely renovate their website to further expand their outreach efforts. The **renovated website** provides clear information about PACE financing, energy upgrades, loading order, and improvements eligible for financing. The website has been integrated with the Energy Upgrade California web portal. mPOWER Placer created an **informational video** for marketing through a partnership with Placer County Air Pollution Control District (APCD), in which the entire APCD process of installing energy efficiency improvements based on energy analysis recommendations was documented. The video is used at presentations, seminars and located on the mPOWER Placer web site.

mPOWER Placer **cultivated strong partnerships** with all local utility providers, which increased uptake of rebates/incentives and contributed to long-term energy conservation goals. mPOWER Placer's has employed a number of **outreach efforts to regional contractors and contractor's associations** including training seminars, prequalification of potential applicants, trade association and utility company training program announcements, and other Energy Upgrade California contractor training workshops. This educated contractors on the benefits of mPOWER Placer financing and energy efficiency and how energy efficiency improvements can advance their business goals, and promote job creation in the region. The team also reached out to a multitude of **banks and other lending institutions** on the PACE program design and its benefits to lenders, and to open a dialog with them to address their concerns about lien placement and PACE program requirements. mPOWER Placer heard from banks and lending institutions concerns about lien placement and potential delinquency processes. In response to these concerns, mPOWER Placer revised the Assessment Contract to include a lender notification clause in the event of a late payment. Placer County also retained the services of **Randle Communications** to help brand their messaging, create a comprehensive brochure, and provide strategic direction for the outreach campaign. The team is currently planning an extensive canvassing campaign to conduct direct outreach to building owners that are primed for retrofit projects. Those building owners who fall into this category are identified as having a need in the form of an old building, antiquated equipment, and an interest in retrofit projects are being targeted for this outreach.

As a result of all these efforts, including mPOWER Placer's ability to streamline processes and control costs, mPOWER is establishing a viable and sustainable commercial PACE program in Placer County.

Placer Accomplishments (Results/Outcome)

- ✓ **4** commercial PACE financed retrofit projects completed
- ✓ **223,233** kWh estimated annual energy savings from completed projects
- ✓ Based on the useful life of the installed improvements, these measures are anticipated to represent an estimated total energy savings of 4.4 million kWh or **15.2 billion BTU**s, and an energy cost savings in dollars of **$2,381,670**

Task: 2.6 State Clearinghouse

The original goal of this task was to design statewide energy retrofit financing mechanisms that served California cities and counties. The clearinghouse sought to offer consumers a free opportunity to apply, pre-qualify and view a side-by-side comparison of products and rates to finance energy upgrades. From late October 2010 to April 2011, Renewable Funding worked with CAEATFA to develop draft documents to structure the clearinghouse and subsidy. Additionally, a number of phone interviews with potential lenders and focus groups with lenders and contractors were conducted to help inform the criteria and requirements of the clearinghouse and subsidy program. However due to unexpected developments during the contracting process, CAEATFA was unable to participate in the program. Activity under this task was halted in April 2011 in response to Energy Commission guidance. This task was removed from the scope of work during formal amendment #1. A refined financing strategy was incorporated into the web portal in mid-2011.

Accomplishments (Results/Outcomes):

- ✓ Draft of Program Policies and Procedures which includes requirements for lender participation, financing products, and consumer qualifications
- ✓ Draft finance product criteria and product selection process
- ✓ Chart for property owner, contractor and lender process flow
- ✓ Draft finance subsidy structure and criteria
- ✓ Draft of criteria for the selection of lenders and qualifying financial products

CHAPTER 4: CONCLUSIONS

Major Findings

Energy Upgrade California has successfully laid the foundation for market transformation that will continue to generate demand, create jobs and save energy for years to come. However, the important work of market transformation is not yet complete. Continued program support both in terms of policy and financial resources will be critical to achieving the long-term vision that Energy Upgrade California has brought to life. Moreover, additional time is necessary to more fully assess the effectiveness of various program implementation strategies moving forward. A summary of major preliminary program findings in the form of lessons learned and best management practices (BMP) noted to date is presented below. Chapter 5 presents a discussion of program sustainability including those aspects of the program that will be continued beyond the contract term, as well as current gaps and opportunities in program continuity moving forward.

Overcoming Market Conditions

Economic Recession Challenged Uptake

The economic conditions caused by the economic crisis of the late 2000s, also known as the 'Great Recession' posed a significant challenge to program uptake, leaving both lenders and consumers reluctant to invest in installations perceived to be discretionary. To address this, the team targeted outreach based on market research **to populations most likely to engage in the program**. Trigger point activities were recognized (like the need to replace a heating, ventilation and air conditioning (HVAC) system or the consideration of a solar installation) as opportunities for program engagement. To address deeper economic concerns, **homeowners, contractors, real estate professionals and loan officers** were introduced to the **upgrade benefits to prove the investment value and connect homeowners to available financing options,** ranging from:

- ✓ CHF's low-interest retrofit program
- ✓ Local bank/credit union green lending offerings
- ✓ Long-standing Energy Efficiency Mortgages (EEMs), 203k and Streamline 203k, PowerSaver loans, HomePath and HomeStyle loan products

Short Implementation Period

As originally conceived, the Program Team envisioned an implementation period of up to three years. After significant delays in the release of program funds and contracting process, **the actual contract term was reduced to 17 months** broken into 3 rapid phases:

1. *Planning: Generation and approval of the Program Implementation Plan (Nov-Dec 2010)*
2. *Integration: Overlapping Planning and spanning approximately 3 months (Dec 2010-Feb 2011)*
   - ✓ Administrative processes to support ARRA transparency requirements
   - ✓ Design and launch of integrated program brand and web portal
   - ✓ Regional program discovery, integration, streamlining of localized delivery approaches

3. *Implementation: Launched in Spring 2011 and lasting approximately 12 months (Mar 2011-Mar 2012)*
   - ✓ Broad outreach and promotional efforts, including on-the-ground promotion
   - ✓ Statewide paid marketing campaign, complemented by local earned media
   - ✓ Consumer and building professional targeted methodology for program promotion
   - ✓ Individualized homeowner, building professional and partner customer support

Market Readiness

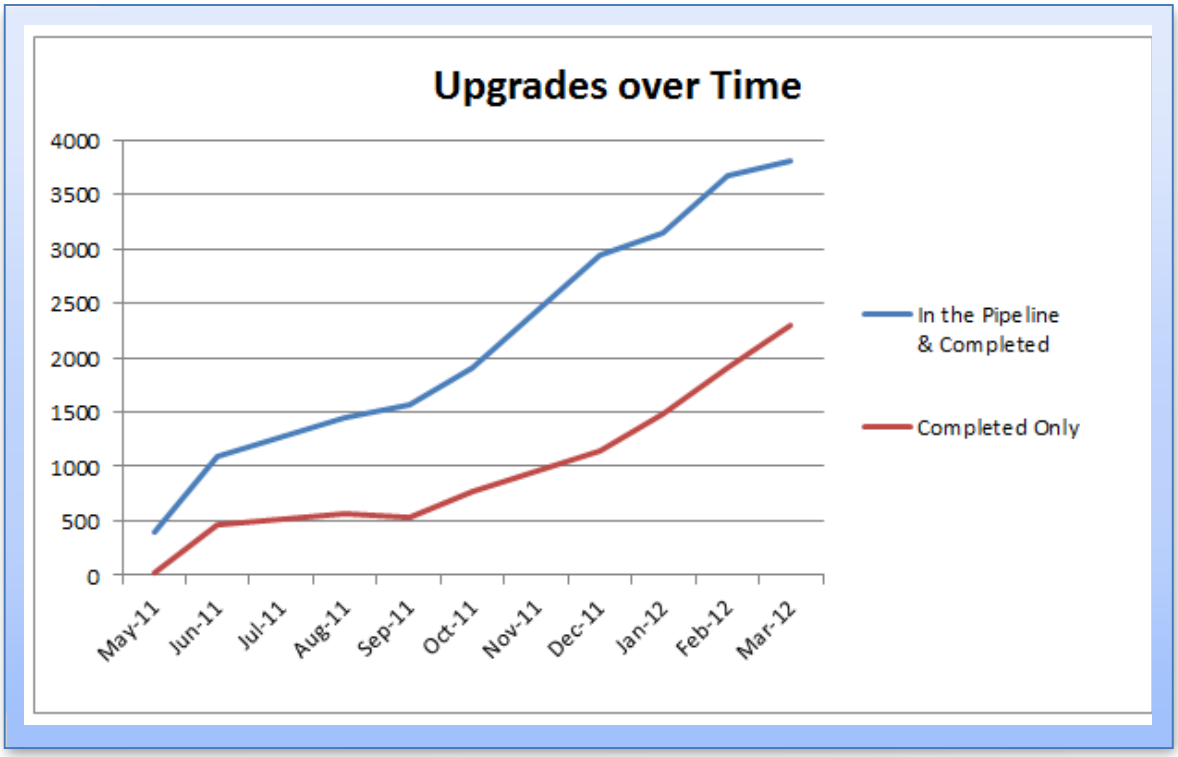
The program timeframe necessitated rapid action. As such, Energy Upgrade California was launched in the marketplace, before the actual 'product' was fully market-ready. Utility WHRPs were still in the process of finalizing key program elements such as **the definition of the basic and advanced upgrade packages and requirements for participating contractors,** an effort that continued to be adjusted and redefined throughout the contract term. These changes required attentive customer support to adjust and integrate refinements and mitigate market confusion. On-the-ground support managed these challenges through proactive and reactive consumer and contractor/rater outreach keeping early homeowner and contractor/rater adopters engaged as ambassadors for the program.

Lessons Learned

1. **Establishing a Whole-House Marketplace Requires a Whole-Systems Program Approach.**
   Just as whole-house building performance science teaches that a home functions better as an integrated system, so too does the complex whole-house marketplace. By developing new strategies and tools, integrating program resources and guidelines for consistency and transferability between programs, and tailoring program delivery design to address the needs of both consumers and building professionals, Energy Upgrade California increased participation rates, reduced barriers and motivated action. Results to date indicate that no single program implementation approach is sufficient to drive the whole-house market at this early stage. Rather, an integrated system of web portal resources, person-to-person direct outreach and education, marketing and earned media promotion, and connection to new and existing financing opportunities are all necessary to support both consumers and building professionals in this growing marketplace.

2. **Timing is Everything.**
   Transforming a marketplace is a long-term endeavor. Ultimately, a longer contract term would have enabled this effort to more appropriately gain the momentum needed to realize the program's full impact. Unfortunately, the truncated time frame resulted in abrupt discontinuity of program elements before they had a chance to gain full traction (Whole-House Home Energy Rating Rebate) or come to fruition (Statewide Subsidy). Given the particular complexity and breadth of this market transformation program, a contract term of at least three years would have allowed for more sufficient initial planning stage (6-12 months), followed by a ramp-up and implementation period (24-36 months) to take hold. As has been demonstrated through similar market transformation programs like the California Solar

Initiative (CSI)[28] designed as a ten-year statewide solar program as an outgrowth of Governor Schwarzenegger's call for a "Million Solar Roofs" vision, a more fully transformed and self-sustaining Whole-House marketplace will likely need to be strongly supported over the next decade.



3. **Clear Leadership and Decision Making Processes are Necessary.**
   Multi-stakeholder processes can be beneficial and challenging. While the strong partnership between agencies, utilities, local governments, and other organizations formed an integral element of the program's success, diverse collaborations can slow both decision-making and implementation. Ideally, partnerships should be formulated with both nimble and established decision making processes in place with a clear client or designated leader capable of providing direction while carefully balancing the needs and concerns of the various other entities' needs.

4. **Awareness is the Critical First Step.**
   In the early stages of a market transformation effort, generating awareness is the critical first step. A new supply of energy upgrade opportunities does not necessarily result in immediate consumer demand, nor willingness on the part of the building professional to adapt their business model to these new market conditions. On the contrary, broad stakeholder engagement to inspire program participation must occur

[28] http://www.cpuc.ca.gov/PUC/energy/Solar/evaluation.htm

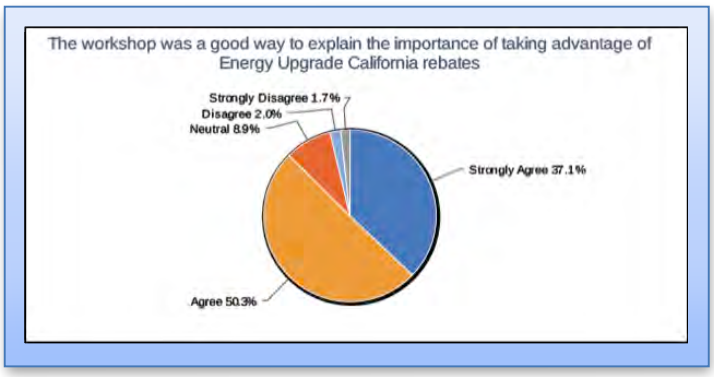
on the front end in order to drive market transformation over the long-term. As indicated by early feedback from both program participants and partners, this early coordination ensures that workforce service providers, governmental agencies and other stakeholders are sufficiently prepared to provide a positive consumer experience, and will ultimately be prepared to meet the demands of a transformed marketplace.

5. **Early Workforce Readiness is Key.**
Of equal importance, a functioning marketplace demands the supply of a ready and able workforce of service providers. As a new market, sufficient providers were not available in every program area at the outset of the program. Outreach, education and worker support served critical roles in engaging a workforce ready to respond to growing consumer demand. The team helped to buoy early adopters entering this new market sector. Existing building professionals were supported in transitioning to participating contractors/raters, new workers were recruited to join in this emerging workforce, and each of these groups were equipped with the training tools and resources to be successful. In Sonoma's PACE program, this included the creation of a contractor lending library, an effective strategy utilized in several other locations. Statewide efforts generated awareness, coordinated complementary program services, facilitated demand generation activities for workers, conducted supplemental trainings, and offered HERS Whole-House Home Energy Rater/BPI certification trainings at little to no cost. Each of these methods of worker support served to enable workforce readiness by dramatically increasing the number of trained, certified and participating building professionals. In addition ongoing technical assistance guided businesses through the developing market rules and procedures to address barriers, minimize confusion and retain program enthusiasm. As worker readiness increased, more consumers were readily served.

6. **Integration Alleviates Confusion.**
The integration of the whole-house marketplace which brought together agency, utility and complementary programs, was integral to the program's success. Prior to this integration, the landscape was comprised of a complex and confusing network of policies, regulations and resources that dis-incentivized the participation and engagement of homeowners and contractors in the energy efficiency marketplace. Establishing consistent program policies, messaging, marketing, branding, leveraging of efforts, and governance provided the integration the program needed to alleviate confusion and facilitate upgrade adoption. This streamlined approach enabled homeowners, building professionals and local governments to more easily navigate through this complex marketplace of services and resources.

7. **Upgrades are a Considered Purchase.**
While the benefits of a whole-house upgrade are extensive, a property owner's decision to invest in an upgrade is a carefully considered purchase. Participating property owners devote time to understanding benefits and processes, selecting service providers, and opening their home/business to contractors/raters for assessments, installation and quality assurance. In addition, there is the cost of the installation itself and/or the selection of an appropriate financing resource that must be arranged. Each of these processes may represent a potential or perceived barrier to the homeowner that may extend the consideration timeline or act as a deterrent to participation if proactive customer support is not available to keep the consumer engaged throughout the consideration timeframe. It is anticipated that the long-term market transformation of this program will generate new and inventive approaches to reduce these barriers and assist in the decision making process.

8. **On-the-Ground Outreach Drives Demand.**
Understanding both the complexity of the marketplace and the carefully considered nature of an upgrade purchase, it is critical to provide assistance that will help transform consumer interest into upgrade demand. On-the-ground outreach activities like **homeowner workshops** supported by pre-event earned media coverage were determined to be particularly effective tools for engaging potential participants in taking their next step on the upgrade path. By embedding homeowner workshops with on-the-spot opportunities for action, such as onsite web portal account creation, contractor-homeowner networking connections, financial product awareness education, onsite assessment appointment scheduling, free rating giveaways and post-event attendee follow-up, Homeowner workshops helped to effectively transform consumer interest into upgrade demand. Although county-by-county data is not presently available, results presented by PG&E at the Jan 2012 marketing summit indicated that homeowner workshops in October and November in five target counties may have increased participation rates by more than 30%, while 47% of total jobs in PG&E territory in Dec 2011 were also located in these target areas. A post event



survey[29] of homeowner workshop attendees, indicated a strong connection between workshop attendance and subsequent energy savings action. Nearly half (49%) of survey respondents reported contacting a contractor following the workshop, while 61% of attendees have scheduled (42%) or plan to schedule assessments (19%). Furthermore, within just 30-90 days of workshop attendance 36% of survey respondents reported having completed assessments, while 22% or more than 1 in 5 attendees, reported having completed upgrades.

9. **Homeowners Need Ongoing Support.**
Once a consumer interest is transformed into upgrade demand, there is no guarantee that each homeowner will move forward to complete an upgrade. Simply understanding and navigating this complex marketplace can be a challenge for many homeowners, while also balancing the needs of their everyday lives. This can lead to participant drop-off due to frustration, confusion or even the simple passage of time, despite initial levels of engagement. Ongoing consumer support through a trained workforce and regional outreach field advisors can help customers feel more confident about their energy efficiency investment, allow consumers to use their time efficiently, provide a resource for trouble-shooting along the path, and minimize the overall real or perceived "hassle" barrier. Consumers have benefitted from on-the-ground outreach and customer support after events, through phone and email communications, via web support and through ongoing promotional distributions. In this way, consumers develop a strong understanding of the value of an upgrade and are compelled to move forward through project completion.

10. **Leverage Multiple Benefits To Build the Case For Choosing An Upgrade.**
The benefits of a whole-house upgrade are extensive. To help build the case for homeowners and drive leads to contractors, it is important to highlight the multiple benefits and opportunities that resonate and inspire action in each target audience. To this end, a handful of key messages describing each of these benefits were employed throughout the contract term, drawing on conservation themes for environmental audiences, cost-savings messages for economically challenged populations and health themes for women and families. Leveraging trigger events like HVAC replacement or consideration of solar installation can catch consumer attention at the right moment to inspire action toward an energy upgrade. Drawing on utility rebates and financing packages can alleviate the up-front costs of an upgrade and help secure a

[29] Homeowner Workshop survey results presented in Attachment 19.

sale. Long-term achieved energy savings can reduce or eliminate total out-of-pocket expenses over time. An upgraded home can improve comfort and air quality increasing health and safety for California families. Finally, the environmental benefits of reduced greenhouse gas emissions can help protect the environment and improve communities. By understanding the target audience of a particular community outreach event, or individual, outreach personnel can focus the precise message to concentrate on the particular benefit(s) most likely to inspire action in the person receiving the message.

11. **Filling the Financial Gap Is Essential.**
The real or perceived absence of financing opportunities can be a significant impediment to upgrade adoption and home performance business growth. The upfront costs of retrofits may be prohibitive for many consumers; for others, the presence of financing options can serve to overcome this challenge by providing attractive terms that meet the specific financial circumstance of the particular homeowner. Feedback from both the consumer and contractor communities demonstrated the need for more financial resources to overcome this challenge. To address this, our program leveraged financing tools supported under this contract like locally available PACE financing, as well as those tools supported by concurrent ARRA SEP funds like CHF's retrofit financing program. In addition, regional teams connected homeowners and contractors to those tools already present in the marketplace, although in some cases these tools were underutilized or poorly understood, such as local green financing loans and energy efficiency mortgages. In this way the consumer was presented with a variety of product options for better understanding and consideration. Program organized homeowner workshops and professional financing workshops for real estate professionals, lenders and contractors further demystified these financing options, roles and processes to reduce confusion and drive upgrade demand. Financing, like everything else, needs to layer effectively with the consumer and contractor process. The process should be streamlined, simple and done all in one place, in one day.

12. **Building Professionals Need Ongoing Support.**
Just as consumers require a high level of support, the building professional community also requires a high level of support and engagement. The decision to participate in Energy Upgrade California requires thoughtful consideration for both homeowners and contractors/raters. Understanding market requirements and potential benefits and risks is essential to enabling a building professional to commit to program participation, begin making adjustments to their business model and/or prepare or train their staff. While the potential benefits are substantial, program adoption also requires a considerable investment of time and energy on the part of new building professionals. To assist in helping this potential workforce, on-the-ground teams served as a conduit for program information,

> *"Two events Energy Upgrade California hosted in Yolo County—one in Davis and one in Woodland—produced the most tangible business results for my company of any aspect of the program. The outcome was a large number of* ***customer leads that has led to assessment and upgrade work for multiple months****."*
>
> *-Phil Barnes with WellHome, Capital Region*

supplemental training, utility and training provider updates, and networking opportunities. In addition, regional coordinators also served as worker advocates and advisors to feedback information to program partners, utilities and regulatory agencies, informing support resources and additional skill trainings. As in the case of homeowners, regional coordinators served to reduce barriers to participation and keep building professionals motivated to take the next step in their energy efficiency path.

13. **Data Sharing Is Integral to Program Refinement.**
Data sharing is key to a multi-stakeholder, multi-layered program and ongoing program evaluation and refinement. The nature of this program required intensive coordination led by regulatory agencies with utility partners to secure data sharing rights and establish sharing processes. Enabling data sharing earlier in the program, would have improved the program's ability to coordinate, assess progress and implement responsive program adjustments throughout the contract term. For instance, due to the absence of such data, localized outreach methods and media exposure could not be layered against upgrade enrollment or completion of upgrades over time; the ability of program implementers to show causation related to effective practices in real time was thereby reduced.

14. **Programmatic Consistency Maintains Engagement.**
Consistent program design, rules and requirements are important for ensuring a positive consumer experience and for keeping the service providers and homeowners engaged in the program. Changing rules, requirements and resources throughout the contract term increased confusion and administrative burden for these valued early adopters and may have affected both completion rates and well as positive referral opportunities. Program coordinators were available and responsive to stakeholder questions and became a trusted resource for program participants to overcome this challenge.

15. **Partner Coordination Improves Success.**
With such an extensive coordination effort, regular meetings with program partners were integral to maintaining strong relationships, being nimble and responsive to changing conditions, and helping to overcome challenges with ease. Statewide Steering Committee meetings helped to integrate the Program Team with regulatory agencies and utilities, as well as other concurrently implemented SEP program administrators. Quarterly statewide forum meetings provided a regular feedback forum for contractor/rater input. Weekly/Biweekly meetings with our contract manager kept all

"Our house would just get so hot in the summer…When the contractors gave the evaluation, we were surprised how much energy was being lost and wasted in our home. They found a lot of things we couldn't see. Over 20% of the air in our ducts was just being lost. Our contractors sealed and added insulation. They installed a new air conditioning unit and furnace, and even put in a bigger air return to cool down the house quicker and more efficiently. Instantly, we could feel the difference!"

-Homeowners William and Cynthia Bryan

parties up to date on latest developments and attentive to pressing needs. Weekly/Biweekly Program Team and PACE Pilot meetings facilitated a working forum for problem solving and best practice sharing.

16. Success Stories Must Be Carefully Cultivated.

Energy Upgrade California

Green incentives

Home upgrade rebates aimed at saving energy, creating jobs

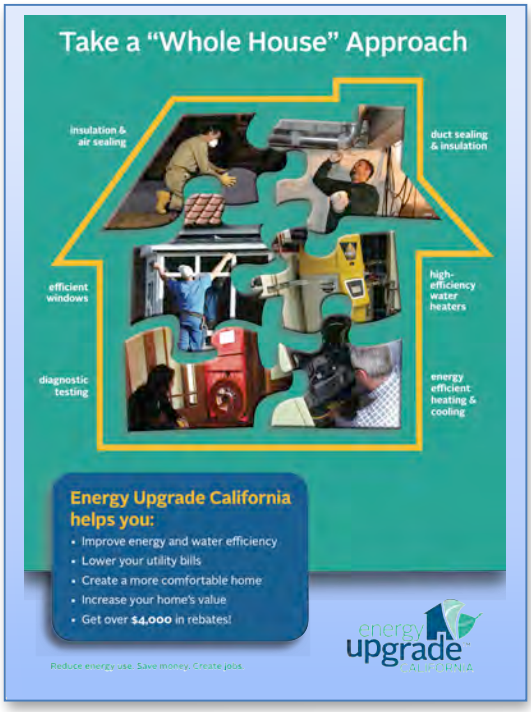
Telling the good news story of Energy Upgrade California ideally leverages success stories of individuals involved in all aspects of the program who can speak to their experience. Successful homeowner workshops sought to include these testimonials from participating homeowners who completed upgrades, contractors who have adjusted to this new business model, financial experts who have shepherded consumers through financing a project, real estate professionals who incorporated ratings into point of sale activities, and others. While these workshops proved to be enormously effective at driving participation and generating high-resonance earned media coverage, the cultivation of these stories took time as individuals worked their way through the complications and challenges of a marketplace being transformed. With diligence and persistence regional coordination teams worked closely with early adopter homeowners and contractors to carefully cultivate these news worthy success stories, resulting in dozens of high-interest news coverage stories on television, radio, print and online media outlets, and hundreds of thousands of earned media impressions. Beyond telling the good news story of a particular homeowner and/or contractor, upgrade success events are also effective opportunities for engaging high-profile community leaders such as elected officials or celebrities to expand the impact of each story. Web portal page view hits further indicate correlation of increased web traffic in each location where an upgrade success event was held.

17. Behavior Change Takes Time.

Attitude and behavior changes take time and ongoing education. For instance, an anti-smoking behavior change program aimed at reducing smoking rates would take years. Dramatically moving consumer behavior from single measure upgrades to understanding the value of the home as a system and opting for whole-house solutions requires a large behavior shift. The program is often grouped with single measure energy efficiency incentive programs such as appliance or solar rebates, while in fact it has much more in common with behavior modification programs, such as those to end smoking or achieve seat belt compliance. Behavior change is accomplished with significant amounts of education and awareness. Consumers do not yet value energy efficiency as a priority, nor do they understand the whole-house concept. To address this, initial program outreach was targeted to both increase

understanding and engage those audiences most receptive to the message, "retrofit ready" residents. Further targeting of promotional efforts could build a groundswell of retrofits with this group, which could be expanded to broader audiences.

Best Management Practices



1. **Use the Whole-House Approach:** Achieving carbon reduction targets requires an aggressive strategy for tapping the efficiency potential of existing homes**.** The optimal level of energy savings requires a comprehensive whole-house approach rather than addressing individual measure installations. Energy Upgrade California should eliminate "cream skimming" by packaging low cost, high payback measures (such as air sealing) with necessary deeper retrofit measures such as insulation, and HVAC work. In utilizing this approach, customers are able to achieve deep energy savings in a more cost effective way than if single measures where taken on individually. Energy Upgrade California is specifically designed to integrate this least-cost approach toward meeting climate goals and moving the market from single measure installations as a new industry standard practice. The basic Energy Upgrade California package consists of seven prescribed measures designed to meet an estimated minimum of 10% savings. The advanced package provides a customizable solution for the home and the homeowner and can achieve potential energy savings of 10-40%. The rate of adoption for the advanced vs. basic package (96%) demonstrates the market adoption trend in favor of deep whole-house retrofits.

2. **Employ a Multi-Pronged Market Development Approach:** Raising awareness about energy efficiency and overcoming confusion in the marketplace is a complex challenge. However, keeping the consistent and simple statewide message, offering direct person-to-person customer support, online web-based tools, supporting paid media promotions and carefully cultivating earned media are the best practices that drive demand.
   - A consistent statewide marketing program that allowed a wide diversity of organizations to implement one core brand locally in ways that resonated with their communities, yet maintained the brands core values and messages
   - One-stop-shop web-portal simplified statewide and local information
   - Collaboration with local governments, city officials, and media outlets helped broadcast the

importance of energy efficiency linking local climate change and job creation goals

- Promoting the program through a statewide paid media advertising campaign, which served to build awareness of a new program and drive homeowners to the website
- Cultivating earned media provided third party validation, increased media impressions and offered compelling first-hand testimonial accounts to drive demand
- Educating the public through targeted high-touch workshops and trainings, direct person-to-person customer support reducing barriers and tangibly increasing demand
- Placing regional coordination field advisors throughout the state allows for high-touch customer support and a localized program approach

The figure above illustrates statewide user accounts over time, showing two major peaks in accounts created in correspondence to the increased implementation of regional marketing, education and outreach strategies including homeowner workshops in which homeowners were assisted in creating account s and connecting to contractors on the spot.

3. **Single Brand Increased Reach:** Substantial effort and time was invested to develop, implement and manage one brand and consistent messages for the entire state. This allowed resources from IOUs, municipal utilities, service partners, local governments and the state to be leveraged into one brand, expanding media buy and collateral impact. Brand Guidelines help partners implement the brand across multiple media platforms and in conjunction with partner brands. This strong investment helped build brand credibility in a very short timeframe. As a result, Energy Upgrade California is increasingly the program that comes to mind when California consumers think of saving energy in their homes.

4. **Provide Workforce Training & Support:** A major barrier to energy efficiency retrofits is increasing worker preparedness, credibility and confidence to assess inefficiency of the home and communicate benefits associated with energy efficiency upgrades to homeowners. Best management practices to train and support a ready workforce and transition service providers to the building performance approach include the Subsidized Contractor Training Program, contractor networking and supplemental trainings including

Energy Pro, Sales and Marketing and Upgrade Equipment Field Trainings helped to increase worker confidence and improve performance. Ongoing technical support to keep interested and participating workers engaged was also critical during this early market establishment period.

5. **Support Homeowners Through the Process:** Investments in building efficiency are not an easy sell and provide no obvious "show off" value and currently are not incorporated into most real estate appraisals. Most consumers have no real understanding of the benefits of efficiency investments, making the value of an upgrade elusive and the complexity of the process an inhibition to participation. Utilizing a proactive on-the-ground outreach strategy that includes homeowner workshops as a central promotional tool, helped homeowners understand the value and benefits of the program and more easily navigate through the process. While some attendees may have been inspired to visit the program website or attend a workshop through a paid media impression, workshops attendance was principally promoted through cultivated earned media efforts and regional coordinator local promotion. This homeowner program best management practice served to increase consumer understanding, peak consumer interest and generate consumer demand.

6. **Regional Outreach Matters**. A central program approach included developing unique implementation strategies molded to each of six regions throughout the state. The same strategy that works well in Alameda County, may not yield the same results in Lake County. Moreover complementary program resources in Santa Barbara may differ from nearby San Luis Obispo. On-the-ground outreach teams worked with local governments, trade and consumer associations and complementary programs to develop a targeted customized implementation strategy for each region, serving as an effective approach to driving participation throughout the state and balancing the needs of local communities.

7. **Providing Rebates and Financing:** Upfront cost may be the single largest barrier to investment in energy efficiency retrofits. Providing financing that offers long repayment terms and low interest rates reduces monthly payments and makes energy efficiency upgrades possible for a diversity of people who may be challenged by upfront fees. However as shown by the low uptake of energy-efficient mortgages and slow ramp-up of IOU rebate programs, neither financing or rebates alone are not enough to enroll the consumer. A combination of both financing and rebates are essential to maximize participation. A third element of providing clear training on available financing products is also as critical. In counties that offered additional local rebates, financing, and consumer training the financial barrier appears to be reduced. Financing can also allow consumers to realize the benefit of their investment by

illustrating the savings of capital or break-even points over the term of the loan. As data becomes available a careful look at uptake rates as compared with available rebates and financial product availability would help further refine this practice.

8. **Leverage Assessments to Inspire Action.** Connecting property owners to building professionals who offer energy assessments is a critical step in increasing upgrade adoption. The statewide program connected homeowners to their choice of BPI and/or HERS Whole-House Home Energy Raters to provide building assessments, while helping homeowners understand the benefits of each assessment approach. A third integrated assessment pathway, the HERS BPC path, was launched late in the contract term but may serve to help reduce consumer confusion by drawing upon aspects of both methods. The property owner incentive program provided an additional kicker rebate for HERS Whole House Rating completion, while the Sonoma PACE pilot offered similar rebates for both BPI and HERS Whole House Ratings. In the LA PACE pilot, free commercial audits were performed resulting in millions of ft^2 of assessed property. For those homeowners attending homeowner workshops, nearly 2 in 3 (62%) connected with a contractor at the workshop; 1 in 2 (42%) scheduled or completed an assessment within 90 days, and 1 in 5 (22%) have begun an upgrade installation.

9. **Events Drive Awareness.** Forums, workshops and trainings provided excellent opportunities for increasing program awareness, enthusiasm and participation levels. Pre-event awareness activities such as tabling, canvassing and targeted group recruitment drove attendance. Moreover, well-timed events can be leveraged to produce significant earned media coverage, raise attendance, increase web hits, and escalate both the scheduling and completion of upgrades. Large-scale promotional campaigns like Home Energy Makeover Contests, piloted outside this contract, were also successful in raising interest in the program as indicated by increased web traffic, but were launched before workforce readiness and stakeholder awareness was adequately developed to leverage the opportunity. Drawing upon this lesson, Homeowner Upgrade Success Events were launched in the final months of the program to promote carefully fostered individual stories, give rise to additional earned media coverage and offer an upswing in assessments and upgrades. Each of these kinds of events should be considered for future awareness building.

10. **Value in Basic and Advanced Packages:** Providing consumers with both the Basic and Advanced upgrade package options is serving to move the market toward the whole-house approach. The Basic upgrade package is intended to serve only as an introductory program offering, although it may be a valuable incentive tool for deeper upgrade adoption. Anecdotal feedback from field advisors indicates that the basic package served as an inviting gateway to educate consumers and contractors to better understand the whole-house systems approach concept. Once engaged, only 4% of consumers chose the basic upgrade. In the end, 96% of consumers selected the advanced package as the better value choice. For this reason, it may be advantageous for the basic package to remain part of the program as an educational tool to incentivize the continued selection of the advanced package.

11. **Providing a Pathway for Enhanced Options will help Achieve Climate Goals:** In addition to the Basic and Advanced upgrade packages, consumers are offered a third upgrade package that includes the enhanced options of renewable energy generation, use of green building materials and other green options. As the program continues to grow in scale and both the marketplace and consumer become more prepared for deeper whole-house upgrades, providing the enhanced option pathway will become more crucial. Offering the enhanced package now provides both professionals and consumers a kind of road map for moving properties toward zero net energy and more substantial energy and greenhouse gas emission reduction potential. Particularly as other sectors like electric vehicle adoption continue to develop, load reductions will be increasingly important in enabling both energy reductions and grid contributions.

12. **Targeted Market Sector Roll-out Is Ideal.** With such a complex and nascent marketplace, simultaneous rollout of residential, multifamily and commercial program components would have been both prohibitive and potentially disruptive. Rather, the program utilized a targeted model that broadly launched the residential sector in its initial program phase. Commercial and multifamily sectors were layered in as the program developed in the form of regional Commercial PACE and localized multifamily pilot programs. Such efforts are in their beginning phases and should continue to be supported in future years to establish a broader whole-house market impact.

13. **Seek Continued Refinement.** Throughout the program period, the team continually sought to identify areas for improvement and refinement. Given the short implementation timeframe and limited utility job data provided, more thorough evaluation of best practices considering localized conditions, implementation strategies, climate zones or other factors will be advantageous to guide future program design and should continue to be identified beyond the contract term.

CHAPTER 5: SUSTAINABILITY PLAN

Energy Upgrade California On the Move—What Will Continue

Energy Upgrade California is in a state of transformation. Although State Energy Program ARRA funding concluded in March 2012, several other program resources will be sustained beyond this timeframe, including:

- ✓ IOU WHRPs, including the incentives for the 'basic' and 'advanced' packages
- ✓ ARRA funded Better Buildings Program (BBP) in Los Angeles, San Francisco, Sacramento, San Diego, Santa Barbara and Alameda
- ✓ ARRA funded Energy Efficiency and Conservation Block Grants (EECBG) in target jurisdictions
- ✓ PACE Pilot financing programs
- ✓ Statewide Integrated Web Portal

IOU Energy Upgrade California Programs

All four IOUs will continue to support Energy Upgrade California as their WHRP through the existing 2010-2012 portfolio cycle. This support will include continued availability of **consumer rebates** up to $4,000, **participating contractor training**, support and QA, and targeted **marketing and outreach** varied by region. In addition, initial draft regulations from the CPUC regarding the proposed 2013-2014 portfolio extension has proposed to increase utility support for Energy Upgrade California beyond 2012. Although the precise level of utility support for the program for both the remainder of 2012 and the 2013-2014 extension is presently unclear, it does appear that both regulatory agencies and utility partners are highly supportive of continuation and dedicated to the long-term market transformation.

Regional Programs

In addition to IOU support, local programs will continue in several areas of the state drawing upon a variety of funding sources and timelines from EECBG, BBP, and local resources. In general, most concurrent program funding ended in March 2012. A few programs like Fresno's Central Valley program and San Diego's multifamily whole building pilot program retain funding through June 2012. The Better Building Program, led by Los Angeles County and encompassing work in Alameda, Sacramento and Santa Barbara will continue through 2012. A few locations like Los Angeles may have other sources of funding that will sustain some level of services through 2012 or beyond. In addition, the four PACE pilot programs are set to continue beyond the contract term, although the level of available resources is being reduced. For instance, while the Los Angeles debt service reserve fund and the PACE district itself will continue to be active, the commercial audit program and targeted customer support enabled by SEP funds may not continue beyond 2012.

Statewide Web Portal

An effort is presently underway led by the CPUC to facilitate a pathway for continued support of the statewide integrated web portal through 2012. Assigned Commissioner's Ruling on use of statewide marketing, education and outreach funds to support Energy Upgrade California web portal in 2012 was issued on January 31, 2012 authorizing:

1. *Up to, but no more than, $588,000 collectively in 2012, from the Energy Efficiency statewide Marketing, Education, and Outreach (ME&O) budget, on maintenance and limited enhancements to the Energy Upgrade California program web portal.*
2. *SDG&E to enter into a contract with the LGC, who will continue its contractual relationship with RF, for maintenance and limited enhancements to the Energy Upgrade California web portal.*
3. *SDG&E to work with staff from Energy Division, Legal Division, and the Energy Commission to finalize such details as content ownership, licensing, and SOW.*
4. *PG&E, SDG&E, SCE and SCG shall work out any practical and logistical contractual and payment arrangements to facilitate the maintenance of and limited enhancements to the Energy Upgrade California web portal.*[30]

An agreement was reached and the contract went into effect on April 2, 2012, enabling the seamless transitioning of basic web portal maintenance beyond March 31, 2012.

Gaps in Program Continuity Moving Forward

Despite a strong foundation established through March 2012 and targeted continued program support beyond the contract term, it is recognized that the end of ARRA funding will result in several key areas of program discontinuity moving forward. These gaps are discussed in further detail below.

Program Governance

Program Governance refers to the work done in collaboration with the Steering Committee, statewide/local technical advisory committees (TAC), local government advisory committees (LGAC), coordination groups and other similar forums. Presently, the Energy Commission has agreed to support the continued facilitation of the monthly statewide steering committee and quarterly coordinating group meetings through June 2012. Discussions are underway with the CPUC for possible additional support of this function beyond June 2012, utilizing CPUC strategic planning funding. At this time, no funding has been identified to support work completed on a local/regional level through TACs and LGACs beyond March 2012, unless local programs are planning to cover this continued work through EECBG, BBP or related funds. Moreover, no support will be provided to enable the attendance or participation of any specific member of the steering committee, beyond minimal monies under consideration for meeting facilitation by a third party. This may result in reduced committee contributions and effect program implementation moving forward.

[30] http://docs.cpuc.ca.gov/EFILE/RULINGS/158541.htm

Web Portal Enhancement

The estimate for Energy Upgrade California portal basic maintenance and support activities includes server costs, bug fixes, software updates and integration, statewide content management, minimal contractor/rater registration, and web portal and dashboard reports. The estimate for moderate web portal enhancements and ongoing Energy Upgrade California directory update costs includes items such as Action Plan incentive and financial product management elements, statewide and local content management, full contractor/rater registration and directory management support. Both basic level and moderate effort have been proposed as part of the on-going maintenance of the web portal. Energy Upgrade California partner web portal governance support covers the LGC oversight costs, including coordination and management of the levels of review necessary to include information on the site, as well as costs of convening monthly and quarterly partner meetings and conference calls to handle issues as they arise. Finally, updating local government access to content management system ensures that the local government partners have limited ongoing ability to maintain the accuracy of the information posted about their programs. Web enhancements, such as major content changes, changes to the Action Plan, new directories or changes in the rebate structure, will not be supported beyond March 2012 by currently identified funding.

Website Content and Usability

The development of a comprehensive one-stop-shop web portal has been a cornerstone of this program. While the ongoing technical functionality of the site is critical, maintaining and developing relevant content and ensuring easy consumer use is just as important. The EnergyUpgradeCA.org web portal must be current, consistent and appropriate. Equally, it must be easy for users to access and navigate information relevant to their needs. Currently, this effort has been managed on statewide basis, allowing for brand and message consistency with a relatively high level of local customization for each local government partners requesting this service. The current website has constantly evolved to meet the many needs of different stakeholders and evolving program improvements over time. There is still work to be done to make it truly effective, including improving overall ease of use, the contractor and rater directory, and rebates and incentives information. Website content and usability must occur at a statewide level to ensure consistency and alignment with the rest of the program and site. A third party entity with expertise in content and usability that can work with both IOUs and local governments should be in charge of managing this effort. The following communications gaps in web portal enhancement and usability are presently identified:

- **Enhance web content** to make it easier to use and capture higher conversion rates.
- **Maintain and enhance county customization level** in order to maintain local loyalty to the web portal, promote local events, news and features and be able to promote local programs.
- **Search engine optimization to** increase ranking of the Energy Upgrade California portal on organic search results when users use keyword search terms and vastly improve awareness of the site to a larger percentage of the potential target audience.

Marketing, Education & Outreach (ME&O)

Within less than one year of the official launch, Energy Upgrade California showed clear traction and a positive uptake of projects and consumer recognition. Statewide marketing efforts, under the direction of the Energy Commission, and funded in larger part by ARRA, ended March 31, 2012 and most regional marketing ended in March of 2012. The marketing silence will severely threaten the market transformation effort. The marketing budgets that the IOUs have allocated for this effort may be too limited to maintain the program momentum and meet the Energy Commission's participation goals. To date, the marketing and outreach effort has focused on pulling consumers to the website and contractors, building awareness, and increasing demand. The following best practices are identified to build program demand, although precise ongoing support for these methods has not yet been secured.

- **Regional coordination**, including high-touch, person-to-person marketing, education and outreach to targeted audiences through on-the-ground implementation of specific, multifaceted outreach tactics such as homeowner workshops, awareness activities, complementary program coordination, earned media cultivation, social media, advertising, canvassing and/or direct mail;
- **Workforce development support**, education and supplemental trainings to maintain and ensure a ready workforce;
- **Real estate, mortgage and lender professional support** to reduce barriers and expand adoption;
- **Statewide brand management**, message oversight and support;
- **Cultivated earned media** through coordinated public relations to sustain coverage at the local level and expand statewide coverage to reduce mixed messages, increase the brand awareness and leverage local effort and dollars;
- **Targeted paid marketing and advertising campaign** focused on radio, online and search engine marketing (SEM) connected to local efforts to boost awareness and demand;
- **Marketing support for new programs** (like financing and multifamily) anticipated to be expanded in/beyond 2012 to be appropriately integrated in the Energy Upgrade California materials, messaging and website;
- **Local government support** to sustain involvement of broad range of constituents, cities, stakeholders and affiliates and expand program reach and effectiveness;
- **PACE pilot support** through facilitation of opportunities for continued collaboration among programs, and more fulsome adoption of PACE financing and/or other innovative financing tools.

Each of these marketing, education and outreach components is discussed in greater detail below.

Regional Coordination (Person-To-Person ME&O)

A year after the initial unveiling of the Energy Upgrade California partnership and collective brand in January 2011, a second annual marketing summit was held to assess the effectiveness and best practices of the marketing, education and outreach efforts of the programs. One of the central themes was the connective tissue provided by "Ecology Action Style ME&O" identified by PG&E, several local governments, the CPUC and other stakeholders. This unique role was provided under this contract and included the

broad stakeholder coordination and engagement on a regional and local level by EA field teams. These efforts served both consumers and building professionals and aimed to reduce confusion, increase awareness and engagement and generate demand. During the contract term, EA regional coordination teams supported over 100,000 direct person-to-person interactions in an effort to engage stakeholders, answer questions, reduce barriers to participation and keep parties moving forward on the upgrade path. In addition to in-person, phone and email communications, the Program Team also fielded over 2,000 inquires via the web portal customer support tool Zendesk. Statewide field customer service was discontinued as of March 1, 2012. Interested stakeholders are being directed to ongoing utility and local government programs in order to serve this function beyond the contract term, although it is unclear what level of disruption this transition may stimulate. Zendesk inquires will continue to be handled by EA through March 2012, and LGC through April 2012. This connective tissue will not be continued beyond the contract term and represents a key program gap in keeping the momentum of the program moving forward. An ongoing support mechanism for web portal inquires is currently under consideration, although no funding has yet been identified for this task.

Workforce Development & Support

A significant effort under this contract sought to prepare a workforce readiness to support the increased consumer demand the program was concurrently seeking to generate. Workforce development included certification and non-certification training, as well as ongoing worker support as building professionals transitioned into higher levels of performance within this nascent marketplace. Although the program nearly doubled the number of BPI-BA trained workers and increased the numbers of HERS Whole-House Home Energy Raters, these professionals will continue to require assistance and support in order to become fully established as strong contributing members of the workforce pool. These certification courses were supported by a perhaps even more integral effort of providing supplemental training and assistance to contractors and raters just becoming comfortable with this new industry. Supplemental trainings included opportunities to better understand the processes and requirements of the program, financing training, Energy Pro software training, additional equipment training (extra time with blower doors and CAS testing), and sales and marketing training. These trainings should continue to be provided throughout 2012 and beyond, in strong coordination and/or led by the ongoing Workforce Investment Boards (WIB), Employment Development Departments (EDD), community college and utility implementer complementary programs to further worker confidence, compliance and performance quality as the program continues to be established.

Real Estate, Mortgage and Lender Support

In addition to direct worker support, peripheral industry workers were also supported through this contract in the form of real estate, mortgage and financial lender professional training and engagement. A successful two-part combined training workshop was launched in fourth quarter 2012, providing 34 trainings statewide and helping each party better understand both available financing opportunities as well as the various roles of each party in securing these products for their clients. This market offers significant

opportunity for increased program adoption and should continue to be supported beyond the contract term. At present no specific funding has been identified for this purpose, although existing resources could be leveraged in an ongoing effort such as California Association of Mortgage Professionals (CAMP), Build It Green (BIG) green real estate professional training, and Efficiency First Real Estate Council drawing upon the groundwork laid under this contract. Moreover engagement of the real estate community has only just begun and will require long-term support to reduce barriers and increase adoption at the time of sale. With careful cultivation of this effort, a significant opportunity for increased adoption can be realized.

Statewide Brand Management & Messaging

The foundation of the Energy Upgrade California marketing campaign is the Energy Upgrade brand and key messages. The brand is an essential element of every customer impression of Energy Upgrade California. It is critical to program uptake that every time a California consumers gets an impression of the brand, that impression is consistent and positive. Without strong and vigilant statewide brand management, the Energy Upgrade California brand is at risk of being diluted and likely misappropriated, from which it may be difficult to recover. Moving forward, the brand and messaging should be managed by a statewide entity, ideally a third party entity, which can provide equal attention and effort to the broad and diverse groups that are currently using the brand. Without strong statewide brand management, we risk losing the investment in the brand with consumers and contractors alike. Brand would become diluted and likely misappropriated, which would be difficult to recover from in 2013. The following best practices are identified by the Communications Provider to maintain the value of the brand:

- Maintain ongoing consensus building and education.
- Maintain and update Brand Guidelines.
- Maintain brand management on par with brand implementation.
- Conduct brand research to understand how audiences perceive the current brand.

On March 20, 2012, the CPUC issued a Proposed Decision (PD) regarding 2013-14 Transition Portfolio in which the CPUC makes several suggestions regarding the Energy Upgrade California brand. Generally, the CPUC indicates their support for the brand and requires the IOU's to include plans for supporting the brand for the duration of 2012 and expanding the brand in 2013 and 2014. However, the PD is currently making its way through the formal rulemaking process as governed by Chapter 1 of Title 20 of the California Code of Regulations and is not yet complete. The rulemaking process is expected to continue through April 2012.

The CPUC expressed a long-term commitment to Energy Upgrade CA in the proposed decision by Administrative Law Judge Darwin E. Farrar issued on March 20, 2012:

"*We expect to make a long-term commitment to the Energy Upgrade California program because we see it as a key market transformation component in California's energy efficiency portfolio. To that end, we direct the IOUs to propose a step-wise declining incentive structure over a 10-year period starting with the 2013-2014 period for Energy Upgrade California.*"

Cultivated Earned Media

The program benefited from a concerted earned media outreach effort which supported local on-the-ground outreach and education efforts by generating over 650 print, radio, television and online earned media coverage stories, and resulting in an estimated 28 million gross impressions in target regions. This reach was furthered by promoting compelling stories centered on local demand generation events and opportunities for stakeholder engagement like homeowner workshops, financing workshops and upgrade success events. Presently, no funding has been allocated for ongoing local or statewide earned media support beyond the contract term. PG&E has indicated that their intended ME&O strategy through June 2012 will likely include earned media necessary to support their targeted BMP homeowner workshops. Earned media linked to specific events like these workshops and trainings, should be considered in other regions as an effective tool to make limited ME&O dollars go farther.

Paid Marketing & Advertising

A targeted paid advertising focused on radio, online and search engine marketing (SEM) will boost awareness and help to build demand. This should be more targeted and connected to local efforts and not simply blanket the state equally. It is essential that these campaigns be maintained so that Energy Upgrade remains highly visible to the target audiences. Advertisements should focus on targeting consumers who are interested in doing any single upgrade (e.g. replacing HVAC) and retargeting consumers who have visited the Energy Upgrade website and shown interest. The effort should leverage the existing stable of creative ads. The number of impressions provided, and the resulting number of hits to the website, is directly related to the amount of money spent. At a minimum, the campaign should include a basic budget of at least $50,000/month for these media buys. This amount is likely insufficient to reach desired upgrade project numbers, but is essential to maintaining the current upward upgrade growth trajectory the program has been experiencing in recent months. Without a statewide campaign, the majority of the California public will not see any Energy Upgrade California media during 2012. This will indicate program instability and generate distrust in rebate reliability, reduce general brand resonance, and may reduce the number of visitors to the website and program participation.

Marketing Support for New Programs

In 2012, it is anticipated that two new program elements will be expanded--financing and multifamily. Commercial programs and the Home Energy Rating program may also be expanded and more robust. It is critical that these new elements be appropriately integrated in the Energy Upgrade California materials, messaging and website. Financing in particular has the opportunity to drive a substantial number of upgrades, but only if consumers, affiliates (real estate agents, architects etc.) and contractors are aware of the availability and details behind these elements. The launch of new programs should be managed and directed by a statewide, third party entity to ensure consistency, alignment with the rest of the program and to make sure that participants are engaged statewide.

Local Government Support

A critical piece of the success to date has been the active and extensive involvement of local governments in the Energy Upgrade California Program. They have been able to bring together a broad range of constituents, cities, stakeholders and affiliates to reach a larger audience than would be possible without them. Over $6 million was dedicated to outreach efforts in the first year of the program. Much of that funding was for building the networks and creating the infrastructure to deliver results. Moving forward, enabling those local governments to continue operating and maintaining those networks is essential to the success of the IOU program marketing plans and the program as a whole. Local government representatives should be supported in each utility region, working closely with the IOUs to share and leverage each other's strengths. Each area has a different level of need and resources. Each major region needs people to organize and maintain an active presence in the community.

PACE Pilot Support

All four PACE innovative financing pilots have been established for ongoing operation beyond the contract term. For those pilots who established financing tools using ARRA funds (debt service reserve fund and line of credit), oversight and coordination with the Energy Commission through the LGC contract will continue through 2017 (City of LA, SF, Sonoma). However, the services available in these pilot programs are subject to change beyond March 2012 based on the available local resources. For instance, ARRA funded enhancements such as free commercial audits in LA, hub-tool enhancement in Sonoma and outreach and marketing in Placer will not continue unless these agencies identify another source for ongoing support. As commercial PACE continues to gain attention in the early stages of implementation, program administrators are identifying specific and nuanced needs and challenges in the commercial buildings marketplace for creating demand for energy upgrades. Some of these issues include: the many different segments of the commercial buildings market; the widely varying interests, priorities and levels of sophistication within those segments, including their general interest in energy efficiency; which segments are naturally more suited for PACE financing; and the alternative methods that owners and managers already use to implement energy projects. There are significant challenges to overcome in establishing these programs, including the high initial startup costs and slow uptake of the introductory stage. Marketing efforts, promotion and technical assistance will be critical to converting the 780 audits completed to date (covering over 29 million ft^2 in commercial space) into upgrade projects.

Transparency and Accountability

In addition to the various marketing, education and outreach components above, all activities should be maintained by appropriate levels of tracking and reporting and quality assurance.

Tracking & Reporting

It is expected that ongoing tracking and reporting requirements will be adjusted to a level that would require significantly less ongoing resource support. During the contract term, early development of the Energy Upgrade California Data Warehouse began an effort to aggregate project data and provide various

levels of access for program partners and implementers that may increase the opportunity to target and refine program strategies. For instance, due to the delay in this tool, the Program Team has been unable to layer in upgrade completion results data by location with particular outreach efforts over time in a particular region. Without this level of data feedback, program administrators are challenged to provide real time and locally appropriate program refinements that maximize program outcomes and conversions. Presently, RF will be retained in a role of EM&V beyond the contract term to complete the Energy Upgrade California Data Warehouse. Current program implementers should be provided access to summary data and information beyond the contract term to evaluate and improve their implementation strategies even if continuous program implementation is not maintained.

Quality Assurance & Quality Control (QA/QC)

Quality assurance work under this contract completed an assessment of QA/QC measures and protocols by utility in an effort to provide transparency for building professionals and program implementers working within or between service territories and reduce the impact from multiple QA/QC visits to homeowners. In this effort, the team sought to improve worker accountability by increasing understanding of what protocols exist in which territories. This information has been provided to the Energy Commission and the CPUC for continued consideration. Through the venue of the coordinating committee, a request for increased consistency in these measures is being requested by some parties and should be considered for possible adoption beyond the contract term. At present this effort will be the responsibility to the two pertinent regulatory agencies to enforce and/or further beyond the contract term.

Opportunities for Long-Term Program Sustainability

Program implementation funding associated with this contract expired in March 2012. With the expiration of these funds, ongoing program continuity is at risk of experiencing gaps in the current level of program service and causing new market confusion at a time when momentum is growing. Like all market transformation programs, Energy Upgrade California is intended to become self-supporting over time and thus no longer require the ongoing support of outside funding. However, after just one year of implementation, the full market transformation is not yet complete. As is the case in other market transformation programs like the ten-year CSI program that supports the goal of one million solar roofs, Energy Upgrade California's tremendous potential for helping the CPUC and Energy Commission meet the ambitious regulatory and policy goals of achieving an average of 40% reduction in energy use in existing homes, described in Chapter 2, will require continued support.

Opportunities for ongoing program sustainability were touched on within each section above, and can be summarized into several categories:

(1) **EECBG, BBP and other Local Government Resources**—This effort will support highly targeted regional programs in just half a dozen jurisdictions to continue ME&O work through 2012 within their communities, but will no longer be able to leverage the multitude of concurrent programs and the connective tissue role previously provided by the statewide effort. While jurisdictions like Los Angeles may be well suited to supporting this effort in 2012, ongoing support must be identified from other locations in order maintain current resource levels.

(2) **Utility WHRP Administration, Rebates & Contractor Support**—This effort is supported by the existing 2010-2012 energy efficiency portfolio, already programmed to support ongoing rebates, contractor registration and training related to job tracking, safety and QA. Additional kicker rebates such as the Bay Area flat rate/matching rebates, as well as the statewide HERS Whole-House Home Energy Rating Rebate Program will be discontinued. Additional statewide subsidized BPI/HERS trainings, supplemental training in areas of software use, equipment competency, financing, networking and sales skills will cease. Ongoing contractor support will shift to utilities program implementers (BIG, CCSE, CBPCA/BKI) and third party certification program service providers (BPI, CalCERTS, etc.). At the time of this report, it is unclear whether IOUs may be able to allocate some portion of these funds to continued Energy Upgrade California support in 2012 and/or 2013-2014.

(3) **Utility ME&O Implementation**— This effort is supported by the existing 2010-2012 energy efficiency portfolio, already programmed to support ME&O activities related to Energy Upgrade California. Based on input provided at recent Steering Committees, this effort is estimated at a combined $2.5M for all four utilities through 2012 and will be invested by each utility based on their individualized assessment of best practices and in line with the programmed strategies presented at the 2012 marketing summit in Jan 2012. Best practices may include but are not limited to homeowner workshops, earned and paid media, contractor support and targeted collateral production. This may serve to support continuity beyond the contract term in 2012, but will be insufficient to provide the same level of service delivered under this ARRA SEP contract.

(4) **Local Government Partnership (LGP) Resources**—This effort is supported by the existing 2010-2012 energy efficiency portfolio and involves the utilization of utility LGP program funds in targeted locations for continued support of various aspects of the Energy Upgrade California program. LGP programs have been part of the coordination effort to date, where such programs are closely aligned with the Energy Upgrade California target audience and intended outcomes. As such, LGP resources in at least some of these regions may be well suited for continued or expanded Energy Upgrade California support. However, LGP programs are highly customized to each local region, and may not provide adequate funding for ongoing support in line with program desires. Notwithstanding this diversity, LGP resources may serve as a critical vehicle in some regions, especially where the current LGP program focus is substantially similar to Energy Upgrade California program target audience, goals and/or approach.

(5) **IOU Energy Efficiency Portfolio Extension**—Previous IOU energy efficiency portfolios were approved on a three-year cycle (the latest of which would have ended December 31, 2012). However, in proceeding R.09-11-014, the CPUC considered a new portfolio for 2013-2014. This two-year portfolio extension would serve as a transition period between the current three-year portfolio cycles and a new paradigm of longer-term cycles beginning in 2015. On March 20, 2012, the CPUC issued a Proposed Decision[31] (PD) offering guidance to the IOUs regarding their EE portfolios for 2013 and 2014 that included several recommendations for the Energy Upgrade California Program. These recommendations indicated the potential for ongoing support for the program, which if enacted, would leverage the momentum already generated through ARRA and IOU funding investments to date. The PD made its way through the formal rulemaking process as governed by Chapter 1 of Title 20 of the California Code of Regulations and on May 10, 2012 the CPUC issued a Decision solidifying the recommendations in the PD. The investor-owned utilities will use this guidance to form a portfolio of energy efficiency measures, and present plans to the CPUC on July 2, 2012. Then, the CPUC will review and approve a portfolio of energy efficiency programs and measures for 2013-2014.

(6) **Engage 360 Funding Reallocation**—This effort is currently under consideration within the CPUC public rulemaking process and provides a compelling opportunity for ongoing Energy Upgrade California support. As part of R.09-11-014, on October 13, 2011, Commissioner Mark Ferron, the lead on energy efficiency, issued an order that effectively discontinued the "Engage 360" program, an energy efficiency social networking effort. The order also asked parties to comment on the need for a statewide ME&O program for energy efficiency. On January 31, CPUC Commissioner Ferron issued a ruling directing the IOUs to expend up to $588,000 between April 1, 2012 and December 31 2012 to keep the Energy Upgrade California web portal up and running. This minimal funding allocation will come from the unspent ME&O funds from the IOU 2010-2012 portfolio, previously earmarked for Engage 360 to support Energy Upgrade California for the period beyond March 30, 2012, through the end of the calendar year. That ruling[32] reads, in part:

> *"The Energy Upgrade California program is an important and relatively new program in the utilities' portfolios designed to help consumers achieve greater energy efficiency savings. It represents an innovative programmatic approach to encouraging Californians to take a "whole building" view of the energy use in their homes and businesses. If successful, this program could become a model for other programs in the future."*

An agreement to secure this allocation went into effect in early April 2012. Beyond the maintenance of the web portal, no additional funding has been identified at this time, although the rulemaking process is still underway.

[31] In proceeding R.09-11-014
[32] http://docs.cpuc.ca.gov/efile/RULINGS/158541.pdf

(7) **Third-Party Funding (Grants, Foundations, Investor Contributions)**—Additional funding opportunities may be available through individualized funding requests to third party funding resources including grants, foundations and/or investor contributions. However, given the nascent marketplace, the complex stakeholder and regulatory landscape, and the high level of continuity of this market transformation program with the multifaceted and ambitious regulatory and policy goals identified throughout this document, continued funding support through this initial market transformation phase would ideally come from through regulatory sources identified above. Outside funding may better serve this program in years beyond the established market transformation, as many third party funders focus their resources to targeted expansion of established programs, which address a particular and specific gap or need. Moreover, a unified funding approach is anticipated to better ensure necessary statewide continuity between regions and utilities during this critical transformational stage.

Summary

In conclusion, Energy Upgrade California has successfully established itself as a long-term go-to resource to reduce barriers to upgrade adoption. Although the market transformation sought by this program has not yet reached the threshold by which ongoing public support is no longer required, significant headway has been achieved. Through efforts underway by the Energy Commission and the CPUC to continue to support the program beyond March 2012, Energy Upgrade California is poised to strengthen its role in helping the state and nation achieve the ambitious energy savings, greenhouse gas reduction and job creation goals before us.

CHAPTER 6: TECHNOLOGY

Technology

This chapter describes products produced or technology transfer activities accomplished during the contract term.

Public Release of Project Information:

Renewable Funding provided web analytics to stakeholders via a public reporting application located at https://analytics.energyupgradeca.org/reports.

Reports include:

1. User Accounts Created
2. Top Pages
3. Top Traffic Sources
4. Top Counties by Visitor Activity
5. Visitor Activity by County
6. Top Search Keywords
7. Total Contractors and Raters Registered by County
8. Top Counties by Contract and Rater Contacts
9. Total Contract and Rater Contacts by County
10. Monthly Reports

Web Sites and Internet Sites

Renewable Funding provided the technical support for the design, development, customization and maintenance of the Energy Upgrade California web portal at https://EnergyUpgradeCA.org/.

Additional web portals associated with this project are:

- https://commercial-pace.energyupgradeca.org/
- https://multifamily.energyupgradeca.org/
- https://analytics.energyupgradeca.org/reports
- https://hers2.energyupgradeca.org/users/sign_in

The commercial PACE web portal at https://commercial-pace.energyupgradeca.org/ provides information on the SEP-funded commercial financing programs in Sonoma, Los Angeles, San Francisco and Placer counties.

The multifamily web portal at https://multifamily.energyupgradeca.org/ provides information on the SEP-funded multifamily programs in Alameda, Los Angeles, Sacramento, San Diego and San Francisco counties.

Renewable Funding created an administrative interface for Ecology Action to view application information for the Whole-House Home Energy Rating rebates. The interface is located at https://hers2.energyupgradeca.org/users/sign_in and allows a user to login and view individual application data.

Also, information on the comparative ranking of the EnergyUpgradeCA.org site is available here: http://www.alexa.com/siteinfo/energyupgradeca.org#. As of February 2012 this site notes that the Energy Upgrade California web portal ranks in the top 150,000 websites in the United States. More specifically, the Energy Upgrade California site ranks 146,756 as compared to GoSolarCalifornia.org, which ranks 148,752.

Multifamily Navigation Tool

Vendors Stopwaste.org and PSD led the development of this task. Based on the meetings Stopwaste.org conducted with various stakeholder groups and strategic partners, PSD staff synthesized the feedback into detailed technical documentation (Functional Specification) that was the basis for the development of the solution. The new features that have been developed as a result of the requirements set forth in the Functional Specification include:

1. Integration with Funding Finder
2. Workflow Support
3. Better Buildings Data Support
4. The Job Report
5. Building Data Management
6. Benchmarking
7. Portfolio View
8. Building Comparison

The URL for the Compass Portfolio Tracker is http://euc-multifamily.greenenergycompass.org.
The site is fully integrated with the Navigator Funding Finder. Initial successes for this phase of the project are represented by deployment of the Compass Portfolio Tracker and provision of the user guide and other training materials to Stopwaste.org. Next steps include:

- Promotion of the Navigator Funding Finder and Compass Portfolio Tracker to users across the state looking to do upgrades or manage their portfolios.
- A statewide training program.
- Distribution of the first 8,000 units worth of free access to the Compass Portfolio Tracker.

ProMARS

To support the work of the stakeholder engagement field teams, Ecology Action created a web-based Project Management and Reporting System (ProMARS), with the following major components:

- Activities Manager: planning and logging staff's field activities
- Announcements: information for the staff about the project and ProMARS itself
- Calendar: a schedule of project events
- Knowledgebase: a repository of materials and information for the project
- Contacts: a centralized collection of contact information
- Factoids: FAQs on common project topics
- Punchlist: items requiring special attention
- Marcom: a request and fulfillment service for the marketing team

The ProMARS system was built using open source, web-based technologies, primarily the Drupal collaboration platform. During the contract term, over 8,000 activity and 6,000 contact records were entered.

*At the end of the LGC contract, Ecology Action will deliver copies of the database and program to the Energy Commission for further use, or storage. Should the Energy Commission want to have the ProMARS system functioning as an active resource, they would need to secure server and IT support to keep the system active and accessible to external teams and team members.

Networks or Collaborations Fostered

The Energy Upgrade California web portal relies on a data feed from the Engage 360 Rebate Finder, located at http://www.engage360.com/index.php?option=com_rebate&view=rebate&Itemid=314 to populate the Rebate and Incentive Directory. The data feed is provided daily through a direct deposit to a FTP site and includes information on utility and regional rebates and incentives for energy efficiency measures. The Engage 360 site also provides the user interface for local rebate administrators to add, edit or delete their rebates and incentives.

Additionally, Renewable Funding utilized an on-line software tool called Zendesk to receive, assign, respond, track and report customer service inquiries that were sent to @EnergyUpgradeCA.org email addresses. Various partners were provided user accounts within Zendesk so that inquiries could be assigned to the appropriate person within a region or for a specific topic. Local Government Commission, Ecology Action, MIG, Energy Commission, and many other program partners were provided with user accounts to provide a high level of customer support.

Technologies and Techniques Developed

Renewable Funding built the Energy Upgrade California web portal on its proprietary, pre-existing platform. User rights have been granted to the Energy Commission for use of this pre-existing technology and all customization of the platform under this contract. All new platform features' code is provided in a quarterly deposit into an escrow account.

Other Products

Other products, such as data or databases, physical collections, audio or video, software or net ware, models, educational aids or curricula, instruments or equipment include:

Databases Used to Power the Energy Upgrade California Portal

- **Contractor and Rater Database:** This database was built from lists provided by the IOU rebate administrators and CalCERTS. The database includes information such as company name, email, address, website, counties served, languages spoken, credentials, and description.
- **Rebate and Incentive Database:** This database is built from a web service provided by the Engage 360 Rebate Finder. Some additional rebates have been hard coded in order to present a comprehensive list of whole-house rebates.

Additionally, there are several activity logs and other stored data that may be useful in the evaluation of the program, such as:

- Whole-House Home Energy Rating application information
- User account information including name and email address
- Action Plan use information including only the street address

Invoice and Performance Trackers

To support the work of the invoicing and contracts administration team, we developed numerous spreadsheets and trackers for the continual tracking of contract spending to date, projected spending forward by month to the end of term, expenses to date for all partners and subs, percentage of goal with each update, approved amendments and changes, issues submitted, submission of deliverables, and planned retention and trigger points. By utilizing these tools we have been able to continually have an up-to-date status of the programs funds at all times and ensure transparency and clarity in tracking the program. At the end of the LGC contract, Ecology Action will deliver copies of the overall program status and projection spread sheets for the Program Team, with updates through the last invoice processed by Ecology Action.

Rebate Tracking and Fraud Prevention

A database and processor was developed in Microsoft Access to match HERS Whole House Rebate applications with the CalCERTS registry of completed whole-house ratings each week. The processor matches applicants with CalCERTS files based on combinations of their first name, last name, address, phone number, and zip code. Duplicate properties are purged from the files, and changes to the program required it to be able to withhold pay for test-ins in the Sonoma, SMUD and Fresno areas—these features eliminate the risk of applicants getting rebates from two separate programs. Processes were also put in place to collect attestation forms verifying property ownership and completion of a whole-house upgrade before test-outs were paid. The process also allowed us to find duplicate payees (i.e. landlords) so that W-9 forms could be collected for those receiving more than $600 in a calendar year. At the end of the contract, Ecology Action will deliver copies of the HERS rebate processor and flow chart diagram.

CHAPTER 7: SCHEDULE OF DELIVERABLES

Deliverables

A list of deliverables, descriptions, due dates and dates of delivery is presented below.

Schedule of Deliverables

(Post Formal Amendment #2)

NEW! Updated Schedule of Deliverables Based on 12-30-10 (AG Approved) Schedule & Adjusted Deliverables Approved in Formal Amendment #1 (10/26/11) & Extended Agreement Date Approved in Formal Amendment #2 (3/26/12)*

Revised 4-18-12

	LGC						Internal Tracking								
tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
	1.0	1.0	Administration		10/28/10	4/30/12									
a	1.1	A	Kick-off Meeting	Updated List of Leveraged Funds	11/4/10	12/3/10	EA/LGC	ALL	Y	X	11/9/10				4/7 LA, Placer & SF, and 4/26 Sonoma
b	1.1	A	Kick-off Meeting	Updated List of Permits	11/4/10	12/3/10	EA/LGC	ALL	Y	X	11/9/10				4/7 LA, Placer & SF, and 4/26 Sonoma
c	1.1	A	Kick-off Meeting	Updated Schedule of Deliverables	11/4/10	12/3/10	EA/LGC	ALL	Y	X	11/9/10				4/7 LA, Placer & SF, and 4/26 Sonoma
d	1.1	A	Kick-off Meeting	Updated Gantt Chart	11/4/10	12/3/10	EA/LGC	ALL	Y	X	11/9/10				4/7 LA, Placer & SF, and 4/26 Sonoma
e	1.1	A	***CCM Deliverables***	Meeting Agenda List of Expected Participants	11/4/10	2/1/12			Y	X	CCM				
a	1.2	B	Invoices	Invoices for all allowable expenses Documentation as needed to support invoices	11/15/10	4/30/12	EA/LGC	ALL	Y	X	OG		weekly-monthly		Recent Submissions: Invoices 30, 31A-E; 32-34; Final Invoice Estimate Submitted 4/9/12; Final Invoice by 4/30/12
a	1.3	C	Subcontractors	Notices of new proposed subcontractors	11/15/10	4/30/12	EA/LGC	ALL	Y	X	OG		as needed		21 subcontractor, sub-subcontractor or vendor agreements
b	1.3	C	Subcontractors	Agreements with subcontractors	11/15/10	4/30/12	EA/LGC	ALL	Y	X	OG		as needed		Recent execution: LGC/CDD-LA Subcontract.
a	1.4	D	Monthly Progress Reports	Monthly Progress Reports	11/15/10	4/30/12	EA/LGC	ALL	Y	X	OG		with monthly invoices		Final invoice report #34 by 4/30/12
a	1.5	E	Critical Program Review (CPRs)	CPR Report (for each CPR)	1/4/11	1/30/12	EA/LGC	ALL	Y	XX	CPR1 3/10/11; CPR2 7/31/11				Completed.
b	1.5	E	Critical Program Review (CPRs)	Ancillary data and documentation (as required)	1/4/11	1/23/12	EA/LGC	ALL	Y	XX	CPR1 3/10/11; CPR2 7/31/12				Completed.
c	1.5	E	Critical Program Review (CPRs)	Summary of Program metrics attributable to leveraged funding	1/4/11	1/23/12	EA/LGC	ALL	Y	XX	CPR1 3/10/11; CPR2 7/31/13				Completed.
d	1.5	E	***CCM Deliverables***	Agenda List of Expected Participants	1/4/11	1/30/12			YY	XX	CCM				
e	1.5	E	***CCM Deliverables***	Schedule for Written Determination	1/4/11	1/30/12			YY	XX	CCM				
f	1.5	E	***CCM Deliverables***	Written Determination	1/4/11	1/30/12			YY	XX	CCM				
a	1.6	F	Final Report	Draft Outline of the Final Report	12/15/11	2/1/12	EA/LGC	EA/LGC	Y	X	1/17/12				Template provided by CEC

Schedule of Deliverables

(Post Formal Amendment #2)

tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
b	1.6	F	Final Report	Final Outline of the Final Report	1/2/12	3/1/12	EA/LGC	ALL	Y	XX	2/8/2012; 2/17/12				Feedback from CEC on 2/8 version; Revision submitted 2/17 utilized in Draft Final Report
c	1.6	F	Final Report	Draft Final Report	1/30/12	3/16/12	EA/LGC	ALL	Y	X	3/9/12				Reflects dates outlined in 2/8/12 email from Christine Collopy, following the Formal Amendment Business Meeting
d	1.6	F	Final Report	Final Report	3/15/12	4/13/12	EA/LGC	ALL	Y	X	4/18/12				Reflects dates outlined in 2/8/12 email from Christine Collopy, following the Formal Amendment Business Meeting
a	1.7	G	Final Meeting	Written documentation of meeting agreements and all pertinent information	3/1/12	4/16/12	EA/LGC	ALL	N/A	N/A	12/15/11 guidance = this no longer required				12/15/11 CEC provided Closeout webinar serving this purpose; identified no final meeting would be required; additional guidance obtained through ongoing weekly meetings.
b	1.7	G	Final Meeting	Schedule for completing closeout activities	1/2/12	4/2/12	EA/LGC	ALL	N/A	XX	2/29/2012; 3/27/12				12/15/11 CEC provided Closeout webinar serving this purpose; identified no final meeting would be required; additional guidance obtained through ongoing weekly meetings; EA/LGC memo submitted 2/29; RF web portal memo 3/27/12
c	1.7	G	***CCM Deliverables***	Final Report Instructions Agenda List of Expected Participants	1/2/12	2/1/12	CCM	CCM	Y	12/15/2011 WEBINAR	CCM				
a	1.8	H	Leveraged Funds	Letter regarding leveraged funds or stating that no leveraged funds are provided	11/4/10	2/3/11	EA/LGC	ALL	Y	X	11/9/10				4/7 LA, Placer & SF, and 4/26 Sonoma
b	1.8	H	Leveraged Funds	Letter(s) for new leveraged funds	11/4/10	4/30/12	EA/LGC	ALL	Y	X	1/26/11		as needed		Revisions submitted
c	1.8	H	Leveraged Funds	Copy of each leveraged fund commitment letter	11/4/10	4/30/12	EA/LGC	ALL	Y	XXXX	11/9/2010; 1/26/11; 10/21/11		as needed		4/7 LA, Placer & SF, and 4/26 Sonoma
d	1.8	H	Leveraged Funds	Letter that leveraged funds were reduced (if applicable)	11/4/10	4/30/12	EA/LGC	ALL	Y	X	10/21/11		as needed		Revision during formal amendment#1
a	1.9	I	Permits and CEQA Review	Letter documenting the permits or stating that no permits are required	11/4/10	4/30/12	EA/LGC	ALL	Y	X	11/9/10		as needed		4/7 LA, Placer & SF, and 4/26 Sonoma
b	1.9	I	Permits and CEQA Review	Updated list of permits as they change during the term of the Agreement	11/4/10	4/30/12	EA/LGC	ALL	N/A	N/A	N/A		as needed		n/a

Schedule of Deliverables

(Post Formal Amendment #2)

tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
c	1.9	I	Permits and CEQA Review	Updated schedule for acquiring permits as it changes during the term of the Agreement	11/4/10	4/30/12	EA/LGC	ALL	N/A	N/A	N/A		as needed		n/a
d	1.9	I	Permits and CEQA Review	Copies of any each approved Permit (including air quality)	11/4/10	4/30/12	EA/LGC	ALL	N/A	N/A	N/A		as needed		n/a
a	1.10	J	Deliverables	Letter requesting exemption from the electronic file format (if applicable)	11/4/10	4/30/12	EA/LGC	ALL	Y	X	OG		OG		All deliverables to be submitted by 4/30/12; Adjustments may be made for those partners continuing under the extended contract term through 2017.
a	1.11	K	Advisory or Steering Committee Participation	Meeting agendas	11/4/10	4/30/12	EA/LGC	ALL	Y	X	OG		OG		Collected ongoing throughout term; to be submitted via ftp site by 4/30/12
b	1.11	K	Advisory or Steering Committee Participation	Comments to be summarized in monthly reports	11/4/10	4/30/12	EA/LGC	ALL	Y	X	OG		with invoice reports		Summarized in monthly invoice reports; weekly CEC-LGC meeting minutes emailed regularly throughout term
a	1.12	L	Prevailing Wage Determinations and Weekly Certified Payrolls	Copies of applicable wage determinations. Weekly certified payrolls (if applicable).	11/4/10	12/3/10			N/A	N/A	N/A				
a	1.13	M	Historic Preservation Consultation	Consultation Package	11/4/10	4/30/12	EA/LGC	ALL	Y	X	3/28/11 Letter; 4/27/11 determination	IP		Apr-12	Completed; New consultation related to Line of Credit being pursued by Sonoma/LGC
a	1.14	N	Waste Management Plan	Waste Management Plan	11/4/10	4/30/12	EA/LGC	ALL	Y	XX	3/7/2011; 3/12/12; 4/6/12				Final plan reflects 3/29/12 CEC Legal Meeting direction to be limited to those projects supported by the Line of Credit to be submitted by Sonoma/LGC; March 2011 version deemed compliant for overall statewide program; additional plans may be required for SF and LA under this extended contract once projects begin.
			Technical Tasks		**10/28/10**	**3/30/12**			N/A	N/A	N/A				
a	**2.0**	**2.0**	**Technical Tasks/Program Delivery**		**10/28/10**	**3/30/12**			N/A	N/A	N/A				
a	2.1-1	2.1	Draft Implementation Plan	Draft Implementation Plan	11/1/10	12/10/10	EA/LGC	ALL	Y	X	12/1/10				Completed.
b	2.1-1	2.1	Draft Implementation Plan	Supporting materials	11/1/10	12/10/10	EA/LGC	ALL	Y	X	12/1/10				Completed.
c	2.3	2.1	Draft Implementation Plan	Two (2) Draft Pilot Implementation Plans	10/28/10	4/30/12	LA/SC	EA/LGC	Y	X	Sonoma, LA, Placer, SF				Completed.
a	2.1-2	2.1	Final Implementation Plan	Final Implementation Plan	12/1/10	1/31/11	EA/LGC	ALL	Y	X	12/29/10				Completed.
b	2.1-2	2.1	Final Implementation Plan	Supporting materials	12/1/10	1/31/11	EA/LGC	ALL	Y	X	12/29/10				Completed.

Schedule of Deliverables

(Post Formal Amendment #2)

tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
c	2.3	2.1	Final Implementation Plan	Two (2) Final Pilot Implementation Plans	10/28/10	4/30/12	LA/SC	EA/LGC	Y	X	Sonoma, LA, Placer, SF				Completed.
a	2.1-3	2.1	Sustainability Plan	Long-Term Sustainability Plan	11/1/10	4/30/12	EA/LGC	ALL	Y	X	3/9/12; 4/18/12				Folded into Final Report per CCM direction
b	2.1-3	2.1	Sustainability Plan	Supporting materials	11/1/10	4/30/12	EA/LGC	ALL	Y	X	October 2011-March 2012				Supporting documentation provided 3rd Quarter 2011 and 4th Quarter 2012 to support CEC/CPUC planning efforts
c	2.1-3	2.1	Sustainability Plan	Progress reports on implementation	11/1/10	4/30/12	EA/LGC	ALL	Y	OG	OG		monthly, in invoice reports		Submitted with invoices.
a	2.3	2.1	Pilot Program Replication	Meeting summaries by local governments	10/26/11	4/30/12	LA/SC/SF/PC	EA/LGC	ot	IP			repeated deliverable under 2.5		Sonoma is the lead on this deliverable on behalf of all the pilots.
b	2.3	2.1	Pilot Program Replication	PACE Replication Model Start-Up Kit	10/26/11	4/30/12	LA/SC/SF/PC	EA/LGC	Y	X	3/29/12		repeated deliverable under 2.5		Sonoma is the lead on this deliverable on behalf of all the pilots; to be referenced in Final report; Submitted via FTP due to size.
c	2.3-2	2.1	Pilot Program Replication	Case Studies/BMPs/Lessons Learned	10/26/11	4/30/12	LA/SC/SF/PC	EA/LGC	Y	X	3/29/12		repeated deliverable under 2.5		Sonoma is the lead on this deliverable on behalf of all the pilots; contained within the Replication Plan.
a	2.1-7	2.2	Design and Implement Web Portal	Draft Energy Upgrade California Web Portal Design	10/29/10	4/30/12	RF/MIG	ALL	Y	X	12/17/10				Compiled content document for CEC and IOU review
b	2.1-7	2.2	Design and Implement Web Portal	Final Energy Upgrade California Web Portal Design	12/31/10	4/30/12	RF/MIG	ALL	Y	X	4/1/12				Final code into data escrow on 4/1/12
c	2.1-7	2.2	Design and Implement Web Portal	Draft Web Portal Content for Information and County Pages	11/15/10	4/30/12	RF/MIG	ALL	Y	X	12/17/10				Compiled content document for CEC and IOU review
d	2.1-7	2.2	Design and Implement Web Portal	Final Web Portal Content for Information and County Pages	12/15/10	4/30/12	RF/MIG	ALL	Y	X	4/1/12				Final code into data escrow on 4/1/12
e	2.1-7	2.2	Design and Implement Web Portal	Draft Web Portal Functionality and Database Structure	10/28/10	4/30/12	RF/MIG	ALL	Y	X	12/17/10				Compiled content document for CEC and IOU review
f	2.1-7	2.2	Design and Implement Web Portal	Final Web Portal Functionality and Database Structure	1/4/11	4/30/12	RF/MIG	ALL	Y	X	4/1/12				Final code into data escrow on 4/1/12
g	2.1-7	2.2	Design and Implement Web Portal	Draft Content Protocols for County Uploads	11/15/10	4/30/12	RF/MIG	ALL	Y	X	6/28/11				Initial Local Customization Style Guide
h	2.1-7	2.2	Design and Implement Web Portal	Final Content Protocols for County Uploads	12/15/10	4/30/12	RF/MIG	ALL	Y	X	8/22/11				Local Customization materials delivered to EA
i	2.1-7	2.2	Design and Implement Web Portal	Draft Terms of Use	11/15/10	4/30/12	RF/MIG	ALL	Y	X	1/20/11				Completed.
j	2.1-7	2.2	Design and Implement Web Portal	Final Terms of Use	12/15/10	4/30/12	RF/MIG	ALL	Y	X	2/14/11				Completed.
l	2.1-7	2.2	Design and Implement Web Portal	Draft data safeguards	11/15/10	4/30/12	RF/MIG	ALL	Y	X	1/20/11				Completed.

Schedule of Deliverables

(Post Formal Amendment #2)

tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
m	2.1-7	2.2	Design and Implement Web Portal	Final data safeguards	12/15/10	4/30/12	RF/MIG	ALL	Y	X	2/14/11				Completed.
a	2.1-8	2.2	Customize Web Portal	Draft Energy Upgrade California Web Portal Customized Design	12/15/10	4/30/12	RF/MIG/ LA/SC/SF/P C	ALL	Y	X	12/17/10				Compiled content document for CEC and IOU review
b	2.1-8	2.2	Customize Web Portal	Final Energy Upgrade California Web Portal Customized Design	3/15/11	4/30/12	RF/MIG/ LA/SC/SF/P C	ALL	Y	X	4/1/12				Final code into data escrow on 4/1/12
c	2.1-8	2.2	Customize Web Portal	Draft Integration Plan for Multi-Family Project Development Tool	1/14/11	4/30/12	RF/MIG	EA/ALL	Y	X	6/1/11				Initial Business Requirement Document (BRD) drafted under ABAG contract
d	2.1-8	2.2	Customize Web Portal	Final Integration Plan for Multi-Family Project Development Tool	6/1/11	4/30/12	RF/MIG	EA/ALL	Y	X	7/8/2011; 1/20/12; 3/30/12; 4/1/12		OG		Final approval of BRD from StopWaste 7/8/11; Final Technical Specifications from PSD 1/20/12; MIG Web Content Integration Plan 3/30/12 reflected below; Escrow push 4/1/12; Final documentation by 4/30/12
a	2.1-9	2.2	Maintain Web Portal	Beta Website for Testing Prior to Public Launch	10/28/10	4/30/12	RF/MIG	ALL	Y	X	1/18/11				Completed.
b	2.1-9	2.2	Maintain Web Portal	Integrated Public Website	10/28/10	4/30/12	RF/MIG	ALL	Y	X	2/14/2011; 4/1/12		OG		Final code into data escrow on 4/1/12
c	2.1-9	2.2	Maintain Web Portal	Summary of Monthly Website Statistics, Portal Improvements and Enhancements	10/28/10	4/30/12	RF/MIG	ALL	Y	X	3/7/12		monthly; anytime web ap		Submitted monthly; final report through Feb 2012
d	2.1-9	2.2	Maintain Web Portal	Management Plan for Content Protocol	10/28/10	3/15/11	RF/MIG	ALL	Y	X	3/15/11				Completed.
a	2.1-10	2.3	Workforce Development	Workforce Inventive Program Plan	11/1/10	4/30/12	EA	ALL	Y	X	3/21/11				Completed.
b	2.1-10	2.3	Workforce Development	Regional Complementary Programs List	12/1/10	4/30/12	EA	ALL	Y	X	3/10/11; 12/23/11				Initial list with CPR #1; 2nd list 12/23/11; final list by 4/30/12
a	2.1-10	2.3	~~HERS II and BPC Integration~~	~~HERS II Integration Plan~~	~~10/26/11~~	~~4/30/12~~	MIG	ALL	r	r	removed	CEC requested delay or change			By CEC Request, MIG is not completing this deliverable. Confirmation via email from Christine Collopy on 2/29/12.
b	2.1-10	2.3	HERS II and BPC Integration	Updated messaging & marketing collateral	10/26/11	4/30/12	MIG	ALL	Y	X	2/6/12				Completed.
c	2.1-10	2.3	HERS II and BPC Integration	Web portal content to support HERS II integration and Incentive program rollout	10/26/11	4/30/12	MIG	ALL	Y	X	1/12/12	IP; CEC requested delay or change			Completed; Under Whole House Home Energy Rating Web Content
d	2.1-10	2.3	HERS II and BPC Integration	Curriculum development for HERS II orientation	10/26/11	4/30/12	MIG	ALL	Y	X	12/15/11				BASICS Marketing and Sales Training
e	2.1-10	2.3	HERS II and BPC Integration	Additional deliverables as agreed to in writing by CCM and MIG	10/26/11	4/30/12	MIG	ALL	Y	X	4/30/12				Listed below in purple lines 84-92

Schedule of Deliverables
(Post Formal Amendment #2)

tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
f	2.1-10	2.3	HERS II and BPC Integration	HERS Whole House Home Energy Rating Webinar for Program Partners	10/26/11	4/30/12	MIG	ALL	Y	X	10/20/11				Completed.
g	2.1-10	2.3	HERS II and BPC Integration	Whole-House Home Energy Rating Webinar for Home Energy Raters	10/26/11	4/30/12	MIG	ALL	Y	X	11/21/11				Completed.
h	2.1-10	2.3	HERS II and BPC Integration	Home Energy Rating Focus Group Report	10/26/11	4/30/12	MIG	ALL	Y	X	12/12/11				Completed.
i	2.1-10	2.3	HERS II and BPC Integration	Home Energy Rating Market Research and Findings PowerPoint Presentation	10/26/11	4/30/12	MIG	ALL	Y	X	12/12/11				Completed.
j	2.1-10	2.3	HERS II and BPC Integration	Home Energy Rating Stakeholder Interview Report	10/26/11	4/30/12	MIG	ALL	Y	X	12/12/11				Completed.
k	2.1-10	2.3	HERS II and BPC Integration	Whole-House Home Energy Rating Web Content	10/26/11	4/30/12	MIG	ALL	Y	X	1/12/12				Completed.
l	2.1-10	2.3	HERS II and BPC Integration	Building Science Brochure	10/26/11	4/30/12	MIG	ALL	Y	X	1/18/12				Completed.
m	2.1-10	2.3	HERS II and BPC Integration	Energy Upgrade California Technical Photography Library and Guidelines	10/26/11	4/30/12	MIG	ALL	Y	X	1/19/2012; 3/7/12				Completed.
n	2.1-10	2.3	HERS II and BPC Integration	Whole-House Home Energy Rating Evergreen Brochure	10/26/11	4/30/12	MIG	ALL	Y	X	3/29/12; 4/18/12				Completed; Submitted to EA 3/29/12; Submitted to CEC 4/18/12
a	2.1-12	2.3	Outreach, Marketing and Customer Support	Draft Incentive Design Plan	10/28/10	3/30/11	EA/MIG	ALL	Y	X	12/29/11				Completed.
b	2.1-12	2.3	Outreach, Marketing and Customer Support	Final Incentive Design Plan	10/28/10	6/1/2011; 9/15/11	EA/MIG	ALL	Y	X	5/17/11 wireframes provided; ongoing memos; 9/15/11 final plan				Completed.
c	2.1-12	2.3	Outreach, Marketing and Customer Support	Incentive Program Design Templates	10/28/10	6/30/11; 9/15/11	MIG/EA	ALL	Y	X	9/15/11	initial template provided; final incorp above			Remaining completed under HERS II and BPC Integration
d	2.1-12	2.3	Outreach, Marketing and Customer Support	Draft Marketing Toolkit	10/28/10	2/28/11	MIG	ALL	Y	X	2/28/11				Completed.
e	2.1-12	2.3	Outreach, Marketing and Customer Support	Final Marketing Toolkit	11/16/10	4/30/12	MIG	ALL	Y	X	3/30/12; 4/18/12	Refresh Complete			Regularly updates to resource library as new materials are finalized; Final in resource library, escrow account push 4/1/12; Submission to AE 3/30/12; Submission to CEC 4/18/12
f	2.1-12	2.3	Outreach, Marketing and Customer Support	Draft Program Logos and Promotional Tools	10/28/10	2/28/11	MIG	ALL	Y	X	2/28/11				Completed.
g	2.1-12	2.3	Outreach, Marketing and Customer Support	Final Program Logos and Promotional Tools	11/16/10	4/29/11	MIG	ALL	Y	X	4/29/11				Completed.

Schedule of Deliverables

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tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
h	2.1-12	2.3	Outreach, Marketing and Customer Support	Draft Protocols for using logos and promotional tools	11/15/10	4/29/11	MIG	ALL	Y	X	4/29/11				Completed.
i	2.1-12	2.3	Outreach, Marketing and Customer Support	Final Protocols for using logos and promotional tools	12/15/10	4/29/11	MIG	ALL	Y	X	4/29/11				Completed.
j	2.1-12	2.3	Outreach, Marketing and Customer Support	Education, outreach and promotional materials for each Region	11/1/10	4/30/12	MIG/EA	ALL	Y	X	12/9/11; 4/1/12				Major elements in resource library; samples of regional flyers submitted 12/9/11; Final is escrow account push 4/1/12
k	2.1-12	2.3	Outreach, Marketing and Customer Support	Curriculum Designs for Training Seminars	10/28/10	3/1/11	EA/MIG	ALL	Y	X	3/1/11				Completed.
l	2.1-12	2.3	Outreach, Marketing and Customer Support	Summary of proposed TV/Print/Radio adverts or PSAs (media plan and implementation)	10/29/10	Ongoing	MIG/EA	ALL	Y	X	MIG submitted Media plan to Christine circa 4/2011		monthly, in invoice reports		Reports submitted monthly; final with final invoice report
m	2.1-12	2.3	Outreach, Marketing and Customer Support	Stakeholder engagement metrics as indicator of promotional reach	7/1/11	4/30/12	EA	ALL	Y	X	OG		monthly, in invoice reports		Submitted monthly.
n	2.1-12	2.3	Outreach, Marketing and Customer Support	Materials designs, signage, participant awards	10/28/10	4/30/12	MIG/EA	ALL	Y	X	in resource library	Refresh Complete			In resource library; Final is escrow account push 4/1/12
o	2.1-12	2.3	Outreach, Marketing and Customer Support	Summary of program incentive measures and their effectiveness	10/28/10	4/30/12	EA/MIG	ALL	Y	X	3/9/12; 4/18/12				Regular updates to CEC since launch; final within final report
p	2.1-12	2.3	Outreach, Marketing and Customer Support	Draft promotional designs, plans, and procedures	11/1/10	2/28/11	MIG	ALL	Y	X	2/28/11				Completed.
q	2.1-12	2.3	Outreach, Marketing and Customer Support	Final promotional designs, plans, and procedures	11/1/10	4/30/12	MIG	ALL	Y	X	3/29/12; 3/30/12; 4/18/12				Training 3/29/12; Final Updated Brand Guidelines 3/30/12 to EA; Submitted to CEC 4/18/12
r	2.1-12	2.3	Outreach, Marketing and Customer Support	Summaries of customer service contacts, call logs and similar data (to be included in the Monthly Progress Report, as appropriate)	10/28/10	4/30/12	EA	ALL	Y	X	OG		monthly, in invoice reports		Submitted monthly in invoice reports; available within promars
s	2.1-12	2.3	Outreach, Marketing and Customer Support	Customer service support tools	10/28/10	4/30/12	EA/MIG	ALL	Y	X	3/30/12; 4/18/12				In resource library; Final is escrow account push 4/1/12; deliverable summary to EA on 3/30/12; Submitted to CEC 4/18/12
t	2.1-12	2.3	Outreach, Marketing and Customer Support	Report summarizing customer satisfaction feedback obtained from property owner	10/28/10	4/30/12	EA/MIG/RF	ALL	Y	X	3/9/12; 4/18/12				Homeowner Survey; presented within final report
u	2.1-12	2.3	Outreach, Marketing and Customer Support	ABAG Cooperative Marketing Guidelines for Expanded Program in 2012	10/28/10	4/30/12	EA/MIG/RF	ALL	Y	X	1/19/12				Additional CEC Deliverable; not listed in SOW
a	2.1-12	2.3	Public Relations Support	Earned media updates (to be included in monthly reports)	10/26/11	4/30/12	EA	MIG	Y	X	OG		monthly, in invoice reports		Submitted monthly in invoice report; final summary in final report

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tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
b	2.1-12	2.3	Public Relations Support	Public Relations/Earned Media Effort – Strategic Communications on Energy Efficiency	10/26/11	4/30/12	MIG	MIG	Y	X	3/30/12; 4/18/12				Deliverable not listed in Formal Amendment #1 SOW; Per MIG, Deliverable added by CEC; Completed. Submitted to EA 3/30/12; to CEC 4/18/12
a	2.1-12	2.3	Multifamily Program Integration	Multifamily Outreach & Education Plan Web Content	10/26/11	4/30/12	MIG/RF	ALL	Y	X	3/30/12; 4/18/12				Submitted to EA 3/30/12; Submitted to CEC 4/18/12
b	2.1-12	2.3	~~Multifamily Program Integration~~	~~Multifamily Supplement to Outreach & Education Toolkit~~	~~10/26/11~~	~~3/30/12~~	MIG	n/a	r	r	removed	CEC requested delay or change			Deliverable listed in Formal Amendment #1 SOW; Per MIG, New CEC approved Multifamily work scope did not include this deliverable.
c	2.1-12	2.3	~~Multifamily Program Integration~~	~~Webinar Presentation~~	~~10/26/11~~	~~3/30/12~~	MIG	n/a	r	r	removed	CEC requested delay or change			Deliverable listed in Formal Amendment #1 SOW; Per MIG, New CEC approved Multifamily work scope did not include this deliverable.
d	2.1-12	2.3	Multifamily Program Integration	Multifamily Specific Marketing Collateral	10/26/11	4/30/12	MIG	ALL	Y	X	3/30/12; 4/18/12				Event Collateral and Marketing Toolkit submitted to EA on 3/30/12; Submitted to CEC on 4/18/12
e	2.1-12	2.3	Multifamily Program Integration	Multifamily Building Photos	10/26/11	4/30/12	MIG	ALL	Y	X	3/30/12; 4/18/12				Submitted to EA 3/30/12; Submitted to CEC 4/18/12
f	2.1-12	2.3	Multifamily Program Integration	Pilot Multifamily Marketing and Communications Work Plan	10/26/11	4/30/12	MIG	ALL	Y	X	12/16/11				Deliverable not listed in Formal Amendment #1 SOW; Per MIG, Deliverable added by CEC; Completed.
g	2.1-12	2.3	Multifamily Program Integration	Multifamily Marketing and Communications Implementation Plan	10/26/11	4/30/12	MIG	ALL	Y	X	1/23/12				Deliverable not listed in Formal Amendment #1 SOW; Per MIG, Deliverable added by CEC; Completed.
a	2.2-1	2.3	Regional Coordination and Development	Regional Coordination Reports (summaries of meetings, training, outreach events etc.)	7/1/11	4/30/12	EA	ALL	Y	X	OG		monthly, in invoice reports		Submitted monthly.
b	2.2-1	2.3	Regional Coordination and Development	Quarterly Summary of Training Activities	7/1/11	4/30/12	EA/MIG	ALL	Y	X	OG		quarterly, in invoice reports		Submitted quarterly.
a	2.1-11	2.4	Quality Assurance, Energy Audits and Energy Savings Verification	Display of CSLB contractor license numbers on web portal	10/26/11	4/30/12	RF/EA	ALL	Y	OG	on web portal				Integrated into web portal listings
b	2.1-11	2.4	Quality Assurance, Energy Audits and Energy Savings Verification	Installation Data Report	3/1/11	4/30/12	RF/EA	ALL	Y	X	using steering committee provided installation data in monthly invoices	delayed due to NDA need; CalCERTS late on EUC Registry	monthly, in invoice reports		Completed as redefined due to delay in EUC Registry; within final report

Schedule of Deliverables
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tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
c	2.1-11	2.4	Quality Assurance, Energy Audits and Energy Savings Verification	EUC Registry by CalCERTS	5/2/11	4/30/12	CalCERTS	EA/RF/CEC/ ALL	r	r	will continue under extended contract	delayed due to NDA need; CalCERTS late on EUC Registry	will continue under extended contract		To be included in new SOW beyond 4/30/12
a	2.1-13	2.4	Tracking and Reporting	Reports on the number of participating properties per county and Program-wide (to be included in the Monthly Progress Report, subtask 1.4)	1/3/11	4/30/12	RF/ CalCERTS	ALL	Y	X	using steering committee provided installation data in monthly invoices	delayed due to NDA need; CalCERTS late on EUC Registry	monthly, in invoice reports		Completed as redefined due to delay in EUC Registry; within final report
b	2.1-13	2.4	Tracking and Reporting	Reports on the energy savings associated with projects on properties participating in program services (to be included in the Monthly Progress Report, once data is available)	10/26/11	4/30/12	RF/ CalCERTS	ALL	Y	X	using steering committee provided installation data	delayed due to NDA need; CalCERTS late on EUC Registry			Completed as redefined due to delay in EUC Registry; within final report
c	2.1-13	2.1-13	Tracking and Reporting	Report on the impact and success of marketing efforts per county and Program-wide	1/3/11	4/30/12	MIG/EA	ALL	Y	X	Monthly; 1/9/2012; 3/9/12; 4/18/12		monthly, in invoice reports		All programs presented data at Jan 2012 Marketing Summit; updated in final report
d	2.1-13	2.4	Tracking and Reporting	Data Collection Reports as provided by the Steering Committee	10/26/11	4/30/12	RF/MIG	ALL	Y	X	using steering committee provided installation data	delayed due to NDA need; CalCERTS late on EUC Registry			Completed as redefined due to delay in EUC Registry; within final report
a		2.5	~~Statewide Finance Subsidy Program~~	~~Subsidy Application~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
b		2.5	Statewide Finance Subsidy Program	Competitive Solicitation or Non-Competitive Bid Justification	10/26/11	4/30/12	LGC	ALL	Y	X	RFP Complete; no banks responded				Financial Institution and Consultant RFPs submitted to the CEC 12/7/11
c		2.5	~~Statewide Finance Subsidy Program~~	~~Evaluation of Fiscal Agent~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
d		2.5	~~Statewide Finance Subsidy Program~~	~~Contract of Fiscal Agent~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget

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tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
e		2.5	~~Statewide Finance Subsidy Program~~	~~Reports & Invoices from Fiscal Agent~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
f		2.5	~~Statewide Finance Subsidy Program~~	~~NoFA to Local Governments~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
g		2.5	~~Statewide Finance Subsidy Program~~	~~Evaluation of Applications~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
h		2.5	~~Statewide Finance Subsidy Program~~	~~Contract/Agreements with Local Governments~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
i		2.5	~~Statewide Finance Subsidy Program~~	~~Local Government Reports & Invoices~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
j		2.5	~~Statewide Finance Subsidy Program~~	~~Fiscal Agent/Trustee Reports~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
k		2.5	~~Statewide Finance Subsidy Program~~	~~Evaluation of Program Performance~~	~~10/26/11~~	4/30/12	LGC	n/a	r	r					Removed in Amendment #2 due to poor response from solicitation; Reflected in Adjusted Budget
a	2.3	2.5	Regional Pilot Programs	List of Program Leads for each pilot program	6/1/11	9/1/11	LA/SC/SF/PC	EA/LGC	Y	X	4/7/11				Established at PACE Kickoff Meeting
b	2.3	2.5	Regional Pilot Programs	Draft and final agreements with the Program Lead for each pilot program	6/1/11	1/2/12	EA/LCG	LA/SC/SF/PC	Y	X	3/10/11; 4/5/11; 6/13/11; 4218/11; 4/6/12				3/10/11-CRA/LA; 4/5/11-Sonoma; 4/18/11 Placer; 6/13/11 SF; 2/6/12 CDD/LA
c	2.3	2.5	Regional Pilot Programs	Sections for each pilot program to be included in the Final Report	6/1/11	4/13/12	LA/SC/SF/PC	EA/LGC	Y	X	1/26/12; 3/9/12; 4/18/12				Submitted to EA; submitted within Final Report
e	2.3	2.5	Regional Pilot Programs	Reporting data for each pilot program (included in 1.0 and 2.4 reports)	6/1/11	4/30/12	LA/SC/SF/PC	EA/LGC	Y	X	OG		monthly, in invoice reports		Submitted with invoices.
f	2.3	2.5	Regional Pilot Programs	Bond documents, per county, if bonds are issued, per CA streets and Highways Code section 5898.22	6/1/11	4/30/12	LA/SC	EA/SF/PC/LGC	Y	X	3/29/12				Submitted within Replication Plan, if applicable

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tag	Old Task Number	NEW Task Number	Task Name	Deliverable(s)	Planned (estimated) Start Date	Planned Completion Date	Lead	Assist	On Time	Status	CEC Submitted	In Progress	Ongoing	Scheduled	NOTES
g	2.3	2.5	Regional Pilot Programs	Adopted local agency Resolutions	6/1/11	4/30/12	LA/SC	EA/SF/ PC/LGC	Y	X	3/30/11; 4/27/11; 3/19/12; 3/29/2012; 4/12/12				Samples submitted within Replication Plan or on file, if applicable; LA opting into PACE district; SF Resolution for LLRF 4/27/11; LA for DSRF 3/19/12, submitted to CEC 4/12/12; Sonoma multiple action submitted 4/12/12
h	2.3	2.5	Regional Pilot Programs	Notices provided to water and electricity service providers	6/1/11	4/30/12	LA/SC	EA/SF/ PC/LGC	Y	X	3/29/12				Submitted within Replication Plan, if applicable
i	2.3	2.5	Regional Pilot Programs	Summary of Validation action results	6/1/11	4/30/12	LA/SC	EA/SF/ PC/LGC	Y	X	3/29/12				Submitted within Replication Plan, if applicable
j	2.3	2.5	Regional Pilot Programs	Assessment payment schedules	6/1/11	4/30/12	LA/SC	EA/SF/ PC/LGC	Y	X	3/29/12				Submitted within Replication Plan, if applicable
a	2.3-1	2.5	Residential PACE Program	Pooled Bonding: RFP and award	6/1/11	4/30/12	SC	EA/LGC	Y	X	5/6/11				Completed.
b	2.3-1	2.5	Residential PACE Program	Pooled Bonding: Draft & Final Financing options	6/1/11	4/30/12	SC	EA/LGC	Y	X	1/13/2012; 4/12/12				Extended from 9/30 to 1/13/12. Final adjusted due to marketplace
c	2.3-1	2.5	Residential PACE Program	Pooled Bonding: Closed Bond Transaction or other financing strategy method/plan	6/1/11	4/30/12	SC	EA/LGC	r	r	removed				Sonoma will not be taking bonds out to the secondary market during the contract term, based on outcome of draft/final feasibility study
d	2.3-1	2.5	Residential PACE Program	Hub Tool: RFP and Technical/Functional Requirements Documentation	6/1/11	4/30/12	SC/RF	EA/LGC	Y	X	5/6/11				Completed.
e	2.3-1	2.5	Residential PACE Program	Hub Tool: Assessment of requirements not yet provided	6/1/11	4/30/12	SC/RF	EA/LGC	Y	X	5/6/11				Completed.
f	2.3-1	2.5	Residential PACE Program	Hub Tool: Consultation with RF on statewide portal	6/1/11	4/30/12	SC/RF	EA/LGC	Y	X	2/29/12				Component adjusted based on discussion with Sonoma, RF, CEC related to this task
g	2.3-1	2.5	Residential PACE Program	Contractor Credentials: Marketing & Outreach Plan (draft & final)	6/1/11	4/30/12	SC/MIG/EA	LA/SF/PC /LGC	Y	X	6/7/11				Completed.
h	2.3-1	2.5	Residential PACE Program	Contractor Credentials: Ads & marketing materials	6/1/11	4/30/12	SC/MIG/EA	LA/SF/PC /LGC	Y	X	2/29/12				Submitted as 2.3 Residential PACE Program /Marketing Education and Outreach
i	2.3-1	2.5	Residential PACE Program	Contractor Credentials: Brochures & educational materials	6/1/11	4/30/12	SC/MIG/EA	LA/SF/PC /LGC	Y	X	2/29/12				Submitted as 2.3 Residential PACE Program /Marketing Education and Outreach
j	2.3-1	2.5	Residential PACE Program	Line of Credit: Memo requesting draw down of funds	6/1/11	4/30/12	SC	EA/LGC	Y	X	10/31/11				EA prepared an invoice for Sonoma for $2M to establish the line of credit.
k	2.3-1	2.5	Residential PACE Program	Line of Credit: Info on projects funded, including energy and water savings	6/1/11	4/30/12	SC	EA/LGC	Y	X	3/9/12; 4/18/12				Available data provided within final report

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l	2.3-1	2.5	Residential PACE Program	Line of Credit: Statement of fund expiration	6/1/11	4/30/12	SC	EA/LGC	n/a	n/a	n/a				not applicable at this time; may be triggered in continuing contract term
m	2.3-1	2.5	Residential PACE Program	Line of Credit: Memo requesting reprogrammed to contingency Plan (if applicable)	6/1/11	4/30/12	SC	EA/LGC	n/a	n/a	n/a				not applicable at this time; may be triggered in continuing contract term
n	2.3-1	2.5	Residential PACE Program	Energy Audits: Refined program guidelines & documents and storefront SOP revisions	6/1/11	4/30/12	SC	EA/LGC	Y	X	6/29/11				On 6/29 Liz Yager sent a HERS II rebate program design proposal to the CEC.
o	2.3-1	2.5	Residential PACE Program	Energy Audits: Updated reporting processes into statewide web portal	6/1/11	4/30/12	SC	EA/LGC	Y	X	4/1/12				Linked statewide website to SCIEP website
p	2.3-1	2.5	Residential PACE Program	Energy Audits: Tool lending library SOP	6/1/11	4/30/12	SC	EA/LGC	Y	X	5/6/11				Completed.
q	2.3-1	2.5	Residential PACE Program	Energy Audits: Rate schedule & financing structure for home energy audit incentive implementation	6/1/11	4/30/12	SC	EA/LGC	Y	X	7/1/11				Completed.
a	2.3-2	2.5	Commercial PACE Program	LA City Council resolution approving city's participation in county municipal financing district	6/1/11	4/30/12	LA	EA/LGC	Y	X	3/30/11				Completed.
b	2.3-2	2.5	Commercial PACE Program	Stakeholder: Outreach Plan	6/1/11	4/30/12	LA/SF/PC	SC/EA/ LGC	Y	X	7/5/11				Letters of Support were submitted 7/5/11
c	2.3-2	2.5	Commercial PACE Program	Stakeholder: Program guidance documents	6/1/11	4/30/12	LA/SF/PC	SC/EA/ LGC	Y	X	7/5/11				Completed.
d	2.3-2	2.5	Commercial PACE Program	Eligibility: Program property eligibility criteria for participating commercial building owners	6/1/11	4/30/12	LA/SF/PC	SC/EA/ LGC	Y	X	9/1/11				LA worked direct with the CEC on this deliverable in September, 2011.
e	2.3-2	2.5	Commercial PACE Program	Eligibility: Agreements between city, county, and commercial building owners (no draft)	6/1/11	4/30/12	LA/SF/PC	SC/EA/ LGC	Y	X	9/1/11				LA worked direct with the CEC on this deliverable in September, 2011.
f	2.3-2	2.5	Commercial PACE Program	Marketing: Marketing and outreach strategy	6/1/11	4/30/12	LA/SF/PC	SC/EA/ MIG/LGC	Y	X	7/5/2011; 4/12/12				Completed 7/5/11; Final update on ongoing outreach to locate potential projects submitted 4/12/12
g	2.3-2	2.5	Commercial PACE Program	Marketing: Marketing materials	6/1/11	4/30/12	LA/SF/PC	SC/EA/ MIG/LGC	Y	X	7/5/11				Completed.
h	2.3-2	2.5	Commercial PACE Program	LLRF: Notification that LLRF has been created	6/1/11	4/30/12	LA/SF	EA/LGC	Y	X	3/19/12				Completed.
i	2.3-2	2.5	Commercial PACE Program	LLRF: Eligibility criteria for borrowers to access fund	6/1/11	4/30/12	LA/SF	EA/LGC	Y	X	4/12/12				Completed.
j	2.3-2	2.5	Commercial PACE Program	LLRF: Reporting documents tracking LLRF outgoing payments and incoming repayments from commercial property owners	6/1/11	4/30/12	LA/SF	EA/LGC	Y	X	4/12/12				Completed.
k	2.3-2	2.5	Commercial PACE Program	LLRF: Transition Plan	6/1/11	4/30/12	LA/SF	EA/LGC	Y	X	2/8/12				Agreement Amendment #2 extends contract through 2017

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l	2.3-2	2.5	Commercial PACE Program	Audits: Tracking reports on number of applicants, location and approval rates	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
m	2.3-2	2.5	Commercial PACE Program	Audits: Copies of Phase I and/or Phase II energy audit applications and approval status	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
n	2.3-2	2.5	Commercial PACE Program	Verification: Measurement and verification documents and forms	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
o	2.3-2	2.5	Commercial PACE Program	Verification: Post-audit consumption reports	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
p	2.3-2	2.5	Commercial PACE Program	Verification: Report summarizing building consumption data	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	n/a	n/a	n/a				To be completed during extended contract term as projects are financed
q	2.3-2	2.5	Commercial PACE Program	Verification: Documentation of commercial property owners' participation in energy-load monitoring system	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	n/a	n/a	n/a				To be completed during extended contract term as projects are financed
r	2.3-2	2.5	Commercial PACE Program	Tax Lien: copies of approved proposals	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
s	2.3-2	2.5	Commercial PACE Program	Tax Lien: copies of rejected proposals and reason(s) for rejection	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
t	2.3-2	2.5	Commercial PACE Program	Tax Lien: Tax Lien Procedures report	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
u	2.3-2	2.5	Commercial PACE Program	Tax Lien: documents necessary to create tax lien	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	4/12/12				Completed.
v	2.3-2	2.5	Commercial PACE Program	Tax Lien: summary report on created tax liens	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	n/a	n/a	n/a				To be completed during extended contract term as projects are financed
w	2.3-2	2.5	Commercial PACE Program	Contingency Plan written request	6/1/11	4/30/12	LA	SF/PC/ EA/LGC	Y	X	1/18/12; 3/13/2012				Informal amendment drafted 1/18/12; Approved by CEC 3/14/12; budget modification submitted 3/20/12

* Formal Amendment #2 refers only to those changes to the agreement through 4/30/12; Any deliverables required under the additional SOW and budget beyond added in the 3/26/12 executed amendment are included separate and district from this schedule of deliverables and has not been included here.

Red Text in Columns A-G indicated changes since the 12-30-10 Schedule=RED

Purple Text in columns D-E, indicated adjustments agreed to by MIG/CEC

Green Text refers to adjustment with the formal amendment #2; updated since the last submitted version in teal

Key: IP = In Progress; OG = Ongoing; OT = On Track; X = Done; Y = Yes; d = delayed

CHAPTER 8: BUDGET SUMMARY

Budget

The approved contract budget by task, brief description, budget amount and actual expenditure is presented below, based on available expenditure data as of April 2012. A final invoice estimate was submitted on April 9, 2012. All final invoicing for activities was completed prior to April 30, 3012.

Budget Category or Deliverable	Brief Description	Budgeted	Actual Expenditure	difference	% over/under	Notes	On Track
1.0	Administration Activities	$ 1,353,245.46	1,246,455.17	$ 106,790.29	7.89%	Complete	Projected surplus under this task includes: LGC ($75K), MIG ($30K) and Sonoma ($1K)
2.1	Implementation & Sustainability Planning	$ 1,022,982.94	879,973.97	$ 143,008.97	13.98%	Complete	Projected surplus under this task includes: MIG ($11K) and Sonoma ($131K)
2.2	Integrated Web Portal	$ 5,830,495.58	5,762,773.97	$ 67,721.61	1.16%	Complete	Projected surplus under this task includes: MIG ($68K)
2.3	Workforce Development, Property Owner & Stakeholder Outreach & Engagement	$ 10,297,071.88	9,504,019.42	$ 793,052.46	7.70%	Complete, EA funds leftover from HERS incentive program.	Projected surplus under this task includes: EA ($675) and MIG ($117K)
2.4	Tracking, Reporting & Quality Assurance	$ 2,562,287.03	2,251,900.27	$ 310,386.76	12.11%	Complete	Projected surplus under this task includes: CalCERTS ($307K) and LGC ($3k)
2.5	Innovative Financing Pilot Programs	$ 9,802,867.70	9,154,776.06	$ 648,091.64	6.61%	Complete. LGC amount leftover ($200k) was originally set aside for the setup and maintenance of the $2M statewide subsidy removed from the budget in formal amendment #2. Funds will support ongoing oversight of the extended contract term.	Projected surplus under this task includes: Sonoma ($448k) and LGC ($200k)
2.6	State Clearinghouse	$ 307,962.85	307,962.85	$ -	0.00%	This task has been fully delivered.	Expenditures under this task are complete.
	TOTAL 1	38,176,913	29,107,862	$ 9,069,051.29	23.76%	This total is based on the total agreement amount as of Formal Amendment #1, and includes the $5M potential allocation to absorb other underperforming contract surplus amounts.	This surplus was addressed in Formal Amendment #2.
	TOTAL 2	31,176,913	29,107,862	$ 2,069,051.73	6.64%	The total is based on the total agreement amount as of Formal Amendment #2 (execution in progress), and removes the $5M referred to above as well as $2M from the statewide subsidy.	Unexpended funding will be reconciled in the month of April to support ongoing financing program administration and EM&V beyond March 2012. LGC anticipates all funds will be fully expended within the new 5-year contract extension term.

*Projected Actual Expenditure is based on total expenditures to date and anticipated remaining expenditures based on historical trends.
Actual expenditures submitted in the final report and final invoicing may differ.

CHAPTER 9: CLOSEOUT SUPPLY & EQUIPMENT INVENTORY

Inventory

A supply and equipment inventory list is presented below.

California Energy Commission ARRA SEP
Equipment Inventory List
Contract # 400-10-004
Energy Upgrade California
LGC

No.	Item Name/Description (include Manufacturer, Model and Serial Numbers)	Property Location (address)	Quantity	Original Acquisition Date	Original Cost	Current Fair Market Value (per unit)	Describe how current Fair Market Value was determined	If FMV exceeds $5,000, provide *Disposition Condition Code* per Federal Management Regulation 102-36-240 *(see Definitions Sheet)*	If FMV exceeds $5,000, provide *Disposition Use Code (see Definitions Sheet)*	Comments
1	House of Pressure - Large w/ mobile case, Manufacturer: The New River Center for Energy Research and Training, no serial number available, model number: Large House	404 Aviation Blvd., Suite 200, Santa Rosa, CA 95403 - SCEIP office	1	4/20/11	$8,000.00	$6,000.00	*Using simple 25% depreciation from original cost*	(4) Usable	(1) The property will continue to be used for the purposes authorized in the Award.	We are continuing to use the House of Pressure for the purposes stated in the grant.
1	Smart Board interactive whiteboard	877 Cedar St, Santa Cruz, CA - Ecolgy Action Office	1	1/24/11	$5,999.00	$4,499.25	*Using simple 25% depreciation from original cost*	na	na	Fair market value is under the $5000

California Energy Commission ARRA SEP
Supplies Inventory List
Contact #400-10-004
Contract Name Energy Upgrade California
Prime Contractor Name LGC

	NO	YES	
(1) Does the residual inventory of unused supplies exceed $5,000 in total aggregate value?		X	If NO, you are done reporting supplies. If YES, answer either 2a or 2b below.

	NO	YES	
(2a) Will the remaining supplies be used on another federally-sponsored activity?		X	If NO, go to item 2b. If YES, list Activity and Federal Agency.

Activity	Federal Agency
Continuing to use for purposes stated in the grant for Energy Upgrade California	DOE - Energy Upgrade California contract with the LGC and CEC.

(2b) The supplies will be sold or retained for use on NON-federally sponsored activities and the Contractor will compensate DOE for its share of the sales proceeds or estimate current Fair Market Value. List the supplies you intend to sell or retain, and complete the following worksheet. Unused supplies or proceeds from the sale of supplies shall be returned to CEC who will return to DOE.

List of Supplies to Sell or Retain

	Dollar Amount
Sale proceeds or estimate of current Fair Market Value*	
Percentage of Federal Participation	
Federal Share	
Selling and Handling Allowance	
Amount to be Remitted to DOE (via CEC)	$0.00

*Describe how current Fair Market Value was determined.	

CHAPTER 10: ATTACHMENTS

Attachments

All attachments referenced within this document are included below. Deliverables submitted previously via the official submission process are not included in this report per CCM direction.

Attachments Table of Contents	Length (pages)
Attachment 1: Subcontractor and Vendor List	1
Attachment 2: Glossary	7
Attachment 3: Calculation Methodology Summary	2
Attachment 3A, 3B & 3C: Greenhouse Gas Conversions	6
Attachment 4: Summary of Web Portal Features	1
Attachment 5: Summary of Program Metrics	3
Attachment 6: PACE Replication Guidance Package (Manual)	144
Attachment 7: Final Deliverables, Renewable Funding & MIG	1
Attachment 8: EUC Residential Web Portal (Screen Shots)	11
Attachment 9: Updated Brand Usage & Graphic Standards Guide	96
Attachment 10: Commercial PACE Web Portal (Screen Shots)	6
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Attachment 16: Marketing Survey – Ecology Action	2
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Team List

Local Government Commission
Energy Upgrade California Statewide Program
Contract Agreement Number: #400-10-004
Final Report

Prime	Subs	Sub-Subs	Focus	Vendors	Focus
LGC	**Ecology Action**		**Contract Administration, Program Delivery and Outreach, QA.**		
	1	City San Francisco	PACE	na	
	2	County of Placer	PACE	na	
	3	Valley Vision	Energy Upgrade California Program Delivery	na	
	4	California Center for Sustainable Energy	Energy Upgrade California Program Delivery	na	
	5	Redwood Coast Energy Authority	Energy Upgrade California Program Delivery	na	
	6	Renewable Energy Development Institute	Energy Upgrade California Program Delivery	na	
	7	Calcerts	HERS registry	na	
				Cabrillo College	Subsidised Contractor Training Program
				College of the Redwoods	Subsidised Contractor Training Program
				Cuesta College	Subsidised Contractor Training Program
				Laney College	Subsidised Contractor Training Program
				Conservation Services Group	Subsidised Contractor Training Program
				ProductOps	ProMARs tool development
				Mike Kenefick	Contracts consultant
				Miller Maxfield	Pr/Marcom consultant
				PSD	Multi Family Web design
				Stop Waste	Multi Family Web design
LGC	**Renewable Funding**		**Web Portal Development and Maintenance**		
				Princeton Blue	Web Portal Development and Maintenance
				Gaslight Software	Web Portal Development and Maintenance
LGC	**MIG**		**Media and Marketing**		
				Convey Communications	Media and Marketing
				Charles Koppleman	Media and Marketing
				Noah Berger	Media and Marketing
				Associated Press	Media and Marketing
LGC	**City of Los Angeles**		**PACE**		
	1	Sustento			
	2	Willdan Energy Solutions			
				AEI	PACE related tasks
				AESC	PACE related tasks
				Arup	PACE related tasks
				EMCOR	PACE related tasks
				Healthy Buildings	PACE related tasks
				Lincus	PACE related tasks
				Partner Energy	PACE related tasks
				Electric & Gas Industries Association	PACE related tasks
				Fraser Communications	PACE related tasks
LGC	**County of Sonoma**		**PACE**		
	1	Jeff Rouser	PACE		
	2	Kathy Goodacre	PACE		
	3	KNN	PACE		
	4	Orrick Herrington & Sutcliffe	PACE		
	5	Richards Watson Gershon	PACE		
	6	Solar Sonoma County	PACE		
	7	Sostre Enterprises	PACE		
	8	yoUtilBill, Inc.	PACE		

GLOSSARY

ABAG - Association of Bay Area Governments

ARRA - American Recovery and Reinvestment Act

ASHRAE - American Society of Heating Refrigeration and Air Conditioning Engineers

"Awareness Generation" - General term utilized throughout this document to refer to program promotional activities intended to increase target audience program awareness by outreaching to encourage more significant participation in the program. Such activities varied by region but included targeted tabling/booth attendance at community events, trade shows or home building stores, neighborhood canvassing, and presentations to community groups, associations and businesses. Awareness activities sought to encourage action in the form of website visits, web account creation, attendance at an upcoming workshop and/or enrollment in future training courses.

BBP - Better Buildings Program

BEPA - Building Energy Performance Assessment

BIG - Build it Green

BMP - Best Management Practice

BPC - Building Performance Contractor

BPI - Building Performance Institute

BTUs - British Thermal Units

CalCERTS - A private organization that provides service, support, training and certification to HERS raters; served as a sub-subcontractor under this contract.

CAMP - California Association of Mortgage Professionals

CAZ - Combustion Appliance Zone - a type of safety testing of the surrounding area of a combustion appliance which became a central program requirement to protect homeowner health and safety

CCSE - California Center for Sustainable Energy

CCSI - The Clinton Climate Initiative

CDD/LA - Community Development Department of the City of Los Angeles (Commercial PACE Pilot Lead with CRA/LA)

CHF - California Homebuyers Fund

Cost Effectiveness - DOE goal that aims to identify 10,000,000 source BTUs in energy savings per $1,000 of ARRA funds spent

CPUC - California Public Utilities Commission

CRA/LA - Community Redevelopment Agency of the City of Los Angeles (Commercial PACE Pilot Lead with CDD/LA)

CSLB - California State Licensing Board

CSI - California Solar Initiative

"Demand Generation" - General term utilized throughout this document to refer to program activities conducted to educate consumers about the program, value and/or benefits of adopting energy upgrades, inspire program participation and reduce barriers to consumer participation. In this way, program outreach efforts were designed to increase consumer demand and/or generate viable leads for contractor/rater upgrade services including consultations, assessments and upgrade installations.

DSRF - Debt Service Reserve Fund

DVBE - California Disabled Veteran Business Alliance

EA - Ecology Action (Agreement Administrator & Regional Outreach Program Coordinator)

Earned Media - Refers to favorable publicity gained through proactive and reactive efforts *other than* advertising, obtained through communication with print, online, radio and TV outlets, with the goal of securing third-party validation in articles written by journalists; letters-to-the-editor; op-eds; interviews, editorial boards; and PSAs, etc.

EDD – Employment Development Departments

EECBG - Energy Efficiency and Conservation Block Grants

EEM - Energy Efficiency Mortgages

Eligible Improvements - Those measures accepted by utility rebate program as eligible to receive rebate funds.

EM&V - Evaluation, Measurement and Verification

Energy Commission - California Energy Commission

Energy Pro - Required software modeling tool, utilized in whole house home energy assessment and utility job reporting process.

"Energy Savings" - General term utilized throughout this document to refer to reductions in facility energy use resulting from an energy upgrade as measured by kWh and/or Therm savings reported by IOUs through the mechanism of monthly steering committee meetings and/or reported by PACE pilot programs as recorded by installing contractors. Energy savings data is converted into a common metric of BTUs as required by ARRA SEP cost effectiveness measures and converted from kWh to GHG equivalent reductions using the EPA conversion mechanism available at http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Engage360 - Statewide, multi-year Marketing, Education, and Outreach (ME&O) effort outlined under the 2008 CPUC Strategic Plan to increase consumer awareness and participation in demand-side management activities and to encourage behavior changes that save energy, reduce greenhouse gas emissions, and support clean energy solutions by inspiring and guiding Californians to achieve a 20 percent reduction in their home energy use by 2020.

"Engagement" - General term utilized throughout this document to refer to the act of participating and or otherwise inspiring action related to the program. Outreach efforts were targeted to increase both consumer and workforce engagement, motivating consumers to consider their energy use more deeply, connect to a contractor/rater, schedule an assessment or explore financing opportunities. Outreach to workforce encouraged workers to get trained with the pertinent certifications, expand their familiarity with program equipment or software, attend participation trainings and adapt their existing business model to support new consumer demand. Both activities sought to increase program participation by each target audience.

ESCOs - Energy Service Company

FHFA - Federal Housing and Finance Agency

Green-Finance-SF - City/County of San Francisco Commercial PACE Program (Commercial PACE Pilot)

HVAC - Heating, ventilation, and air conditioning

HERS - Home Energy Rating System

Home Star - Proposed legislation under consideration in 2009-2010 intended to create jobs in existing industries by providing strong short-term incentives for energy efficiency improvements in residential buildings; if enacted this legislation would have increase available industry incentives.

IOU - Investor Owned Utility

"Job Creation" - Descriptive term utilized throughout this document to refer to program activities related to workforce development intended to result in the creation or retention of jobs. These activities include providing certification or supplemental training coursework to new or existing building professionals, connecting workers to other resources or training services, helping workers understand program requirements and procedures, or otherwise reducing barriers to worker participation.

kWh - Kilo Watt per hour

LACBPP - Los Angeles Commercial Building Performance Partnership

LADWP - Los Angeles Department of Water and Power

LGAC - Local government advisory committee

LGC - Local Government Commission (Agreement Prime Contractor)

LGP - Local Government Partnership

LIHEAP - Low Income Home Energy Assistance Program

Loading order - Refers to the established policy of California's principal energy agencies - the California Energy Commission (Energy Commission), the California Public Utilities Commission (CPUC), and the California Consumer Power and Conservation Financing Authority (Power Authority) by which energy decisions are guided. The loading order consists of decreasing electricity demand by increasing energy efficiency and demand response, and meeting new generation needs first with renewable and distributed generation resources, and second with clean fossil-fueled generation.

Market Transformation - Long-lasting, sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where continuation of the same publicly-funded intervention is no longer appropriate in that specific market

ME&O - Marketing, Education & Outreach

mPOWER Placer - Money for Property Owner Water and Energy efficiency Retrofitting, a Placer County countywide PACE program (Commercial PACE Pilot)

MIG - MIG Corporation (Marketing & Communications Provider)

Multifamily - A building with more than four residential rental units

NHPA - National Historic Preservation Act

OCC - Office of the Comptroller of the Currency

PACE Replication Kit - A document designed to assist other local governments interested in starting their own PACE pilot programs, by drawing upon the expertise and lessons learned under this contract.

PACE - Property Assessed Clean Energy

Paid Media (Advertising) - Television, radio, online or placed media exposure resulting from the paid acquisition of advertising spots or coverage.

POU - Publically Owned Utilities

Program Plus Counties - Those 30 of 58 counties targeted under this contract to receive additional on-the-ground marketing, education and outreach services based on their demonstrated investment in residential and/or commercial retrofit financing programs, passage of resolutions or other activities undertaken that demonstrate commitment to energy retrofits within their regions (as identified by the Energy Commission).

Program Basic Counties - Those 28 of 58 Counties targeted under this contract to receive statewide resources including the integrated web portal and statewide marketing.

ProMARS - Project Management and Reporting System, a reporting tool developed and utilized under this agreement to track and report progress and achievements.

PSD - Performance Systems Development

QA/QC - Quality Assurance and Quality Control

RBC Capital - A financial service provider, serving a role under the Sonoma County PACE pilot effort

RCEA - Redwood Coast Energy Authority

RCPA - Regional Climate Protection Authority

REDI - Renewable Energy Development Institute

RFP - Request For Proposals

RFQ - Request For Qualifications

RF - Renewable Funding (Information Technology Program Administrator)

SCE - Southern California Edison

SEC - Securities and Exchange Commission

SCEIP - Sonoma County Energy Independence Program

SCTP - Subsidized Contractor Training Program designed to support whole house market transformation through the availability of a trained workforce, ready and able to support the emerging marketplace and newly generated consumer demand; includes low-cost certification coursework in BPI and HERS BPC, community college certification courses as well as supplemental trainings.

SDG&E - San Diego Gas and Electric

SEP - State Energy Program

SEM - Search Engine Marketing

SmartSheet - An online organizational tracking tool that serves as a database for several working spreadsheets that can be amended in real time

SoCal Gas - Southern California Gas

Sonoma County - County of Sonoma (Residential PACE Pilot Lead)

"Stakeholder Interactions" - The number of direct person-to-person technical assistance, customer service or outreach related communications to consumers, building professionals, local governments, and other program stakeholders by the regional coordination marketing, education and outreach team

Stopwaste - Alameda County Waste Management Authority

TAC - Technical Advisory Committee

Therms - A unit of heat equivalent to 100,000 British thermal units or 1.055×10^8 joules

VV - Valley Vision

WES - Willdan Energy Solutions

Whole-house - A whole systems building approach in which the building is treated as an integrated system

WHRP - Whole House Retrofit Program

WIB - Workforce Investment Boards

Zendesk - A back-end web customer support tool utilized to organize, track and respond to web inquires during the contract term.

Calculation Methodology Summary

Annual BTU Savings as Estimated through data presented at February Steering Committee

Assumptions

Avg BTUs per kWh	10,239
Avg kWh per Therm	7.425

	Completed Only	Therms Saved	kWh Saved	Total kWh Equivolent Saved	Avg. Total kWh Saved	Annual BTUs Saved	BTUs Saved by 2020
SCE/SCG	134	31,088	395,300	626,128	4,673	6,410,928,688	51,287,429,501
SDG&E	176	27,058	268,460	469,366	2,667	4,805,834,890	38,446,679,123
PG&E	1,542	632,220	5,332,236	10,026,470	6,502	102,661,021,211	821,288,169,684
SMUD**	55	22,550	190,190	357,624	6,502	3,661,709,576	29,293,676,610
TOTAL	**1,907**	**712,916**	**6,186,186**	**11,479,587.30**	**6,020**	**117,539,494,365**	**940,315,954,918**

**SMUD Therms and kWh savings based on an average for PG&E customers.

	Complete/In Pipeline	Therms Saved	kWh Saved	Total kWh Equivolent Saved	Avg. Total kWh Saved	Annual BTUs Saved	BTUs Saved by 2020
SCE/SCG	536	124,352	1,581,200	2,504,514	4,673	25,643,714,750	205,149,718,003
SDG&E	263	40,433	401,165	701,382	2,667	7,181,446,455	57,451,571,644
PG&E	2,705	1,109,050	9,353,890	17,588,586	6,502	180,089,534,614	1,440,716,276,910
SMUD**	101	41,410	349,258	656,727	6,502	6,724,230,313	53,793,842,502
TOTAL	**3,605**	**1,315,245**	**11,685,513**	**21,451,208.72**	**5,950**	**219,638,926,132**	**1,757,111,409,059**

Calculations

Completed Only	# of Homes that have completed Whole Home Upgrades through EUC (taken from the February IOU Steering Committee)
Completed/In Pipeline	# of Homes that have completed or started Whole Home Upgrades through EUC (taken from the February IOU Steering Committee)
Therms Saved	Reported by IOUs
kWh Saved	Reported by IOUs
Total kWh Equivolent Saved	(Therms Saved * 7.425 kWh/Therm) + kWh Saved
BTUs Saved	Total kWh Equivolent Saved * 10,239 BTUs/kWh

Calculation Methodology Summary

BTU Savings from EUC Upgrades, Sonoma REG Measures and Placer Commercial Projects

	BTUS Saved
EUC Complete Upgrades	117,539,494,365
Sonoma REG Measures	52,694,378,682
Placer Commerical Projects	2,285,580,297
Total	**172,519,453,344**

	BTUS Saved
EUC Complete/In Pipeline Upgrades	219,638,926,132
Sonoma REG Measures	52,694,378,682
Placer Commerical Projects	2,285,580,297
Total	**274,618,885,111**

Jobs Created

	Project Related Expenses*	Comitted Leverage**	$ Spent/Job Created	Jobs Created
Energy Upgrade California	$ 29,107,862	$ 165,249,533	$ 92,000	2,113

* Actual final expenditures on the Energy Upgrade California contract

** Total committed match funds from Energy Upgrade California partners and subcontractors

Economic Impact

	Project Related Expenses	Comitted Leverage	Economic Multiplier*	Reinvestment into California Local Economies
Energy Upgrade California	$ 29,107,862	$ 165,249,533	2.32	$ 450,909,156

* Multiplier taken from a study by the Political Economy Research Institute at the University of Massachusetts and the Center for American Progress.

Cost Effectivness

	Total Expenditures	**BTUs Saved**	**BTUs Saved/$**	**Goal**	**Effectiveness**
Total Program	$ 29,107,862	274,618,885,111	9,435	10,000	94%
Non-PACE Program	$ 19,306,255	219,638,926,132	11,377	10,000	114%

Greenhouse Gas Equivalencies Calculator

UPDATED May 2011. New NYUP sub region and national average non-baseload emissions rates updated. See the revision history page for more details.

Did you ever wonder what reducing carbon dioxide (CO_2) emissions by 1 million metric tons means in everyday terms? The greenhouse gas equivalencies calculator can help you understand just that, translating abstract measurements into concrete terms you can understand, such as "equivalent to avoiding the carbon dioxide emissions of 183,000 cars annually."

This calculator may be useful in communicating your greenhouse gas reduction strategy, reduction targets, or other initiatives aimed at reducing greenhouse gas emissions.

Other Calculators

There are a number of other web-based calculators that can estimate greenhouse gas emission reductions for

- individuals and households
- waste, and
- transportation.

For basic information and details on greenhouse gas emissions, visit the Emissions section of EPA's climate change site.

Enter Your Data Below

There are two options for entering reduction data into this calculator.

Option 1: If You Don't Have Emissions Data

1. If you are starting with data in units of "gallons of gasoline consumed," "kilowatt-hours of electricity," "therms of natural gas," or "passenger vehicles per year" instead of a quantity of emissions of specific greenhouse gases, use this option.
2. Enter a quantity and pick the desired unit below; and
3. Click on the "Calculate Equivalent" button to convert your value to Carbon Dioxide Equivalent.
4. If you are entering kilowatt-hours of electricity, please be sure to read the caveats and explanations on the Calculations and Reference page.
5. Please note that these estimates are approximate and should not be used for emission inventory or formal carbon footprinting exercises.

11685513 | kilowatt-hours of electricity | Calculate Equivalent

? Click Here for Calculations and References

Option 2: If You Already Know the Quantity of Emissions

If you have already estimated the quantity of emissions (e.g., metric tons of carbon dioxide equivalent), you can input the amount of emissions and select the appropriate units for the corresponding greenhouse gas type.

Amount	Unit	Gas
8,058	Metric Tons	CO_2 - Carbon Dioxide or CO_2 Equivalent*
	Tons	Carbon or Carbon Equivalent
	Tons	CH_4 - Methane
	Tons	N_2O - Nitrous Oxide
	Tons	HFC-23 - Hydrofluorocarbon gases
	Tons	CF4 - Perfluorocarbon gases
	Tons	SF_6 - Sulfur Hexafluoride

Calculate Equivalencies | Clear Fields

*If your estimated emissions of methane, nitrous oxide, or other non-CO_2 gases are already expressed in CO_2 equivalent or carbon equivalent, please enter your figures in the row for CO_2 or carbon equivalent.

The sum of the greenhouse gas emissions you entered above is 8,058 Metric Tons of Carbon Dioxide Equivalent.

This is equivalent to one of the following:

Equivalency Results

Click on the question mark ? link to read the explanation of that particular calculation. Read about all calculations.

The information you entered above is equivalent to one of the following statements:

Annual greenhouse gas emissions from 1,580 passenger vehicles ? *(click to read more about this calculation)*

CO_2 emissions from 903,342 gallons of gasoline consumed ?

CO_2 emissions from 18,739 barrels of oil consumed ?

CO_2 emissions from 106 tanker trucks' worth of gasoline ?

CO_2 emissions from the *electricity* use of 1,005 homes for one year ?

CO_2 emissions from the *energy* use of 698 homes for one year ?

Carbon sequestered by 206,611 tree seedlings grown for 10 years ?

Carbon sequestered annually by 1,718 acres of pine or fir forests ?

Carbon sequestered annually by 79.8 acres of forest preserved from deforestation ?

CO_2 emissions from 335,742 propane cylinders used for home barbeques ?

CO_2 emissions from burning 43.9 railcars' worth of coal ?

Greenhouse gas emissions avoided by recycling 2,808 tons of waste instead of sending it to the landfill ?

Annual CO_2 emissions of 0.002 coal fired power plants ?

Greenhouse Gas Equivalencies Calculator

UPDATED May 2011. New NYUP sub region and national average non-baseload emissions rates updated. See the revision history page for more details.

Did you ever wonder what reducing carbon dioxide (CO_2) emissions by 1 million metric tons means in everyday terms? The greenhouse gas equivalencies calculator can help you understand just that, translating abstract measurements into concrete terms you can understand, such as "equivalent to avoiding the carbon dioxide emissions of 183,000 cars annually."

This calculator may be useful in communicating your greenhouse gas reduction strategy, reduction targets, or other initiatives aimed at reducing greenhouse gas emissions.

Other Calculators

There are a number of other web-based calculators that can estimate greenhouse gas emission reductions for

- individuals and households
- waste, and
- transportation.

For basic information and details on greenhouse gas emissions, visit the Emissions section of EPA's climate change site.

Enter Your Data Below

There are two options for entering reduction data into this calculator.

Option 1: If You Don't Have Emissions Data

1. If you are starting with data in units of "gallons of gasoline consumed," "kilowatt-hours of electricity," "therms of natural gas," or "passenger vehicles per year" instead of a quantity of emissions of specific greenhouse gases, use this option.
2. Enter a quantity and pick the desired unit below; and
3. Click on the "Calculate Equivalent" button to convert your value to Carbon Dioxide Equivalent.
4. If you are entering kilowatt-hours of electricity, please be sure to read the caveats and explanations on the Calculations and Reference page.
5. Please note that these estimates are approximate and should not be used for emission inventory or formal carbon footprinting exercises.

1315245 | therms of natural gas | Calculate Equivalent

? Click Here for Calculations and References

Option 2: If You Already Know the Quantity of Emissions

If you have already estimated the quantity of emissions (e.g., metric tons of carbon dioxide equivalent), you can input the amount of emissions and select the appropriate units for the corresponding greenhouse gas type.

Amount	Unit	Gas
6,576	Metric Tons	CO_2 - Carbon Dioxide or CO_2 Equivalent*
	Tons	Carbon or Carbon Equivalent
	Tons	CH_4 - Methane
	Tons	N_2O - Nitrous Oxide
	Tons	HFC-23 - Hydrofluorocarbon gases
	Tons	CF4 - Perfluorocarbon gases
	Tons	SF_6 - Sulfur Hexafluoride

Calculate Equivalencies | Clear Fields

*If your estimated emissions of methane, nitrous oxide, or other non-CO_2 gases are already expressed in CO_2 equivalent or carbon equivalent, please enter your figures in the row for CO_2 or carbon equivalent.

The sum of the greenhouse gas emissions you entered above is 6,576 Metric Tons of Carbon Dioxide Equivalent.

This is equivalent to one of the following:

Equivalency Results

Click on the question mark ? link to read the explanation of that particular calculation. Read about all calculations.

The information you entered above is equivalent to one of the following statements:

Annual greenhouse gas emissions from 1,289 passenger vehicles ? *(click to read more about this calculation)*

CO_2 emissions from 737,245 gallons of gasoline consumed ?

CO_2 emissions from 15,294 barrels of oil consumed ?

CO_2 emissions from 86.7 tanker trucks' worth of gasoline ?

CO_2 emissions from the *electricity* use of 820 homes for one year ?

CO_2 emissions from the *energy* use of 569 homes for one year ?

Carbon sequestered by 168,621 tree seedlings grown for 10 years ?

Carbon sequestered annually by 1,402 acres of pine or fir forests ?

Carbon sequestered annually by 65.1 acres of forest preserved from deforestation ?

CO_2 emissions from 274,009 propane cylinders used for home barbeques ?

CO_2 emissions from burning 35.8 railcars' worth of coal ?

Greenhouse gas emissions avoided by recycling 2,291 tons of waste instead of sending it to the landfill ?

Annual CO_2 emissions of 0.002 coal fired power plants ?

Greenhouse Gas Equivalencies Calculator

UPDATED May 2011. New NYUP sub region and national average non-baseload emissions rates updated. See the revision history page for more details.

Did you ever wonder what reducing carbon dioxide (CO_2) emissions by 1 million metric tons means in everyday terms? The greenhouse gas equivalencies calculator can help you understand just that, translating abstract measurements into concrete terms you can understand, such as "equivalent to avoiding the carbon dioxide emissions of 183,000 cars annually."

This calculator may be useful in communicating your greenhouse gas reduction strategy, reduction targets, or other initiatives aimed at reducing greenhouse gas emissions.

Other Calculators

There are a number of other web-based calculators that can estimate greenhouse gas emission reductions for

- individuals and households
- waste, and
- transportation.

For basic information and details on greenhouse gas emissions, visit the Emissions section of EPA's climate change site.

Enter Your Data Below

There are two options for entering reduction data into this calculator.

Option 1: If You Don't Have Emissions Data

1. If you are starting with data in units of "gallons of gasoline consumed," "kilowatt-hours of electricity," "therms of natural gas," or "passenger vehicles per year" instead of a quantity of emissions of specific greenhouse gases, use this option.
2. Enter a quantity and pick the desired unit below; and
3. Click on the "Calculate Equivalent" button to convert your value to Carbon Dioxide Equivalent.
4. If you are entering kilowatt-hours of electricity, please be sure to read the caveats and explanations on the Calculations and Reference page.
5. Please note that these estimates are approximate and should not be used for emission inventory or formal carbon footprinting exercises.

5369661 | kilowatt-hours of electricity | Calculate Equivalent

? Click Here for Calculations and References

Option 2: If You Already Know the Quantity of Emissions

If you have already estimated the quantity of emissions (e.g., metric tons of carbon dioxide equivalent), you can input the amount of emissions and select the appropriate units for the corresponding greenhouse gas type.

Amount	Unit	Gas
3,703	Metric Tons	CO_2 - Carbon Dioxide or CO_2 Equivalent*
	Tons	Carbon or Carbon Equivalent
	Tons	CH_4 - Methane
	Tons	N_2O - Nitrous Oxide
	Tons	HFC-23 - Hydrofluorocarbon gases
	Tons	CF4 - Perfluorocarbon gases
	Tons	SF_6 - Sulfur Hexafluoride

Calculate Equivalencies | Clear Fields

*If your estimated emissions of methane, nitrous oxide, or other non-CO_2 gases are already expressed in CO_2 equivalent or carbon equivalent, please enter your figures in the row for CO_2 or carbon equivalent.

The sum of the greenhouse gas emissions you entered above is 3,703 Metric Tons of Carbon Dioxide Equivalent.

This is equivalent to one of the following:

Equivalency Results

Click on the question mark ? link to read the explanation of that particular calculation. Read about all calculations.

The information you entered above is equivalent to one of the following statements:

Annual greenhouse gas emissions from 726 passenger vehicles ? *(click to read more about this calculation)*

CO_2 emissions from 415,099 gallons of gasoline consumed ?

CO_2 emissions from 8,611 barrels of oil consumed ?

CO_2 emissions from 48.8 tanker trucks' worth of gasoline ?

CO_2 emissions from the *electricity* use of 462 homes for one year ?

CO_2 emissions from the *energy* use of 321 homes for one year ?

Carbon sequestered by 94,941 tree seedlings grown for 10 years ?

Carbon sequestered annually by 789 acres of pine or fir forests ?

Carbon sequestered annually by 36.7 acres of forest preserved from deforestation ?

CO_2 emissions from 154,278 propane cylinders used for home barbeques ?

CO_2 emissions from burning 20.2 railcars' worth of coal ?

Greenhouse gas emissions avoided by recycling 1,290 tons of waste instead of sending it to the landfill ?

Annual CO_2 emissions of 0.0009 coal fired power plants ?

Feature	Goal
Consumer Portal	
Web Presence	Developed statewide portal branded with the Program identity and content. This portal supports Energy Upgrade California content; localized content based on user-entered zip code, address and property type; and branding and program identification for utility programs. Program information includes tools for identifying estimated rebate amounts and financing. County specific content may include local news, event postings, information on rebates and promotions and links to other local programs. During contract, revamped key portal pages based on site analytics and industry feedback, provided deeper customization for local governmen and facilitated broader stakeholder review and coordination.
Account Creation	This feature allows property-owner users to establish an account on the portal to save data and return to it later. The account creation process will ask users to provide any legally necessary agreements for authorizing data sharing between agencies and utilities. Over 5,000 user accounts were created during contract.
Action Plan	This is a step-by-step guidance tool for property owners to create an individualized plan for implementing energy saving measures. The focus is on making the user aware of the overall potential for energy savings and rebates that they may achieve by undertaking efficiency upgrades on their properties, and then on facilitating and encouraging property owners' engagement with a whole house, HERS II or other certified professional energy advisor or contractor in order to maximize both their savings and their reduction in energy footprint.
Eligible Projects	This feature includes educational content about loading order and eligible upgrade projects/packages designed to help property owners become equipped with the necessary basic knowledge to discuss project scope with contractors and choose the appropriate contractor.
Directory of Qualified Professionals	Allows users to search a directory of qualified service providers that can implement their specific projects. They are able to find contractors or raters and search for services using a variety of filters, including program eligibility, geographic location, specific project types and service provider credentials. With the owner's permission, the system can provide contractors or raters with specific information about the property and the projects the owner is interested in implementing, as well as their contact information.
Admin Portal	
Dashboard	The existing Dashboard provides access to administratve and reporting tools including Helpdesk management , website analytics, and Program Administration (EC, LA and HERS II incentive processing. Through development of EUC Registry, which RF has participated in, Program administrators will access a secure view of the dashboard based on the administrator's role and permissions. The dashboard will eventually include various types and levels of Program-related management information with visibility into IOU rebate project data and potentially local government program data.
Eligible Contractor Management	The online directory of contractors and service providers organized in a very flexible manner, providing the capability to ensure that only qualified contractors/raters and those that have demonstrated compliance with state and local licensing laws are used during project implementations (minimum credentials, orientation attendance and quality assurance program participation) are listed online.
Local and Community Based Incentives	This feature provides the interface and back-end tracking for community based incentive programs such as the Energy Champions program in Los Angeles County, the whole house rating rebates administered by Ecology Action, and other local government incentive programs. Through this tool, support was provided to over 900 rating rebates.
Contractor Portal	
Account Creation	Account creation is a feature for providers to establish an account on the Website in order to participate more fully in the program. Once registered, contractors can provide and update additional data on their business for the directory and access Program-specific marketing materials. This feature support over 450 contractors and 100 raters.
Participation Information	Participation information content may include information on program terms and participation requirements, notices of events and marketing toolkit resources through a resource library. Six resource libraries were established during the contract to support program participation.
Centralized Data Repository	
Property Database	Many of the tools above are driven by GIS and local climate data, along with the specific characteristics of each tax lot or parcel. Given this granularity, the system can be easily configured to target and dynamically offer incentives and other program features to a specific household, business, or neighborhood. The system generally uses publically available information, such as GIS layer data, the National Renewable Energy Laboratory solar insulation models, climate zone information and other information about the covered geography to produce an estimate of a property's energy footprint. This work was completed but not fully utilized due to constraints from the IOUs. The property database supportednearly 80,000 property-specific page views in the Action Plan
Application (Project) Database	This is dedicated repository for consumer and/or contractor application data related to the improvements) on a property with project specific information. Information may include project types), description (i.e. R-value of insulation, kW size of PV system, etc.), and types of rebates that have been associated with a given property. The platform will accept imports or direct exchanges of data formatted with the new open XML standard for building performance data being developed by the national working group. Collaboration with IOUs on data sharing evolved throughout the contract. Rather than RF hosting IOU application data, CalCERTS was contracted to host the IOU application data and RF will need to access data for verification and reporting on behalf of local governments.
Contractor Database	This is a central repository of information about energy professionals for the entire state, including contractors and raters. The contractor database serves as the source of information for displaying participating contractor information to consumers through the portal. It may also serve as a resource available to contractors through the contractor portal for contractors seeking other energy professionals. The contractor database allowed nearly 6,000 emails to be sent to registered contractors and raters from interested homeowners.
Rebate Database	The rebate database is a structured repository of information about IOU, NGO, local government and municipal utility incentives available to consumers to encourage energy savings activities. Information includes program name, description, type of rebate, specific eligibility criteria, value, sponsor or provider info and application instructions. Rebate information is provided from the Engage 360 database. Througout the contract, support was provided to stakeholders that needed assistance in registrering rebates and incentives.
Local & Pilot Customization	
PACE Residential	Renewable Funding worked with Sonoma County to develop a customized, enhanced tool for the Sonoma County Energy Independence Program (SCEIP) residential PACE pilot. This tool will be linked from the statewide Web portal and will include PACE application and back-end processing capabilities. RF had to find an alternative software tool during the contract term due to constraints from Sonoma County.
PACE Commercial	Renewable Funding worked with the Community Redevelopment Agency of Los Angeles (CRA/LA) to develop a customized section of the portal to support the City of Los Angeles PACE commercial program. This section included information on how to participate in the Program, local incentive integration and links to additional local information. Site has been expanded to include San Francisco, Placer and Sonoma Counties.
Multifamily Tool	The Multifamily Tool serves program participants in the multifamily sector, including property owners, energy consultants and program administrators. Includes a user-friendly interface to learn which energy upgrades are appropriate for different building and ownership types, and to access specific incentive and financing information and application materials. The Program extends the tool's functionality with the ability for asset managers to monitor their projects over time and access benchmarking tools.
Commercial, MF, Other Integration	This included integration of certain aspects of existing local and/or regional program web functionality within the statewide portal to ensure coordination with local community programs and to maintain consistency for consumers. RF also expanded the EUC portal to include Multifamily.
Other	
Project Management	Renewable Funding provided IT project management including the coordination of stakeholders, gathering requirements, and managing delivery of roll-out. Coordinated IOUs, CEC, ARRA partners and contractors for successful launch of multi-faceted web portal within 3 months of contract signing.
On-Going License and Maintenance	Renewable Funding provided on-going license and maintenance including the software license for the platform and regular maintenance of the site and data. In addition, Renewable Funding deposited code into escrow account on a quarterly basis.
Support	Support includes email tracking through ZenDesk service, FAQs on contractor/rater directory and rebate registration, and reporting web analytics. Provided support for processing nearly 1,000 emails, over half related to contractor and raters and directly resolved by Renewable Funding.

Energy Upgrade California Metrics List

**Key categories - energy savings, outreach, PACE, media. Training, jobs, etc.

Coverage	Category	Major Metric Results
Program Wide	conversion	2 in 3 homeowner workshop attendees scheduled or completed assessments
Program Wide	conversion	94% of all consumers choosing upgrades have selected an advanced upgrade package reaching as high as 20%, 30%, 40% or greater calculated energy savings.
Program Wide	customer support	Zendesk Customer support system provided more than 2,000 stakeholders with online customer and technical assistance
Program Wide	DVBE	Accomplished goal of supporting DVBE by allocating over 20% of the SCTP budget to GC Green, a veteran owned and operated organization
Program Wide	energy savings	30% average energy efficiency savings for each completed upgrade
Program Wide	energy savings	274 billion BTUs of energy saved annually from the 3605 upgrades completed or in progress and 543 PACE projects completed to date.
Program Wide	energy savings	117 billion BTUs of energy saved annually from the 1907 upgrades completed to date
Program Wide	energy savings	219 billion BTUs of energy saved annually from the 3605 upgrades completed or in progress
Program Wide	energy savings	2.19 trillion BTUs saved by 2020 through the 3605 upgrades completed or in progress and 543 PACE projects completed to date
Program Wide	energy savings	18,336 metric tons of CO2 equivalent greenhouse gas emissions reduced annually; 146,688 by 2020
Program Wide	energy savings	Annual emissions savings is equivalent to taking 3,595 passenger cars off the road, recycling 6,389 tons of waste, avoiding consumption of 2,055,686 gallons of gasoline or planting 470,172 tree seedlings
Program Wide	energy savings	274 billion BTUs, attaining 94% of the program's cost-effectiveness goal for total program funds expended, or 114% of cost effectiveness goal for non-PACE program expenditures over the contract term.
Program Wide	energy savings	achieved energy savings resulting from installed measures has consistently yielded an average energy efficiency of over 30%, with an estimated 3,244 kWh and 374 therms of energy saved on each project.
Program Wide	energy savings	estimated that the 3,605 upgrades completed or in progress to date will save over 11.6 million kWh and 1.3 million therms of energy annually, equivalent to 219 billion BTUs. By 2020, these 3605 upgrades and 543 PACE projects completed to date will have saved over 2.19 trillion BTUs of energy and have resulted in the elimination of 146,688 metric tons of greenhouse gas emissions.
Program Wide	incentive rebates	Issued 1,137 Whole-House Home Energy Rating rebates, totaling $324,800
Program Wide	jobs	Doubling of the number of BPI-BA trained building professionals
Program Wide	jobs	96 contractor certification trainings provided, reaching 1051 workers
Program Wide	jobs	553 participating contractors and raters registered on the statewide web portal
Program Wide	jobs	2,113 jobs created or retained through contract and leveraged dollars
Program Wide	jobs	providing over 1000 workers with valuable certification training, supporting supplemental training, registering over 550 participating building professionals on the web portal and generating demand for building professional upgrades; and
Program Wide	leverage	Approximately $451 million reinvested into California's local economies
Program Wide	local gov	Local Government coordination, including convening/participating in 58 LGACs meetings
Program Wide	local gov	Industry and workforce coordination, including convening/participating in 63 LTACs meetings
Program Wide	media	169 million paid and earned media coverage gross impressions
Program Wide	media	Secured 664 earned media coverage stories in local/regional television, radio, print and online news outlets, representing an estimated 28 million impressions
Program Wide	media	Created and utilized event promotional kits and materials including standing banners and table displays for outreach team awareness events, homeowner workshops and workforce trainings
Program Wide	media	Conducted a statewide paid media advertising campaign to "high hit" target audiences, utilizing radio, print, and online advertisements resulting in over 141 million paid media impressions, approximately 9,715 radio commercials, and 111,580 clicks to the web portal from online advertising
Program Wide	media/outreach	Utilized printed and electronic collateral materials including more than 170 flyers, 160 html email invites and 130 online registration pages (capturing more than 3,000 attendee registrations) to promote a combination of small-format events targeting homeowners, contractors and real estate professionals, and large-format events that targeted key community influencers
Program Wide	media/PR	Launched local earned media campaign, generating over 664 earned media print, radio, television, and online media coverage stories, generating an estimated 28 million impressions
Program Wide	media/PR	Outreached to state legislators to support brand promotion, yielding uptake by 32% of legislators for program logo on legislator websites, online articles and/or within constituent newsletters
Program Wide	media/PR	Launched 2 interconnected YouTube sites generating 4,054 views and growing
Program Wide	media/PR	Created 45 videos, based on interviews with homeowner and contractor doing an actual upgrade for the Energy Upgrade California web portal
Program Wide	outreach	104,000 person-to-person direct stakeholder technical assistance interactions
Program Wide	outreach	7,000 web portal consumer to contractor or rater inquiries
Program Wide	outreach	334 workshops educating and inspiring homeowner, contractor/rater, real estate/lender action
Program Wide	outreach	Developed, conducted and drove attendance to 334 homeowner workshops, contractor trainings and workshops, realtor/lender workshops, homeowner success events and regional launch events
Program Wide	outreach	Developed and conducted 3 marketing focused stakeholder trainings for contractors and raters on how to market and sell Energy Upgrade California to consumers
Program Wide	outreach	701 promotional awareness events attended, an average of over 116 per region
Program Wide	outreach	8 upgrade success events for high visibility and earned media impact
Program Wide	outreach	11 contractor networking events and 29 Supplemental contractor-training workshops
Program Wide	outreach	96 contractor training activities, at least 1 per county and 3 per region
Program Wide	outreach	34 energy finance, real estate/loan officer workshops, an average of 6 per region
Program Wide	outreach	156 homeowner workshops, an average of 1/region every week over 6 months
Program Wide	outreach/ftf1	104,608 total person-to-person direct stakeholder interactions
Program Wide	outreach/ftf2	37,483 Homeowners
Program Wide	outreach/ftf3	21,019 Contractors
Program Wide	outreach/ftf4	4,049 Non-Governmental Organizations
Program Wide	outreach/ftf5	24,106 Real Estate Professionals

Energy Upgrade California Metrics List

**Key categories - energy savings, outreach, PACE, media. Training, jobs, etc.

Coverage	Category	Major Metric Results
Program Wide	outreach/ftf6	13,341 Other Stakeholders
Program Wide	outreach/ftf7	4,610 Local Governments
Program Wide	PACE	780 residential and commercial PACE energy audits totaling over 29,401,390 ft2 completed
Program Wide	PACE	543 residential and commercial PACE projects completed or in progress
Program Wide	training	96 BPI-BA trainings held in 28 Program Plus Counties, including 6 trainings by Community Colleges
Program Wide	training	More than 1,000 contractors and building professionals trained
Program Wide	training	Increased number of certified BPI-BA professionals by more than 50% as compared to those reported by BPI as of Dec 2010
Program Wide	training	Supported increase in certified HERS Whole-House professionals through CalCERTS, by providing 177 incentives to students, including 70 HERS Whole-House Home Energy Rater course discounts, 49 field exam incentives and 39 Building Performance Contractor (BPC) incentives
Program Wide	upgrades	3,605 whole-house energy upgrades in progress and/or completed
Program Wide	upgrades	Nearly half (49%) of survey respondents reported contacting a contractor following the workshop, while 61% of attendees have scheduled (42%) or plan to schedule assessments (19%). Furthermore, within just 30-90 days of workshop attendance 36% of survey respondents reported having completed assessments, while 22% or more than 1 in 5 attendees, reported having completed upgrades.
Program Wide	web	2,177,470 total page views to the web portal
Program Wide	web	327,314 total visitors since launch, approximately 770 visitors/day
Program Wide	web	2,177,470 total page views since launch, approximately 5,000 page views/day
Program Wide	web	Over 5,920 user accounts created
Program Wide	web	Nearly 7,000 contractors and raters emailed through the web portal

Energy Upgrade California Metrics List

**Key categories - energy savings, outreach, PACE, media. Training, jobs, etc.

Coverage	Category	Major Metric Results
Program Wide	web	Resource Library maintained with over 23,000 page views, linking local governments, contractors, real estate professionals and other stakeholders to up to date collateral and templates
Program Wide	web/media	Over 120 local news features and 4 statewide news features posted to the web portal press room
Program Wide	web/PR	Over 250 local and 31 statewide events posted to appropriate county and/or statewide event pages
LA	PACE	Los Angeles $2M Debt Service Reserve Fund
LA	PACE	90 Commercial energy audits on large buildings funded totaling 28,000,000 ft2, identified an estimated energy savings potential of 55,000,000 kWh
LA	PACE	247 Commercial energy audits on smaller buildings funded totaling 542,700 ft2, identified an estimated energy savings potential of 1,200,000 kWh
LA	PACE	Approximately 150 additional small business audits are expected to be performed by the end of the contract term
LA	PACE	Established a $2M debt service reserve fund
PACE	energy savings	55 billion BTUs saved annually from 543 PACE projects completed to date
PACE	leverage	$194 million in ARRA and leveraged funds under this contract created or retained 2,113 jobs. Moreover, each dollar invested in energy efficiency represents additional dollars reinvested into local economies resulting in an estimated $451 million dollar economic investment.
PACE	PACE	341 commercial energy audits totaling 28,542,700 ft2 identified an estimated potential energy savings of 575 billion btus
PACE	PACE	439 residential energy audits totaling 858,690 ft2 identified an estimated potential energy savings of 10.3 billion btus
PACE	PACE	518 residential projects, achieved an estimated energy savings over 30.2 billion btus*
PACE	PACE	25 commercial retrofit projects, achieved an estimated energy savings of 48 billion btus
PACE	PACE	1st PACE pooled bond and alternative financing strategy feasibility analysis complete
PACE	PACE	Comprehensive PACE Replication Kit completed as a long-term resource for other programs across the nation
PACE	PACE	439 residential energy audits funded totaling 858,690 ft2 and identifying an estimated potential energy savings of 10.3 billion btus
PACE	PACE	860 residential improvements from 518 total PACE financed projects
PACE	PACE	370 renewable energy generation solar systems erected with an estimated annual generation of 2.9M kWh or 30.2 billion btus of avoided energy use
PACE	PACE	90 commercial energy audits on large buildings funded totaling 28,000,000 ft2 identifying an estimated potential energy savings of 55,000,000 kWh
PACE	PACE	247 commercial energy audits on smaller buildings funded totaling 542,700 ft2 identifying an estimated potential energy savings of 1,200,000kWh
PACE	PACE	25 commercial projects financed, with an estimated electric savings of more than 46 billion btus
PACE	PACE	1 Comprehensive PACE Replication Kit serving as a valuable resource for other programs
PACE	PACE	2 Debt service reserve funds totaling $2,372,600, and a $2M line of credit
PACE	PACE	PACE pooled bond issuance and alternative financing strategy feasibility analysis
Placer	PACE	4 commercial projects completed in Placer County with annual savings of 2.3 billion btus
Placer	PACE	4 commercial PACE financed retrofit projects completed
Placer	PACE	223,233 kWh estimated annual energy savings from completed projects
Placer	PACE	Based on the useful life of the installed improvements, these measures are anticipated to represent an estimated total energy savings of 4.4 million kWh or 15.2 billion BTUs, and an energy cost savings in dollars of $2,381,670
San Fran	PACE	San Francisco $372 Loan Loss Reserve Fund
San Fran	PACE	Established a $372,600 debt service reserve fund
sonoma	PACE	Sonoma $2M Line of Credit
sonoma	PACE	the Energy Analysis Rebate Program was hugely successful with over 500 Sonoma County homeowner participants during the term, a resource that served to drive homeowner demand for energy efficiency upgrades through an initial interest in an energy analysis. Survey results from 164 responses from the 406 homeowners participating in the energy analysis rebate program, indicated that 64% of respondents had completed or planned to complete energy upgrade work on their home.
sonoma	PACE	439 residential energy audits funded totaling 858,690 ft2, identifying an estimated energy savings potential of 1,008,335 kWh (120,111 NG therms)
sonoma	PACE	860 residential improvements installed through 518 PACE financed projects
sonoma	PACE	370 renewable energy generation solar systems erected with an estimated annual generation of 2,946,438 kWh (30.2 billion btus equivalent)
sonoma	PACE	43 Commercial retrofit improvements (21 projects), with an estimated energy savings over 2,200,000 kWh (savings associated with 19 renewable energy generation improvements only)
sonoma	PACE	28 participating HERS Whole-House Raters, and 3 HERS BPC Contractors
sonoma	PACE	Conducted pooled bonding and alternative financing strategy feasibility analysis
sonoma	PACE	Established $2M line of credit

Property Assessed Clean Energy (PACE) Replication Guidance Package for Local Governments

March 30, 2012

PREFACE

Sonoma County has prepared this Guidance Package ("manual") to assist other local governments in developing a Property Assessed Clean Energy (PACE) program.

The information contained within this manual is offered only for general informational purposes. It does not constitute either general or specific legal advice and should not be substituted for legal, financial or other professional advice. This manual is based on an energy independence program individualized for the County of Sonoma and may not be suitable for all public agencies. These materials are not promised or guaranteed to be current, complete, or up-to-date. Different factual situations and evolving case law may require substantial modifications to the enclosed documents. As such, the authors make no representations or warranties with respect to the accuracy or completeness of the contents of this manual.

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EXECUTIVE SUMMARY

This manual will assist local governments in their efforts to establish and operate Property Assessed Clean Energy (PACE) programs. It provides a general overview of PACE and the considerations for local governments contemplating a PACE program design and administration.

Note: The information contained within this manual is offered only for general informational purposes. It does not constitute either general or specific legal advice and should not be substituted for legal, financial or other professional advice. This manual is based on an energy independence program individualized for the County of Sonoma and may not be suitable for all public agencies. These materials are not promised or guaranteed to be current, complete, or up-to-date. Different factual situations and evolving case law may require substantial modifications to the enclosed documents. As such, the authors make no representations or warranties with respect to the accuracy or completeness of the contents of this manual.

Most property owners can reduce long-term energy and water costs and their dependence on traditional fossil fuels by making energy efficiency and water conservation improvements and installing renewable energy systems on their properties. While the benefits of making such improvements are evident, property owners often have concerns about the substantial upfront costs and the limited options available to finance these improvements. PACE programs allow local governments to provide property-secured financing to promote energy efficiency, water conservation and renewable energy improvements on properties within their communities.

Although PACE is relatively new, local governments throughout the country have used property-secured financing for decades to finance projects that benefit the public. Property-secured financing generally allows a local government to fund certain projects and impose an assessment[1] on property to secure repayment for its funding. California law authorizes local governments to establish a property-secured financing program to fund eligible energy efficiency, water conservation and renewable energy generation improvements ("PACE improvements") on private property. A participating property owner agrees to repay the local

[1] This document uses the term "assessment" to refer collectively to property-secured financing, regardless of whether a local government imposes an assessment or a special tax on property to secure repayment for the improvements funded by the local government.

government's funding through an assessment levied against the owner's improved property, which the property owner pays in semi-annual installments with property taxes. The property owner agrees to have a lien for the assessment be recorded against the property. The lien and payment responsibility stays with the property and is transferable from one property owner to the next upon the sale of the property.[2] The local government may issue bonds to finance PACE improvements with assessment revenues pledged for payment of debt service on the bonds.

The building retrofit financing sector is exciting and dynamic and a variety of PACE program models are emerging across the country. Therefore, this manual is not all-inclusive. Instead, it serves as a general guide to PACE financing by drawing from the experience of the Sonoma County Energy Independence Program and other pioneering programs in California. Accompanying this manual as its Appendices is the Document Library, a resource center for sample program materials.

WHAT'S INSIDE

This PACE manual serves as a resource for local governments to assist them with the development, implementation, ongoing management and sustainability of PACE programs. It provides in-depth information about how existing PACE programs are operating, including a discussion of financing mechanisms, planning parameters, process implementation and other key aspects of PACE. This manual also provides an accompanying "Document Library" intended to give local governments a jump start in establishing a PACE program by providing sample documents to establish a PACE program, to set PACE program policies, to contract for related services and to establish ongoing PACE program operations. Each of the program planning and operational chapters (Chapters 2-5) contains "Lessons Learned" pertinent to that chapter's discussion. Finally, answers to questions frequently asked of California PACE program managers are provided.

[2] Throughout this document, reference is made to the transfer provision of the PACE assessment with the transfer of the property. Please refer to the "Federal Mortgage Regulators" discussion in the Introduction of this manual for a detailed discussion of the current status of this intent.

HOW TO USE THIS MANUAL

This manual is designed for local government officials, decision-makers, staff, and public advocacy groups interested in establishing a PACE program in their region. Policymakers interested in understanding what PACE is, its advantages and disadvantages, and the future of PACE should focus on the Introduction. Advocates of establishing a PACE program may wish to focus on the Introduction and Chapter 6 (Case Studies) to understand the potential benefits of and possible models for a PACE program. Local elected officials deciding whether or not to implement a PACE program should refer to Chapter 2 (PACE Program Considerations). Staff assigned to implementing a PACE program should refer to Chapters 3-5 and the Document Library for an understanding of the process and tasks involved with setting up and operating a PACE program, including administrative, legal, and financial challenges.

CHAPTER ONE: INTRODUCTION

WHAT IS PACE?

Property Assessed Clean Energy (PACE) is a program that authorizes a local government to provide up-front funding to eligible property owners to finance the installation of energy efficiency and water conservation improvements and renewable energy systems on their property. The program is 100% voluntary.

HOW PACE FINANCING WORKS

Property owners repay the local government's funding by agreeing to an assessment levied against their property, which is payable on their property tax bill. The assessment is paid off over a term often determined by either 1) the life of the bond or other financial mechanism used to finance improvements, or 2) the functional life (effective useful life) of the improvement. The typical maximum repayment duration is 20 years. The obligation to repay the assessment is attached to the improved property, not the property owner, and transfers with the sale of the property to the new owner.[3]

In California, local governments have broad authority to determine the type of improvements that can be financed and the details of the financing arrangement. PACE improvements can include a wide variety of energy-saving upgrades, from solar systems to high efficiency HVAC systems to double-paned windows and doors.

HISTORY OF PACE LEGISLATION

PACE was first proposed and created by the City of Berkeley, California in 2007,[4] which implemented a small pilot for residential solar financing. PACE programs have been identified as Energy Financing Districts, Sustainable Energy Financing, Clean Energy Assessment Districts (CEAD), Contractual Assessments Programs, or Community Facility Districts.
On July 21, 2008, California Governor Arnold Schwarzenegger signed California's first PACE legislation, Assembly Bill 811 (AB 811). AB 811 authorized cities and

[3] See "Federal Mortgage Regulators" below for a detailed discussion of the current status of this intent
[4] See "Guide to Energy Efficiency & Renewable Energy Financing Districts for Local Governments," as listed in the Resources section of this manual.

counties to establish voluntary contractual assessment programs to fund an array of conservation and renewable energy projects proposed by property owners. [5] The California Legislature declared that a public purpose would be served by such programs, giving local governments the authority to finance the installation of distributed generation renewable energy sources – such as solar – and energy efficiency and water conservation improvements that are permanently affixed to residential, commercial, industrial, or other real property.

On July 24, 2008, the first municipality in California, the City of Palm Desert, adopted a Resolution of Intention to establish a PACE program pursuant to AB 811 and on August 28, 2008, Palm Desert's City Council established the City's Energy Independence Program (the "Palm Desert EIP").

On October 18, 2009, the U.S. Department of Energy (USDOE) announced the "Policy Framework for PACE Financing Programs." This document recommends safeguards for mortgage lenders, homeowners and other parties and serves as guidance for the design of PACE programs around the country. On May 7, 2010, the USDOE released its "Guidelines for Pilot PACE Financing Programs," providing practices and guidelines to help implement the Policy Framework for PACE Financing Programs announced on October 18, 2009.

Since the emergence of the Palm Desert EIP, several other programs have been launched in California. The first of these was the Sonoma County Energy Independence Program (SCEIP), discussed below, followed recently by commercial PACE programs in Placer County, Los Angeles County, and the City and County of San Francisco. Information for these commercial programs is included as Chapter 6 of this manual.

[5] Recognizing the strong relationship between water use and energy use, the Legislature adopted AB 474, effective January 1, 2010, expanding the scope of AB 811 by expressly authorizing certain agencies, in addition to cities and counties, to finance water conservation improvements. Specifically, AB 474 adds municipal utility districts, community services districts, sanitary districts, sanitation districts and water districts as agencies authorized to finance water conservation improvements. In addition, the recent amendments add municipal utility districts, irrigation districts and public utility districts that own and operate an electric distribution system as agencies that may establish AB 811 programs to finance energy efficiency and renewable energy improvements.

PACE IN SONOMA COUNTY

Sonoma County and each of its incorporated cities and towns (collectively the "Cities") have established a goal to reduce their greenhouse gas emissions (GHGs) 25 percent below 1990 levels by 2015. The County, the Cities, the Sonoma County Water Agency, the Sonoma County Transportation Authority and the Sonoma County Agricultural Preservation and Open Space District are members of the Regional Climate Protection Coordination Plan ("RCPCP") with the goal of coordinating efforts to reduce countywide GHG emissions. In 2008, the opportunity to form a PACE program pursuant to AB 811 was viewed as a significant tool in helping Sonoma County and its cities reach their aggressive GHG emissions reduction targets.

The County of Sonoma Board of Supervisors adopted a Resolution of Intention to establish an AB 811 program on March 3, 2009. Following a public hearing, on March 25, 2009, Sonoma County's Board of Supervisors approved its AB 811 program thereby launching the Sonoma County Energy Independence Program (SCEIP). SCEIP was the first countywide PACE program in the State of California and continues to provide both residential and non-residential PACE financing.

Joined by every incorporated city and town, SCEIP covers all areas in the geographic County of Sonoma. In the first three years of operation, SCEIP has financed over $55 million in projects, representing over 1600 residential properties, 50 non-residential properties and 2600 individual improvements. Because a majority of the improvements have been performed by local contractors, most of the $55 million in funding provided by the County has remained within the local community, generating over 70 job-years of local labor. [6]

SCEIP allows more than 90 eligible measures for energy efficiency, water conservation and renewable energy generation. Since program launch, SCEIP has financed over 7.5MW of photovoltaic solar generation, equating to a GHG reduction of 4, 700 tons annually. An effort to quantify the energy savings and GHG reduction for financed PACE improvements is currently underway.

In March of 2011, SCEIP became a partner of Energy Upgrade California, a state-wide initiative to reduce energy consumption in existing buildings.

[6] Here, one job-year is defined as being equal to 1,960 hours (40 hours per week, 49 weeks per year). This can be one person employed for 1,960 hours, 2 people for 980 hours each, etc.

BENEFITS OF A PACE PROGRAM

Benefits to Residential Property Owners

- Potential for lower electric, gas and water utility bills
- More comfortable buildings
- Improved indoor air quality
- Improvements to property can be made with no or low up-front costs and can be financed over an extended period of time
- Assessment attaches to property and can transfer to new owner with property sale[7]
- PACE improvements may increase property value
- Lower carbon footprint
- List of contractors may be vetted to promote quality improvements

Benefits to Commercial Property Owners

In addition to all of the above:

- Property assessment may be off balance sheet, preserving capital for core business investments
- Long-term payback, up to 20 years, allows for greater return on investment
- For managed properties, reduced tenant turnover as a result of more comfortable and healthy indoor environment
- Improvement costs and benefits align under most lease structures (e.g. property tax pass-through to tenants)

Benefits to Municipalities

- A PACE program is a key element in achieving GHG reduction goals by providing a significant financing tool to encourage and support the shift to greater efficiency and renewable energy
- Ability to serve as a streamlined clearinghouse for information, providing tools and resources to property owners that will enable them to take action
- Investing in local job creation and reduced environmental impacts
- Environmental credits captured through funded projects may be available for future use

[7] See "Federal Mortgage Regulators" below for a detailed discussion of the current status of this intent

- Priority lien position creates secure financing mechanism and general fund protection
- An opportunity to promote GHG reduction goals through collaboration and sharing resources among public, business, and non-profit organizations

Benefits to Contractors

- Increased number of local jobs created and retained as a direct result of funding existing building retrofits, particularly in the renewable energy and construction fields
- Program marketing and outreach (e.g. local government's PACE program website) provides source of customer lead generation
- In many cases, contractor workforce training is a component of PACE programs in order to build workforce capacity

Benefits to Mortgage Lenders[8]

- Reducing utility bills increases property owner's ability to make mortgage payments
- For commercial properties, improvements financed by PACE can decrease operating costs, increase net operating income, and therefore can increase the value of the property
- PACE projects enhance the lender's collateral by improving the property
- In the event of default, only delinquent amount on assessment is due
- Purchasing the PACE bonds may be an investment opportunity for the existing mortgage lenders, who can now offer what is essentially a new "green" financial product to their customers

Benefits to the Community & the Environment

- Increasing energy efficiency and renewable generation lowers GHG emissions and reduces dependence on fossil fuels
- Increased demand for energy efficiency drives technological advancements in building performance and renewable energy research and development
- Increased demand for energy efficiency drives state and federal energy policies and funding, safeguarding and sustaining programs such as PACE

[8] Please refer to the Lender Acknowledgement section of "Chapter Three – Best Practices" for further discussion on PACE and mortgage lenders.

Testimonial: Benefits of PACE

Rod Stevenson, Homeowner & Owner of Stevenson Supply and Tractor Sales

Rod completed three energy projects, the first two to his home. As a result of the first two projects, his home electricity bill was cut in half and his propane costs decreased 75%. The first home project included a cool roof, new hot water heater, high efficiency toilets, Energy Star heat pump, and new HVAC system. Rod served as general contractor for this first project, and he hired subcontractors. He worked with the Sonoma County Energy Independence Program (SCEIP) to choose which upgrades to make. Rod shares, "(we) did energy improvements to our home and business. At home, we looked at the whole house concept when making upgrades."

The second home project was done by local energy efficiency contractor Craig Lawson. Craig did the groundwork, made a presentation and discussed options with Rod and his family, and also did the work. Upgrades included attic insulation, air sealing, weather stripping, duct sealing, crawlspace insulation, and new energy efficient lighting. Rod appreciated having an energy efficiency expert to work with on this project.

At his business in Santa Rosa, Rod installed a solar array. The array was so efficient that it paid for the year's energy bill. Rod explains, "Even in a down economy we must make business decisions that make sense and cents. …I (had) a large enough (solar energy) credit to pay November and December's heating bill. (Going) "green"… is just the right thing to do for the environment"
Rod wants Energy Upgrade to continue to educate the public. "You need to get the word out... I don't think 90% of the homeowners even consider or understand energy efficiency."

LIMITATIONS OF PACE

While these benefits make a PACE program an attractive option for property owners and municipalities, there are a number of barriers that local governments should recognize that may limit investment in energy and water efficiency and renewable energy.

Program Availability

PACE is available only to property owners; renters cannot access this program directly. Residential renters tend to have disproportionally low or moderate incomes resulting in a higher percentage of income being spent on utility costs, meaning that those most in need of lower utility bills will not be able to access this program.

Split Incentives

Split incentives occur when the property owner *perceives* himself as not receiving many of the benefits of the improvements; for example, rental property owners may resist investing in building efficiency upgrades when the tenant pays the utility bill. However, with targeted outreach by local governments, rental property owners will understand the advantages of PACE and the value of investing in their property in order to capture higher rents (subject to any applicable rent control laws) and better retention of tenants.

Limitations on Eligible Improvements

The program cannot finance non-permanent items such as efficient light bulbs and refrigerators because they can be easily removed when the current owner leaves. Local governments must find other ways to encourage these valuable upgrades.

Local Government Staff Time[9]

Creating and administering a PACE program requires staff time on the part of local governments. Local governments with existing PACE programs have dedicated program staff that is supported by their local elected and other government officials. The good news is that with the recent emergence of several working PACE models, implementing a program from scratch will become less resource-intensive. Also, there are many opportunities to pool resources and form partnerships to create countywide or regional programs; Sonoma County is an example of this. Still, the concerted effort needed to pass statewide enabling legislation where it is lacking, obtain local approval, and design, administer and fund a PACE program should not be underestimated.

WHAT PACE IS NOT

There are many financial products available to property owners to fund energy and water efficiency improvements and renewable energy generation projects. Although differing in interest rate, financing term, and eligibility requirements, all of these alternative products can be categorized as "conventional loans." As such, they are junior (subordinate) to a primary, or senior, first mortgage. Subordinate programs require a different analysis, as they will not establish a new asset class that is attractive to private investors. A subordinate lien may require substantial government credit support. A priority lien PACE program

[9] A comprehensive discussion of this item is the focus of Chapter Two.

provides a financing tool that attracts capital on its own. The PACE model discussed in this manual is specific to superior priority PACE financing.

FUTURE OF PACE

FEDERAL MORTGAGE REGULATORS

The surge in interest in PACE programs in 2010 produced growing concern among mortgage regulators such as the Federal Housing Finance Agency (FHFA), which oversees Fannie Mae and Freddie Mac. In May 2010, Fannie Mae and Freddie Mac, government sponsored enterprises that purchase a very large segment of conforming single family home mortgages, issued letters of instructions to lending institutions. These instructions stated that the terms of the Fannie Mae/Freddie Mac Uniform Security Instruments prohibit loans that have senior lien status to a mortgage, thus implying that PACE assessments were loans and would be an unallowable encumbrance to a property with a Fannie Mae- or Freddie Mac-backed mortgage. Following this, on July 6, 2010 the FHFA issued a statement determining that "PACE loans...present significant risk to lenders and secondary market entities" and called for all state and local governments to pause their programs. On August 31, 2010, Fannie Mae and Freddie Mac issued additional instructions to lenders that they "will not purchase mortgage loans secured by properties with an outstanding PACE obligation."

The result of these statements was two-fold: first, most local governments running residential PACE programs suspended operations. Sonoma County suspended its residential program until directed by its Board of Supervisors on July 13, 2010 to restart the program and file a lawsuit against the FHFA. Second, lending institutions began to require that property owners pay off their PACE assessment prior to selling or refinancing any property encumbered by a PACE assessment. Currently, SCEIP requires all residential applicants to sign a disclosure which states the position of all parties and provides links to the federal government agencies' letters and statements. This disclosure constitutes the first page of the SCEIP application, and an application will not be accepted unless it is signed by all property owners on title. It is imperative that any local government operating a residential PACE program before this issue is satisfactorily resolved include a strong disclaimer that has been reviewed and approved by counsel, and take steps to be sure applicants are educated on this issue.

Lawsuits challenging FHFA's statement were filed in California by the California Attorney General, Sonoma County, Palm Desert, and the Sierra Club. The County of Placer joined the Sonoma County suit as an intervenor. In other jurisdictions, the National Resource Defense Council, the Town of Babylon New York, and Leon County, Florida filed similar suits. The FHFA moved to dismiss all suits, challenging the authority of the Court to oversee actions of the FHFA. The California Court denied the FHFA's motion to dismiss, and granted the County of Sonoma's motion for a preliminary injunction to require the FHFA to begin rulemaking proceedings, and consider comments before issuing a final rule on PACE programs. The FHFA has appealed that order, but rulemaking proceedings have been initiated while the matter is on appeal. The FHFA issued its Advance Notice of Proposed Rulemaking, and the comment period was open until March 26, 2012. The FHFA must now consider the comments, and issue a proposed rule, again take and consider comments, and issue a final rule. In the meantime, the July 6, 2010 FHFA Statement remains in effect. The other federal courts granted the FHFA's motion to dismiss, and those cases are on appeal.

FHFA guidance does not impact commercial PACE programs although it should be noted that also on July 6, 2010, the U.S. Office of Comptroller of the Currency, which regulates commercial banks, issued guidance to institutions under its jurisdiction.

Many of the statements, letters and associated documents related and referred to in this section are provided in the "Resources" section of this manual.

PENDING FEDERAL LEGISLATION

The PACE Assessment Protection Act of 2011, H. R. 2599, was introduced into the U.S. House of Representatives on July 20, 2011 by Congresswoman Nan Hayworth (R-NY) and is co-sponsored by a bi-partisan contingent of 51. This bill, if passed, will prevent Federal residential and commercial mortgage regulators from adopting policies that conflict with or thwart established State and local PACE laws. Summary and full text versions of this legislation may be viewed on the GovTrack website. The bill is currently in the House Financial Services Committee.

ENVIRONMENTAL CREDITS

Environmental credits are tradable measures or units representing GHG emissions including carbon credits, carbon offsets, renewable energy credits or any other environmental attribute. They represent a potentially marketable commodity that incentivizes the mitigation of GHGs.

In Sonoma County, upon entering into a contractual assessment agreement, a property owner agrees that any environmental credits attributable to the PACE-financed improvements will be jointly held by the County of Sonoma, the Sonoma County Water Agency, and the Sonoma County Transportation Authority.

CHAPTER TWO: PACE PROGRAM CONSIDERATIONS

This chapter provides a discussion of the key considerations for local government administrators and elected officials prior to making the decision to create a PACE program. It is recommended that the local government form an Advisory Committee tasked with making recommendations to the elected officials. In summary, the key considerations are:

- **Has my state adopted PACE-enabling legislation?**
- **Is my local government familiar with property-secured financing?**
- **What geographical areas and property sector(s) will be able to participate in our program?**
- **Is a PACE program feasible in terms of our financial capacity?**
- **Is a PACE program feasible in terms of anticipated participation?**
- **How will we finance the program, both start-up costs and project funding?**
- **Is there political will to implement and champion a PACE program?**
- **Do we have the people and tools to accomplish the necessary tasks of designing and launching a program?**
- **How will we finance the on-going operational program costs?**

A Chapter Two Checklist for these activities is included at the end of this chapter in order to assist other entities in defining their timelines.

ADVISORY COMMITTEE

Early in the program design stage, the local government must identify the key staff, which may include elected officials, who will consider and make recommendations regarding the key considerations outlined above. This

advisory group may be disbanded after it makes its recommendations or retained for program governance, as described in Chapter Three.

PACE AUTHORIZING LEGISLATION

PACE programs operate like traditional property-secured financing, which usually fund public improvements through compulsory charges on property with the obligation for such payments secured by a superior priority lien. PACE programs preserve the superior priority lien, although they finance improvements to private property made through a consensual arrangement. As a result, before a government can establish a PACE program, the state probably needs to first adopt enabling legislation to permit governments to finance improvements on private property with the consent of the property owner and to secure that financing with a priority lien on the improved property, as in other assessment districts.

Enabling legislation for a PACE program raises a number of policy considerations and will look different from state to state. In spite of these differences, successful enabling legislation for a PACE program requires consideration of the following key factors.

- **Authority to finance improvements on private property** – Governments usually finance improvements that are publicly owned, such as sewers, streets, sidewalks and street lighting. Although PACE improvements provide a number of public benefits, the improvements are privately owned. Therefore, the laws already on a state's books may not authorize governments to finance PACE improvements on private property. Enabling legislation for a PACE program must authorize government financing for PACE improvements on private property.
- **Voluntary financing** – Traditional government financing generally allows a government to levy a charge on property even when the property owner opposes the charge. Although traditional financing procedures might require a balloting or protest process to obtain property owner approval for a government to levy charges to fund an improvement, upon receiving the requisite support, even property owners that opposed the levy are subject to it. In other words, traditional financing might give property owners a voice in whether a government may levy charges on property, but the arrangement is not voluntary. Therefore, the laws already on a state's books probably do not provide for

consensual financing arrangements between the government and a property owner. Enabling legislation for a PACE program must authorize the government and a property owner to enter into an agreement to finance improvements under the PACE program. Similar statutes already exist for other types of assessment financing that involves work on private property, such as seismic upgrades or geologic hazard abatement.

- **Superior priority lien authority** – Voluntary financing arrangements often secure a property owner's payment obligation with a lien on the property in a junior position to the lien that financed the owner's purchase of the property. In contrast, governments have the power to place a lien on property that is superior to all voluntary liens in order to secure the payment obligation for improvements that are public in nature. A superior priority lien on property is necessary to protect public resources and to enable the government to issue bonds secured by the property owners' payments. Although PACE improvements on private property are not publicly owned improvements, they provide a number of public benefits and serve public purposes by promoting more efficient use of limited natural resources and addressing reducing carbon emissions that cause global climate change. Enabling legislation for a superior priority lien PACE program must authorize the government to place a superior priority lien on the improved property and must declare how the PACE financing serves a public purpose.

  In addition, recorded notice of the PACE assessment lien provides subsequent purchasers of property with notice of the PACE financing and enable them to make an informed decision as to whether to purchase the property (and thereby voluntarily assume the obligation to pay the any PACE obligation on the property). Enabling legislation for a PACE program should require a notice of the PACE assessment and lien to be recorded on the property.
- **Bonding authority** – Governments generally need express authority to issue bonds or other evidences of indebtedness. Enabling legislation for a PACE program must authorize the government to issue bonds to finance its PACE program and to pledge a property owner's payment obligation to repayment of the bonds.

- **Economies of scale** – Governments might be able to achieve greater efficiencies in administering a PACE program at a regional level as opposed to administering many PACE programs at the most local level of government. Moreover, a large financing pool might be able to obtain more favorable financing terms than a small financing pool could obtain. Therefore, enabling legislation for a PACE program should authorize regional programs by allowing local governments to work together to form a PACE program that serves multiple local government jurisdictions.
- **Local control** – Legislating detailed matters at the state level results in legislation that is unable to keep pace with technological or financial innovation and unable to adapt to local needs, preferences or politics. On the other hand, many policy considerations determine the amount of control that a state wishes to exert over PACE programs. In achieving a balance between these two factors, enabling legislation for a PACE program should seek to regulate the most general parameters for a PACE program and allow local governments to legislate the detailed PACE program matters. Matters that appear may be more appropriate for a local government to establish include: the specific types of improvements that the PACE program will finance; the specific terms of the agreement to finance the improvements between the government and a property owner; and the specific terms of any bonds or other debt issued by the local government to finance its PACE program.
- **Easy to understand** – Legislators might have more success gaining support for legislation that is easy to explain and easy to understand. Enabling legislation for a PACE program should provide a simple process for a government to establish the program and for a property owner to opt into the program. For example, reduced to its basic requirements, California's AB 811 simply requires a noticed public hearing at which the legislative body of the government establishes the program and enables a contract between the property owner and the sponsoring government to finance the improvement on the owner's property.
- **Builds on existing law** – Legislators might have more success gaining support for legislation that builds on a law that is already on the state's books. An amendment to existing law might be easier to understand because lawmakers and the public are

already familiar with it and such an amendment might be subject to less criticism because the legislation does not appear to be a radical change. However, additional consideration should be given to whether the existing law already has an unfavorable public opinion that might work against efforts to adopt the enabling legislation.

The contents of a local government's legislation to establish its local PACE program will be largely governed by the requirements prescribed in the state's enabling legislation. Basic provisions should include: (1) findings that the PACE program is in the public interest and serves a public purpose, (2) approval of the proposed arrangements for financing the PACE program, (3) adoption of the PACE program's guidelines, policies and procedures, (4) approval of the agreement between the local government and each participating property owner, (5) conditions under which modifications to such documents require local legislative approval or instead may be made by staff, and (6) the types of improvements that the PACE program may finance.

Finally, as will be discussed in more detail in the Best Practices section of Chapter Three, the federal government has introduced additional factors for state and local governments to consider in adopting enabling legislation for a PACE program. As matters with the federal government continue to develop, the specific federal requirements will change. However, the legislative provisions appear to fall into two general categories: 1) governmental measures to protect property owners, and 2) governmental measures to minimize the risk of default on the PACE program financing.

Examples of property owner protection provisions include disclosing the effective costs of PACE program financing and the attendant risks to the property owner, and providing a rescission period for the transaction as well as notice of the right to rescind.

Examples of provisions to minimize the risk of default include: ensuring that participating property owners meet certain minimum criteria, such as being current on all property taxes and other public assessments, an absence of excessive involuntary liens on the property, a minimum amount of property owner equity in the property, an absence of property-based debt delinquencies or defaults, no recent history of bankruptcy, and being current on all mortgage debt. Such provisions also include ensuring that the financed improvements meet certain minimum criteria, such as requiring evidence that the

improvements are estimated to provide cost savings, determining that the total amount of PACE financing is not excessive in comparison to the value of the property, and prohibiting a financing term that exceeds the useful life of the financed improvements.

In California, PACE programs utilize the legal structure authorized by AB 811, enacted in 2008, or SB 555, enacted in 2011. The driving force for California's PACE laws was a need for legislative authorization to place a superior priority lien on property for the financed improvements. Among the laws' most successful attributes are that (1) they expand upon existing financing methods, (2) their basic framework is easy to understand and (3) they provide very broad authority to local governments, which does not dictate the specifics about how local governments implement their programs in their communities. Each law provides certain procedural requirements for a local government to establish a PACE program.[10]

As of March 2012, some twenty-seven (27) states and the District of Columbia currently have existing legislation providing local authority for PACE programs, with several more states soon to follow. The Database of State Incentives for Renewables and Efficiency (DSIRE) provides comprehensive information on these state laws and any new ones that are adopted at http://www.dsireusa.org.

PROPERTY SECTOR

A local government must determine the sector of eligible properties it will allow to participate in its PACE program, both in terms of geographical area and market. Determining the geographic area includes understanding the total parcels developed and undeveloped in the jurisdiction and determining if there is interest from other jurisdictions to be included in the program (neighboring cities, the county). This will inform the financial and participation feasibility studies.

As discussed in Chapter One, "Future of PACE", considerations unique to residential PACE financing have led many emerging programs to focus initially on the non-residential sector. As well, this determination will inform other considerations, such as the chosen financing model and marketing strategies.

[10] These requirements are further discussed in Chapter Three, "Statutory Requirements."

SCEIP currently allows any property on the secured tax roll to participate: residential, commercial, industrial and agricultural. Although not included in SCEIP, non-profit and government properties that are not on the tax roll could participate in PACE programs but special accommodations must be made.[11]

PROGRAM FEASIBILITY

Prior to implementing a PACE program, it is advisable for a local government to determine if the program is feasible in terms of local government finances, risks and participation (market demand). One such study contracted by Sonoma County recommended that SCEIP be formed and provided guidance to the County for program parameters. This study is discussed below, and provided in the Document Library.

FINANCIAL ANALYSIS

In 2009, when Sonoma County conducted its analysis, its parameters for financial feasibility were that: 1) the program would be self-sustaining with no net cost, or subsidy, to/from the County for running the program, which included no detrimental impact to the County's financial status, such as its bond rating and debt capacity; and 2) the County would not bear any responsibility for costs related to the program incurred by city participants, and city participants would not be asked to incur liability for any costs associated with the program.

To conduct this analysis, Sonoma County created a financial model, ran numerous program scenarios to generate program data, and then synthesized these data provided from the financial model and the market analysis to show the potential costs and revenues of the program. This included some sensitivity analysis to show what program variables have the greatest impact on the financial viability of the program.

The County analyzed several variables in over 30 different scenarios. These scenarios demonstrated the impact of the variables on program net cost, and demonstrated what the program would need to "look like" in order to be financially feasible. These variables included:

- Annual program size: The County ran scenarios at each of the following annual funding volumes: $2.5 million, $5 million, $7.5 million, and $10 million levels. With an average financed property

[11] Details on this topic are discussed in the Questions and Answers chapter.

assessment amount estimated at $20,500, this produced annual participation levels of approximately 120, 240, 360, and 480 participants given each funding volume respectively.

- Annual interest rate: The County ran these annual financing volumes through scenarios with an interest rate charged to participants at 4% and at 5% above the County interest rate for borrowing the funds for PACE improvements. Based on an assumed 3% Treasury rate, with the SCEIP bonds at 0.5% above that rate, the effective interest rate charged to participants would have been 7.5% and 8.5%. As points of reference, Palm Desert's program rate was 7% to the project applicants, and second mortgages in Sonoma County were running at approximately 8.5%.
- Program administrative fee: The County then ran each of the above scenarios with and without a 5% program administration fee. A program administration fee is an upfront application charge, paid by the program applicants as a means to ensure program expenses are partially covered before participant assessment payments come in via the property tax system. EcoMotion, the firm that conducted the original Sonoma County feasibility analysis and business plan, recommended a program administration fee of 5% of the participant's financing amount.[12] With an average financing amount of approximately $20,000, the program administration fee would have been approximately $1,000. While such a fee would help ensure a steady stream of program revenue, any upfront costs could deter participation. If included in the program, the County could set this fee at any level desired either as a percentage of the application amount or a fixed, flat fee.[13]

RISK ANALYSIS

A PACE program feasibility study also should include an analysis of the risk to the local government. There are several major risks, highlighted below, that fall into two categories – those risks that have a direct impact on the program, and those risks that have a broader community impact.

[12] EcoMotion recommended the same fee for Palm Desert's program. However, Palm Desert opted for an up-front title search fee, fixed at $40. The EcoMotion report is provided in the Document Library.

[13] Ultimately, the County decided to charge certain fees and costs to the applicant upfront. These are defined in the SCEIP Policies manual, available in the Document Library.

Program Risks

Participation rates (annual financing volume) are essential to the viability of a PACE program. Because program revenue is related to financing volume, participation needs to be high enough to fully fund program administration costs. With higher levels of participation, the revenue gained from the interest rate spread (total financing amounts multiplied by the interest rate spread) becomes more substantial and eventually reaches a level sufficient to make the program cost neutral assuming that the program earns that interest rate for a few years. Based on SCEIP's financial model (see above), it appeared that a year-after-year $5 million annual funding volume or above would reach feasibility in approximately Year Two, whereas an annual funding volume of $5 million or below could take three years or more to reach feasibility.[14]

Considering the importance of participation, there are inherent risks to program feasibility. For example, as Sonoma was the first county to move forward with a PACE program, there was no directly comparable benchmark to help forecast participation levels needed based on our financial model. This may hold true for pioneering entities in other states. Related, for the SCEIP financing model, the interest rate offered to participants is directly tied to the County Treasury interest rate (earnings): if the Treasury interest rate increases, so too will the participant interest rate. Participants could find a higher interest rate unacceptable, and decide not to access this program, causing participation rates to decline.[15]

Another aspect related to interest rates is how accepting the market would be to PACE bonds. Coming out with a brand new financing mechanism in this troubled economic climate was a difficult decision; markets were nervous about buying municipal bonds, and because Sonoma County's PACE bonds would be among the first issued in the nation, the bond market's reaction or appetite for this

[14] SCEIP had funded $5 million by the fifth month from launch date. One year into the program, SCEIP had funded $24 million in improvements. The original model did not take into account the upfront resource cost of existing staff – only ongoing program costs once the program was up and running.

[15] The financial model used in the feasibility analysis assumed a Treasury interest rate of 3%, which reflects recent earnings rates. However, the 20-year average for Treasury interest rates is approximately 4-5%. This would move participant interest rates from 7.5-8.5% to 8.5-10.5%, assuming a 4-5% "spread" for a feasible program. In Sonoma County's Program, the participant interest rate is set at the time the assessment contract is signed and cannot be raised. Thus the County bears the risk that interest rates, and the Treasury interest rate, will rise above the interest rate paid by the property owner.

financing was unknown.[16] Typically, when markets are not accepting of bonds, it equates to higher interest rates until the bonds become commonly accepted by the bond market. This, in turn, would dramatically and negatively impact the County's business model in the long term. If bond interest rates were not favorable, SCEIP might decide to wait to access the bond market. Since the Treasury interest rate is lower, the program could generate additional revenues to fund future administrative and bond issuance costs.[17]

By policy, the Sonoma County Treasury can invest in bonds for up to 5 years. In the case of SCEIP, the Treasury had to seek special approval from the Board of Supervisors to allow investment in the SCEIP bonds. This proposal was acceptable to the Board because the interest rate on the bonds adjusts every two years which allows the Treasury to earn a fair market return on its investment in the event that rates begin to rise. The risk here is if rates rise enough that the 7% assessment rate is no longer viable and/or the rate paid to the Treasury adjusts upward such that there is no longer any program revenue left in the interest rate spread between the bond and assessment rates. Both of these cases would likely constrain the overall SCEIP program size to the recommended Treasury investment cap of $45 million since in the former, it would limit the County's interest in continuing with more financing and in the latter case the program would not be cost-neutral as described above.

Community Impact Risk

In addition to direct programmatic risk, there are risks related to community and participant impact. For example, if there is a high rate of tax delinquency, a local government may need to initiate foreclosure proceedings on properties to meet its bond payment obligation.[18]

Additionally, local governments should be cautious about setting expectations in the community for what will be available and when. If there is a significant delay from the announcement of program implementation until actual implementation occurs, there could be a depression in the local building and

[16] A more recent 2011 analysis concluded that issuance of SCEIP bonds to the open market remains unfeasible for Sonoma County; this study is available in the Document Library.

[17] This remains the case in Sonoma County

[18] California law provides a mechanism for the County Tax Collector to pay 100% of the amount of taxes and assessments due a local jurisdiction, whether or not there are delinquencies. Sonoma County has chosen to enroll SCEIP in this alternative tax allocation program. Because Sonoma County can include these repayments in this program, the risk of non-payment to the County is low.

contractor market as homeowners put their individual plans for solar projects "on hold" while waiting for the PACE program.

To mitigate these program risks, PACE program policies, planning, and marketing need careful attention and require vigilant administrative oversight, with regular status updates to the County or City Manager and local elected officials. This may include timing strategies for moving forward. For example, to mitigate the "cooling off" effect (waning public interest due to lag time between program announcement and program launch), it may be advisable that there be no delay greater than 60 days from the "Resolution of Intention" to program implementation.

MARKET ANALYSIS

In addition to or as part of the financial and risk analyses, it is highly advisable for a local government to conduct a market analysis prior to the decision to launch a PACE program. Participation is critical to the feasibility of a PACE program; a comprehensive analysis will determine the market sectors that may be most likely to use this financing tool and provide answers to other questions the local government must answer, such as the potential funding volume it will need for financing projects and the approximate length of time to reach financial feasibility.

There are several methods for determining the public's appetite for a PACE program. Sonoma County together with the Sonoma County Water Agency conducted three studies: one was part of the overall program feasibility study discussed above and two others targeted each of the residential and commercial sectors via a telephone survey. The results of these efforts indicated that the residential and commercial markets were both ripe for a PACE program. These studies are provided in the Document Library.

FINANCING MECHANISM

Following consideration of overall program feasibility, the next consideration should be the public entity's ability to fund a PACE program, which is perhaps the biggest hurdle for many local governments.

CHOOSING A FINANCE MODEL

There are several options available to a local government to finance its PACE program. The funding options can be categorized as:

- **Self-financed**- A public entity provides all money required to finance the program from its unallocated reserves or general fund, replenishing, with interest, this "seed money" over time through participant repayment;
- **Owner-Arranged Bond** - A local property owner arranges project financing with a private project lender, who accepts the PACE securitization and payback framework. This structure results in a project-specific financing option that meets the needs and diversity of the commercial building marketplace, and allows for competition and flexibility;
- **Open Market Bond** – A local government issues a "Pooled Bond" or a "Stand-Alone Bond" to be purchase by a third-party investor:
    - **Pooled Bond** - A bond that funds a pool of PACE improvements with PACE assessment revenues from the improved properties aggregated to pay debt service on the bond;
    - **Stand-Alone Bond** - A bond to fund PACE Improvements on an individual property with PACE assessment revenues from the improved property paying debt service on the bond, generally associated with large projects; and
- **Grant Funds**- Restrictions may exist on the use of these funds.

Given the distinct areas of operation that comprise a complete program (discussed below) it is becoming typical for a local government to mix its funding sources.

START-UP CAPITAL

A local government will need to finance the costs associated with pre-launch activities and program operations until the program is self-supporting. Although the amount of start-up capital that will be required is based on the size and scope of the intended program, a conservative estimate for typical costs in the first program year is $225,000 for initial program setup/pre-launch activities and $800,000 for annual operating expenses. A sample budget is provided in the "Resources" section of this manual, and further discussion of operational costs and revenues may be found in Chapter Three.

In Sonoma County to cover program start-up costs, the Board of Supervisors authorized SCEIP to borrow funds and use labor from other county departments. These advances are currently being paid back by SCEIP from the 4% spread it receives when participants repay their PACE assessments.[19]

WAREHOUSE FUNDING

Warehouse capital is that which will be used to fund the PACE improvements. It is here that the greatest array of funding options occurs, and the option chosen by any particular local government should match the capacity of the local government as defined by the feasibility analysis. A local government authorized to access a certain level of large unallocated reserves, such as Sonoma County, may benefit from self-financing as one of its investment portfolio strategies.

Alternatively, the ability to attract major private investors to PACE programs is just now being tested in the market. Private investment through open market bonding, pooled bonding and stand-alone bonding, benefit a self-funded program, such as SCEIP, because they augment the amount of capital available for future projects. There are currently several efforts in California (e.g. L.A. County, and City and County of San Francisco) and elsewhere in the nation to provide third-party financing for commercial PACE projects. This approach appears to provide a low risk to investors and a competitive interest rate for program participants. Third-party financing of commercial PACE projects will assist with future marketing of program bonds to the secondary investor market, a key element of the future viability of PACE programs.

There also exist federal and state grant funds such as Energy Efficiency and Conservation Block Grants (EECBG), a portion of which can be used for start-up capital. Chapter Six: PACE Model Programs examines more closely several PACE programs that are using a variety of warehouse funding mechanisms.

Chapter Three's Bond Issuance section provides a discussion of SCEIP's warehouse funding model.

[19] The Sonoma County Treasury Pool, which purchases the SCEIP bonds, receives 3% of the total 7% interest on its investment. SCEIP retains the 4% spread to fund its program operations.

PROGRAM SUSTAINABILITY

It is important for a local government to assume its PACE program will be well-received and to consider the long-term sustainability of its program, as this may inform its mechanism of choice for warehouse funding. For example, unless a municipality is intentionally launching a pilot simply to gauge interest, grant funds are most likely not the warehouse funding mechanism of choice in terms of sustainability.

SCEIP has, as of March 2012, bonded over $55 million. Even accounting for repayments of assessments, Sonoma County is quickly approaching its authorized cap for investing Treasury Pool funds. A recent feasibility study of issuing a pooled bond in order to refresh the Treasury Pool cap indicated that pooled bonding is feasible for SCEIP. However, a successful bond issue has yet to be market tested by Sonoma County and at the time of this writing SCEIP has chosen not to proceed with a bond refinancing in the secondary market. Several of the alternate financing mechanisms discussed above are currently under consideration.

GAINING POLITICAL SUPPORT

Strong political will is imperative to carrying the idea of a PACE program to fruition. PACE champions may include local advocacy groups and local business leaders, but *must* include one or more elected officials and key government staff. In order to create an assessment program, elected officials must authorize its formation and key staff must mobilize the internal support of the county or city departments. Once the program is created, elected officials and key staff must ensure its success by continuing to champion the program to other potential partnering local governments within the region, to the business and contractor community, and to any opposing parties.

In Sonoma County, the PACE pioneers were the Auditor-Controller-Treasurer-Tax Collector (County Chief Financial Officer) and the entire Board of Supervisors (BOS). Today the BOS and its partner city mayors and key staff continue to champion SCEIP at the regional, state, national and even international level. As a result of this continued strong local support, SCEIP is strongly supported at the state level and is one of the largest and most successful residential and commercial programs in the nation.

TASKS, TEAM AND TOOLS

Consideration must be given to the capacity of the organization to create and operate a long-term program in terms of workload and essential staffing and overhead requirements.

TASKS

Prior to launching a program, a local government should be prepared to write program policy and procedure documents, train staff, create marketing materials, conduct contractor training, develop its website, create requests for proposals and service agreements for outsourced labor, write and adopt authorizing program documents, and secure financing.

After program launch, operational tasks will include processing applications, reporting, processing tax assessments, marketing and outreach, and securing additional financing to support operations or program expansion.

These planning and operational tasks are discussed in detail in Chapters 3 through 5.

TEAM

The local government should evaluate whether capacity exists in-house to manage this program or whether it will need to engage financial and/or administrative partners. Partnerships can range from a turnkey administrative and financial partner that handles all the processing and bond purchasing to the targeted use of outside expertise. Sonoma County has some of its PACE team on staff and has contracted with others using service agreements, samples of which may be found in the Document Library.

At a minimum, the following team members will be needed for planning and implementation:

- **Bond Counsel and Legal Counsel** representing the jurisdiction: Should be engaged early in the process in order to evaluate any issues that may need to be overcome in order to form an assessment program, and to draft and review all legal documents that will be used.
- **Senior Manager** from the City or County Manager's office
- **Chief Financial Officer** or a financial consultant

- **Program Manager** from the department that will be administering the program, or consultant
- **Customer Support Staff** from environmental or economic development programs operated by government, utility, or local nonprofit, or consultant
- **Staff from the County Recorder and/or Tax Collectors offices**
- **Staff with technical expertise** for working with/training contractors, assessing eligibility of improvements and conducting inspections as needed, or consultant

TOOLS

A local government will require adequate tools for delivering a successful PACE program. Some of the basics include:

- **Centrally-located business office** (if the program will accommodate walk-in customers), with one or two computer kiosks and a room for contract signings and/or private meetings
- **Work space** for program staff
- **Typical office equipment and software** to process applications
- **Storage space** for marketing materials and files
- **Technology support** in the form of database, document management systems and web applications

ADMINISTRATION AND PROGRAM COSTS

As previously discussed in the Start-Up Capital section above, there are certain additional operational costs that are hardwired into a program of any size. It is important to note that these costs are ongoing; although needs for outside consulting services may decline over time, staffing, equipment and marketing costs will most likely increase from year to year. Identifying these costs and the source of their funding is essential prior to making the decision to implement a program. A sample budget is provided in the "Resources" section of this manual, and further discussion of operational costs and revenues may be found in Chapter Three.

ENERGY INDEPENDENCE
A SONOMA COUNTY PROGRAM

CHAPTER TWO CHECKLIST

	Staff Assigned	Staff Assigned	Target date
Investigation Phase 1.0 - Advisory Committee			
The goal of this task is to identify who will oversee the processes to thoroughly investigate, analyze and determine the feasibility of implementing a PACE program in the jurisdiction. Activities in the Phase include and are not limited to identification of the PACE program sponsor(s), the community leader / government official who will champion the program. Committees will be activated; studies and analysis will be completed to determine if a PACE program should be developed and its implementation timeline.			
1.0 Activities			
1.1 Identify the sponsor and the key decision makers who will support and sponsor the development of the PACE program. Identify and address "political will" level of support needed for success.			
1.2 Select and convene an advisory committee. May create specialized sub-committees that report back to the Advisory committee, such as:			
· Vendor/contractor council			
· Stakeholder/advisory group			
· Technical review committee / engineering support (eligible improvements)			
· Policy review panel (if other than above)			
· Legal counsel			
· Financing plan management team (treasury, tax collection, accounting, and bonding)			
1.3 Define governance and technical review processes			
Investigation Phase 2.0 - Determination of Legislative Authority			
The goal of this task is to determine if the legislation currently exists to form a PACE program.			

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2.0 Activities	Staff Assigned	Staff Assigned	Target date
2.1 Engage counsel familiar with state statutes governing the creation and administration property-secured financing.			
2.2 Determine legal process and requirements to establish a PACE program.			
Investigation Phase 3.0 - Feasibility Analyses			
The goal of this task is to deliver the process and documentation to thoroughly investigate, analyze and determine the feasibility of implementing a PACE program in the jurisdiction. Committees will be activated; studies and analysis will be completed to insure the success of the program launch.			
3.0 Activities			
3.1 Execution of a market survey and analysis of results			
a. Conduct early market research to gain a better understanding of the potential participants and their needs, to help to identify market segments, to define marketing messages for the different audiences, to develop effective incentive and financing programs, and to address potential barriers to property owner action. Leverage information available through other organizations such as economic development boards as much as possible.			
b. Meet with entities/organizations that might oppose establishment of a PACE program to identify ways to address concerns			
3.2 Complete a feasibility study identifying geographic market of the county including the total parcels developed/undeveloped by city and unincorporated to determine potential assessment volume, and analysis of financing models			
3.3 Complete a detailed analysis and develop a short and long term finance strategy plan. Investigate and leverage all available options.			
3.4 Evaluate and define underwriting criteria			
3.5 Determination of service levels required for: operations, financial administration, counsel, marketing, bonding			

3.0 Deliverables	Staff Assigned	Staff Assigned	Target date
· Marketing survey analysis			
· Feasibility study report			
· Approval of financing plan for incorporation into program report and administrative guidelines			
· Draft eligibility criteria and guidelines, compliance with U.S. DOE guidelines			
· Draft contractor qualifications and quality assurance program			
· Draft underwriting criteria and guidelines			
· Draft agreement of long term service levels required for: operations, financial administration, legal counsel, marketing, bonding			

CHAPTER TWO LESSONS LEARNED: PROGRAM CONSIDERATIONS

Except where noted, this section provides information specific to SCEIP. Lessons learned by other PACE programs are provided in their individual profiles located in Chapter 6.

Challenge	Lessons Learned
Short Term Funding Plan: The original funding mechanism for SCEIP remains the current mechanism: Sonoma County, through its Joint Powers Authority, issues bonds once a month which are purchased by the Treasury Pool, and the JPA loans the funds to the County to fund the SCEIP improvements completed during the previous month. SCEIP funds projects every month, which requires the services of special counsel to draw up bond documents each month and also creates a complex chain of transactions, authorizations and associated labor. (However, regardless of the complexity and labor requirements, the advantage to this mechanism is that bonds are not issued until projects are complete and ready to fund, minimizing interest payments on unused money.)	As a new, pioneering program in 2009, there were few other financing models to draw from. Given the emerging models for financing, the County today would look for a more graceful and less labor intensive method of tracking the projects prior to bonding so that at time of bonding we could push a button and produce the documents needed to support the bond process. Currently there is no overarching electronic file management system that provides a start to finish way of processing all the related financing steps. The process could also be simplified by having an available cash fund, so that projects could be funded with bonds issued less frequently.
Long Term Funding Plan: Start up financing aside, how SCEIP plans to sustain its program will affect ongoing operations and long term program success.	In the Investigation Phase of a PACE program, a local government will want to consider and plan for how it will sustain its program, so that it will be set up to take advantage of alternate financing sources. Do not wait for proven success! Lack of planning may result in the government not being prepared to meet the requirements of other funding sources, such as not having an established loan loss reserve fund at a level required for the bond market.
Common Community Goals: Although this has not been a challenge for SCEIP, it is mentioned	Community goals are a foundation of SCEIP's local success. The County and all 9 cities and

here because a lack of, or differences in opinion regarding, energy policy goals among community sectors could pose a challenge for some regional PACE programs.	towns are committed to reducing greenhouse gas emissions (GHGs) and stimulating the local economy. In 2005, all municipalities in Sonoma County agreed to reduce greenhouse gas emissions by 25% below 1990 levels by 2015. Adoption of a common GHG and/or energy policy unifies and directs decision making and priorities.
Political Will: Although this has not been a challenge for SCEIP, it is mentioned here as insufficient political support and championing could pose a challenge for some regional PACE programs.	The existence of local common climate goals provides the support for local "political will." In Sonoma County, local elected officials support retrofit programs, energy upgrade activities, water conservation, demand reduction, renewable energy generation, and sustainability efforts. Local political will allowed for the use of the County Treasury as the warehouse of funding for SCEIP PACE financing. Local political will and support is an incredible gift not experienced everywhere. Education of Sonoma County local elected officials on the health, cost, and environmental benefits of PACE was essential to fostering the ongoing support the program enjoys today.

CHAPTER THREE: PACE PROGRAM DEVELOPMENT

Prior to launching a PACE program, a local government should expect to undertake the program development activities described below. Best Practices for program design are discussed at the close of this chapter. A checklist for these activities has been included following this chapter's narrative in order to assist other entities in defining their timelines.

TIMELINE

Once a local government has weighed the considerations described in Chapter Two and made the decision to go forward with creating a PACE program, the process for developing the program to the point of launch should take 6 to 12 months, depending on policy-maker approval schedules and the amount of resources a local government is able to direct towards this effort.

The essential steps to launching a PACE program may be taken concurrently, and are:

Engage counsel; determine statutory requirements and draft legal documents

↓

Identify key staff, advisors, and partners

↓

Establish program policies and procedures

↓

Design the program to meet specified goals (strategic and program planning)

↓

Establish program budget and secure funding

↓

Formally create the contractual assessment program

↓

Launch program!

STATUTORY REQUIREMENTS

The first step for any local government in creating a PACE program is to ascertain the statutory requirements that will govern its program creation, policies and operations. The entity can then budget for staff and attorney resource needs, better estimate a timeline for program launch, and begin drafting legal documents such as Board resolutions and bonding documents.

An indispensable resource for this set of tasks will be an attorney familiar with property-secured financing laws and issuing bonds. In forming its program, Sonoma County staff worked with county counsel and bond counsel, the latter who was contracted through a service agreement. This agreement is provided in the Document Library.

Statutory requirements for assessment program formation specific to California state law are detailed below. Links to enabling legislation of other states, that will dictate the requirements for jurisdictions in that state, may be found at PACENow.org.

AB 811 FINANCING MODEL

AB 811 amended Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code (Sections 5898.10 through 5899.3) to authorize specified local governments to establish PACE programs. The AB 811 financing model authorizes local governments to enter into a contractual assessment agreement to finance PACE improvements on a participating owner's property. Under the agreement, the property owner agrees to repay the local government's funding through an assessment levied against the owner's improved property, which the property owner pays in semi-annual installments with property taxes, and agrees to have a lien for the assessment be recorded against the property.

Local governments may form individual PACE programs. Alternatively, some local governments may form a regional PACE program with the consent of the jurisdictions within the proposed boundaries of the PACE program. For example, a county may form a county-wide PACE program that includes each city's incorporated area, with the city's consent. A regional program likely provides economies of scale that reduce administration and financing costs.

Below is a summary of the steps taken by Sonoma County to form its county-wide PACE program under the AB 811 financing model. Reference should be made to Sections 5898.10 through 5899.3 for a more complete description of the legal requirements.

A. Consideration of a resolution of intention to form the program, with provisions that, among other things, (1) declare the intention to establish the contractual assessment program, (2) describe the boundaries, (3) identify the kinds of improvements which may be financed, (4) briefly describe the proposed financing structure, (5) establish the date, time and place for a public hearing and (6) direct preparation of a program report that includes a draft contract, statements of relevant local agency policies, a financing plan, and information related to the cost of the program.
B. Publish notice of the public hearing once a week for two successive weeks, with the first publication occurring at least 20 days before the public hearing date. Note that amendments to AB 811, which followed the adoption of SCEIP, now require written notice to each water or electric provider within the boundaries of the proposed PACE program at least 60 days before the public hearing date.
C. Preparation and distribution to each town or city within the County, a resolution consenting to the inclusion of parcels within the incorporated territory of the town or city in the program. The Resolution authorizes the County to levy assessments, to impose the assessment liens and to finance the authorized improvements on such parcels.
D. Preparation of a County Board of Supervisors agenda item establishing an enterprise fund for the program (not a statutory requirement).
E. Preparation of a County Board of Supervisors agenda item of the budget for the PACE program and present as either a budget revision or a new budget depending budget cycle (not a statutory requirement).
F. Preparation of a program report detailing program goals, benefits, requirements, parameters, financial strategy, consumer protection, water and energy efficiency measures, map of program area and including all provisions required by Section 5898.22 of the California Health and Safety Code.
G. Hold public hearing and consider resolution establishing the PACE program, confirming program report and authorizing the County to

enter into contractual assessments to finance the installation of authorized improvements.

H. Authorize the issuance of bonds to finance the PACE program.[20]
I. Initiate process for validating the PACE program.[21]

MELLO-ROOS (SB 555) FINANCING MODEL

In California, another state law entitled the Mello-Roos Community Facilities Act of 1982 enables PACE financing through the creation of special tax financing districts. The mechanism is: a property owner elects to annex his property into a Special Tax District created by any local agency and to pay special taxes. The local agency sells a bond payable from this special tax to a qualified investor, and the local agency uses the proceeds from the bond sale to finance improvements to the property. Until recently, this option was available only to charter cities, but under recent amendments to the Mello-Roos Act (SB 555), this approach is now available to any local agency in California.

Under Mello-Roos-based financing law, the process for authorizing the levy of special taxes and issuance of bonds requires three phases.

1. In the first phase, following a public hearing, the legislative body of the local agency creates a special tax district with boundaries that may be coterminous with the boundaries of the local agency and authorizes the levy of special taxes on properties that vote in favor of being taxed.
2. In the second phase, property owners vote in favor of the levy of special taxes on their property and the issuance of bonds by executing a single document called a "unanimous approval".
3. In the third phase (which may be undertaken along with the first phase) the legislative body authorizes the issuance of bonds payable from special taxes.

AB 811 VS MELLO-ROOS

Prior to establishing a California PACE program, we recommend consulting with legal counsel to review whether you should utilize the AB 811 or Mello-Roos financing model.

[20] Described in the Bond Issuance section of this chapter.
[21] Described in the Bond Validation section of this chapter.

PROGRAM GOVERNANCE

Simultaneous to, or immediately following engaging counsel and embarking on the legal program formation process, the local government must identify key staff and advisors and define how the program will be governed. The different areas of program governance and the roles of governing members are described below. The structure of program governance may range from formal to informal depending on the time and expertise of staff and members of the community.

MACRO-LEVEL PROGRAM GUIDANCE AND POLICY DECISIONS

In Sonoma County, this advisory group is called the Ad Hoc Committee. It is made up of two representatives from the Sonoma County Board of Supervisors, the Program Administrator and County Counsel, some of whom were part of the original pre-program Advisory Committee (as described in Chapter Two).

The primary function of this committee is to provide overall policy guidance to the Steering Committee (refer to discussion below). When a significant program change is recommended by the Program Administrator via the Steering Committee, the Program Administrator and County Counsel member will meet with an the Ad Hoc Committee for discussion and approval of recommendation(s). Any proposed substantive changes to the program are then brought to the Board of Supervisors for approval.

In Sonoma County, the Ad Hoc committee meets on an as-needed basis.

MICRO-LEVEL PROGRAM GUIDANCE AND POLICY DECISIONS

In Sonoma County, this advisory group is called the Steering Committee. It is made up of the Program Administrator and staff representing legal, finance, real estate, operations, energy, and property tax collection expertise and perspective. Many of the Steering Committee members, 10 total, were part of the original pre-program Advisory Committee (as described in Chapter Two). The size of the Steering Committee also reflects primary and backup representatives for each of the areas of expertise mentioned above. Backup roles allow for access to experts in balance with staff workload and schedules.

The primary function of the Steering Committee is to take responsibility for the achievement of outcomes of the PACE program. The Steering Committee monitors and reviews the program status, as well as provides oversight and

suggestions on programmatic changes. Members are not directly responsible for managing program activities but provide support and guidance for those who do.

The Steering Committee provides a stabilizing influence so organizational concepts and directions are established and maintained with a visionary view. The Steering Committee provides insight on long-term strategies in support of legislative mandates. Members of the Steering Committee ensure business objectives are being adequately addressed and the program remains under fiscal control. In practice, these responsibilities are carried out by performing the following functions:

- Monitoring and reviewing the program at regular Steering Committee meetings;
- Providing assistance to the program when required;
- Controlling program scope as emergent issues force changes to be considered, ensuring that scope aligns with key stakeholder groups;
- Resolving program conflicts and disputes, reconciling differences of opinion and approach;
- Formal acceptance of program deliverables.

For the first two and a half years of the SCEIP, the Steering Committee met weekly. It currently meets monthly. A copy of the Steering Committee Charter is provided in the Document Library.

STAKEHOLDER ADVISORY COMMITTEES

For specific program needs, it can be useful to a local government to create various community-based advisory groups. The roles that these stakeholder groups might play are diverse, such as:

- Study issues and make policy and procedure recommendations
- Provide feedback on the affect of new policies or major program changes on program participation
- Review and recommend technical and financial standards
- Understand and reconcile program opposition
- Champion the program

Stakeholder committees may be standing or commissioned for a defined length of time and for a specific purpose depending on the needs and time constraints of the local government. They are typically overseen and meetings may be facilitated by the PACE program manager, program staff or a community partner.

In Sonoma County, Contractor Councils have been used frequently to provide program management with ideas and feedback related to program policy, technical criteria, workforce training and outreach activities.

PROGRAM PARTNERS

Identifying program partners is as equally important as identifying the staff and elected officials who will provide program governance. Like stakeholder committees, partners may play a significant role in assisting the local government with defining program policies, providing marketing, outreach and education functions and assisting with grant and incentive financing. Early identification of program partners and establishing levels of commitment for each is necessary to strategically planning for the long-term sustainability of the program.

Sonoma County initially identified several key partners to its SCEIP, outside of participating cities. Their general roles included:

- **Local Government Agencies**: The Sonoma County Water Agency authorized the purchase of bonds for project financing, assisted in development of marketing materials, and provided staff time to develop program, workforce development, program guidance and strategic planning, education and outreach
- **Business and Workforce**: Incentives/rebates, workforce training, provision of data for reporting program metrics, program championing
- **Non-Profit Organizations**: education and outreach, participant surveys, program championing
- **State and Federal Legislators and Agencies**: authorizing legislation, ongoing legislative support, program best practices guidelines, potential grant funding
- **Educational Institutions**: workforce training, outreach and education, technical expertise

Program partners, their roles and commitments can be expected to change over time. As described in Chapter Five, Regional Program Partnerships, SCEIP program partners and partner roles have evolved as the program has become established. Specifically, as the program has experienced success, the desire of other agencies and organizations to partner with SCEIP has heightened, as has the level of support and resource commitment partners are willing to provide to the program.

ESTABLISHING PROGRAM POLICIES AND PROCEDURES

PROGRAM REPORT AND ADMINISTRATIVE GUIDELINES

The Program Report document is an AB 811-required document that describes the program policies, operations and financing process. In addition, the Program Report includes a map showing the geographical boundaries of the program; a draft contract specifying the terms and conditions that would be agreed by a property owner within the contractual assessments on behalf of the County; a maximum aggregate dollar amount of contractual assessments; a method for prioritizing applications in the event that application requests exceed the amount of funding available; parameters for extending the Program into incorporated areas; and a plan for raising enough capital to fund the program. A copy of the SCEIP Program Report and Administrative Guidelines can be found in the Document Library.

PACE programs implemented under the authority of other legislation may have a similar requirement for a Program Report but if not, it is well worth the time spent to create a comprehensive Program Guidebook. In addition to providing the guidelines and policies of the PACE program for customers, contractors and policy-makers, this document has the additional benefit of providing assurance and underwriting criteria to potential third-party investors.

PROGRAM POLICIES AND PROCEDURES MANUAL

SCEIP developed a Program Policies ("SCEIP Policies") manual as a companion document to the Program Report and Administrative Guidelines that is, unlike the Program Report, primarily an internal document. It is intended for use as a resource by staff, explaining at great length and in great detail application processing procedures, internal operational procedures that are normally transparent to participants, records retention and emergency policies. It also explains at greater length and in greater detail program policies that are summarized by the Program Report. This manual, updated frequently, is an important resource for program representatives to consult for current policies and as a source of training for new employees to ensure homogeneity of operations. The SCEIP Policies manual, which does not include internal operational processes, is provided in the Document Library.

ELIGIBLE IMPROVEMENTS LIST

The eligible improvements list identifies the PACE improvements authorized by a local government's PACE program. AB 811 authorizes the County Board of Supervisors to formally adopt an approved list of allowable renewable energy and water and energy efficiency projects that meet the following criteria:

- All improvements must be permanently affixed to the property.
- Improvements must be retrofits to existing infrastructure. Repairs and/or new construction do not qualify for PACE financing, except to the extent that the construction is required as part of the installation of a specific approved improvement (for example, electrical trenching required to install a solar pv ground mount system).

Under SB 555 (Mello-Roos), some fundamental criteria are:

- All improvements must be permanently affixed to the property.
- Improvements may be made as part of a new construction project, provided the property is commercial or, for residential properties, the initial construction is undertaken by the intended owner or occupant.
- Repairs do not qualify for PACE financing, except to the extent that the construction is required as part of the installation of a specific approved improvement.

In addition to this list, a local government may establish further eligibility criteria, such as requiring "Energy Star" rated improvements, minimum and maximum dollar limits for individual projects, total allowable project costs if a property owner applies for multiple projects, and eligible project costs. All of these established criteria should be made available to the public and transparent during the application process.

The SCEIP eligible improvements criteria and Eligible Improvements List, as adopted by the County Board of Supervisors, is provided in the Document Library.

DESIGNING THE PROGRAM

In the corporate world, this step would be called "Creating a Business Plan." This step involves creating a sub-set of plans that will allow the PACE program to accomplish the goals and objectives described in its Strategic Plan or charter. Further, this collective set of plans will dictate the budgetary needs thereof.

As an example of the discussion in this section, the business plan for the Sonoma County Energy and Sustainability Division (of which SCEIP is a part) is provided in the "Resources" section of this manual.

SERVICE DELIVERY PLANNING

Service Delivery is the way in which the local government will deliver its program services to its customers. There are a variety of delivery options depending on the resources of the agency and preference of its customers, including the contractor community.

Mechanisms for delivery may include one or more of these:

- **Central storefront** or service center: This is a physical location where staff can meet with customers face-to-face, answer questions and assist them with the application process. It may also serve as space for advisory group meetings, workforce trainings, and staff work and meeting areas.
- **Website**: A website may serve a range of uses, from providing basic information about a program to fully automating the application process. It may also serve as a platform for program inquiries, contractor or user forums, and marketing and outreach.
- **Satellite service center**: For PACE programs that are comprised of a large regional consortium, additional service centers may be desirable in addition to a central business office in order to reduce participant travel time, particularly if the application is not web-enabled.
- **Program partner space**: A partnering agency may be able to contribute space for certain program services in its building, particularly ad hoc training workshops and meetings.
- **Customer call center**: Responding to program inquiries is a service that is easily accommodated by a couple of phones and staff, who can also use a database program to log calls for future reporting needs or analysis.
- **Social media**: Face Book and Twitter are a couple of the social media channels a program may leverage to deliver its message and attract support and participation.

STAFF PLANNING

The purpose of the staffing plan is to make certain the program has sufficient staff with the right skills and experience to ensure a successful program.

Roles and Responsibilities

A Staffing Plan will provide a detailed breakdown of the roles required to execute the program. It includes the job classifications, the program responsibility of each classification, the skills required, and the number of staff required to fulfill that role.

Some of the essential positions a local government might staff include:

- **Program Manager**: Overall management of program, liaison with senior management and elected officials, media and conference spokesperson, budget administration, strategic and business planning.
- **Assistant Program Manager**: Manages office operations and staff, manages commercial accounts, marketing, outreach and technology.
- **Administrative Support staff**: Application approval, grant writing, reporting, document research, writing and review, file manager training, records retention.
- **Communication Coordinator**: Coordinates logistics of outreach, education, training, meetings and marketing activities including website maintenance.
- **Field Technician**: Provides technological expertise on energy and water efficiency and renewable technologies; manages Tool Lending Library; program liaison with contractor groups and trade organizations; conducts field inspections.
- **File Manager**: Provides a variety of customer support services.
- **Receptionist**: Fields and directs public inquiries, provides administrative support to office staff.

In addition to these positions, the local government should factor into its staff plan any labor required from other departments, such as Accounting, the Tax Collector and Recorder, that will be essential to program operations.

For launch, SCEIP had a half-time Program Manager and two and a half File Managers in place. This level of staffing has grown substantially over the last three years as the program has matured and expanded its services (please refer to Chapter 5 for this discussion). The SCEIP staffing plan is incorporated into its Strategic Plan, provided in the "Resources" section of this manual.

Outsource Agreements

Often, a local government does not have the resources to retain full time staff that possesses highly specialized experience, such as an attorney specializing in municipal bonding law. In this case a term-limited or task-limited contract with a third party is a recommended solution.

In Sonoma County, many of the financial, marketing, technology development and legal services needed by SCEIP have been contracted. In addition to formal contracts for professional services *to* the County, delivery of services to the public *on behalf of* the County are occasionally let to outside vendors, such as home energy auditors and youth education. The SCEIP outsourced agreements are provided in the Document Library.

SPACE PLANNING

The Space Plan is largely dependent on needs that follow from the determination of Service Delivery and associated staff planning, as discussed above. Some of the elements of a space plan that a local government may want to consider are:

- **Reception**: dedicated staff for attending to and directing phone calls, email inquiries and walk-in visitors to the Storefront.
- **Seated desk space in a lobby setting**, for working with applicants/contractors on application intake, file review and request for disbursement processing
- **Waiting area** for Storefront visitors
- **Display racks** for brochure and program materials
- **Back office work space** for non-customer facing file processing duties
- **Manager office space**
- **Small, private conference room** for contract signings and meetings
- **Secure storage room** for equipment storage
- **Room or space for printers**, office supplies storage, and program marketing collateral storage
- **Staff break room**
- **Restrooms** accessible to customers
- **Adequate parking**

It is recommended that as an agency plans its space needs, it allows room for future growth.

In Sonoma County, SCEIP has a central storefront, with current storefront operations closely resembling the customer service section in a bank. The quantity of space designated for SCEIP directly correlates to program application volume, staffing needed to support program activity and information technology resources supporting the program operation. The SCEIP Space Plan is

incorporated into its Strategic Plan, provided in the "Resources" section of this manual.

TECHNOLOGY PLANNING

As with space planning, planning for technology needs is largely dependent on determination of Service Delivery mechanisms and associated staff planning. It is recommended that as an agency plans its technology needs, it plans and budgets strategically, accounting for future program expansion and evolving technology (e.g. replacement schedule for work stations). Some of the elements of a Technology Plan that a local government may want to consider are:

- **Network**: Speed is a key element of network planning, particularly if applications are automated (web-enabled)
- **Workstations**: Customer kiosk computer, staff workstations
- **Laptops**: For use at staff meetings, contractor trainings, conferences and fair exhibit booths
- **Projector**: For use at staff and contractor trainings and conferences
- **Software**: Latest versions of operating systems and software adequate to support data management, call center database, productions of reports and marketing collateral
- **Website:** Technological, design and maintenance specifications for delivery of program website and online application tools if applicable, integration with program data management, document control and reporting
- **Office equipment** (printers, fax machines etc)
- **Telephone system**: Should accommodate multiple lines, inter-departmental call transfer and message forwarding, off-site voice mail access, hold message or music, office closure mode and central voice mailbox and employee directory
- **Building performance analysis tools**: For in-house use or lending to contractors; may include models for demonstration and workforce training purposes
- **Technical support services**: Program staff expertise, internal local government department and specialized needs that may be outsourced
- **Training:** Continuing education for staff to accommodate changing technology and its use by the program
- **Document management**: Protocols for document filing, including naming conventions and revision tracking

- **Data management**: Platform for data entry, compilation and management. A database platform, as opposed to spreadsheets, is highly recommended

This particular area of planning resulted in several "Lessons Learned" for the Sonoma County program (see discussion below). The original SCEIP Technology Plan is incorporated into its Strategic Plan, provided in the "Resources" section of this manual.

MARKETING, EDUCATION AND OUTREACH PLANNING

In its Investigation Phase (Chapter 2), a local government will most likely have completed a thorough market analysis in order to determine the market sectors most likely to initially participate in a PACE program and their geographic concentration. This market analysis will drive the marketing, education and outreach plan, sometimes referred to as a communications plan. At a minimum, a communication plan should identify:

- **Community Information**: demographic and economic information
- **Results of Market Analysis** including identification of target markets
- **Primary messages** that will be delivered
- **Messaging strategies**: how the primary messages will be delivered
- **Goals and measurable objectives of strategies**: desired results, levels of participation, types of businesses if applicable, scope and scale of projects
- **Key personnel**: who will plan and coordinate the communication efforts, provide the labor, analyze the effectiveness
- **Partnerships:** identification of partners whose ordinary operations might be leveraged to enhance communication strategies
- **Timeline** for launch of various strategies
- **Opportunities and challenges**: acknowledging these will better prepare the local government for quickly adjusting its communication strategies

It is recommended that a local government take in to account the quickly changing nature of communication. External forces, changing technology, requirements of grant funds, feedback from contractors and even changing contact information can render boxes of brochures obsolete overnight. Additionally, a message delivery mechanism may become stale and ineffective over time, and the local government will need the monetary resources to make desired changes.

The original SCEIP Marketing Plan is provided in the "Resources" section of this manual. A communication budget is incorporated into the SCEIP Strategic Plan as Appendix B, also provided in "Resources."

PROGRAM FUNDING

BUDGETING

Prior to securing funding, the local government must determine where the revenues will come from to cover the three general program needs: start-up capital, warehouse funding and ongoing operational expenses. Assuming that the source of project financing (warehouse funding) has been determined in the Investigation phase, and assuming that the local government has designed its program as described above, it now must engage in a budget process to determine the resources needed to finance the design. As with any budgeting exercise, this will most likely be an iterative activity as program design elements become modified or reprioritized.

It should be noted that regardless of who is doing the program administration, these costs exist and must be accounted for in the budget. A sample budget for start up and ongoing expenses is provided in the "Resources" section of this manual.

FUNDING ADMINISTRATIVE COSTS

There are several potential sources of funding for start-up and ongoing administrative expenses. Such administrative costs include legal consultation, accounting, staffing and overhead for processing applications and assessment lien recordation, marketing, reporting, managing early payoffs of assessments and occasional travel. Given revenues are attached to the tax collection process, an annual billing cycle, planning for the start-up costs between the establishment of a base of project assessments and the first tax billing period is critical. The pros and cons of each are described below:

- **Grant funding**
  Pros: Does not affect entity's general fund or operational budget; several grants exist to support energy efficiency programs

Cons: May be one-time revenue; match requirement may exist; criteria may constrain how funds are used; may require unbudgeted staff time to administer or satisfy reporting requirements

- **Interest rate spread**
  Pros: Does not affect entity's reserve fund or operational budget; over time supports a self-sustaining program
  Cons: Requires enough program participants to provide sufficient revenue; could decline with increasing interest rates; doesn't provide a source of revenue to cover start up costs
- **Intra-government loans**
  Pros: Keeps the financing mechanism in-house
  Cons: Increases risk to the local government; reduces capacity for other programs
- **Inter-agency loans**
  Pros: Creates a partnership that may be leveraged for additional funds; mutual interest for program success creates program champion
  Cons: Financing partner may impose conditions for program unwanted by local government
- **Application Fee**
  Pros: Does not require government reserves
  Cons: May deter participation if too high; a certain level of participation is necessary to provide adequate revenues
- **Administration Fee**
  Pros: Pays for the cost of administering each application post-disbursement; only applies to the application it is funding so does not rely on total program participation; can be charged annually and incorporated into PACE assessment
  Cons: May deter participation if too high

Sonoma County has used all of these options except the application fee to finance its operations. To finance its start-up needs, SCEIP borrowed over $800,000 in resources from other county departments. SCEIP is currently paying back these advances from the 4% spread it receives when participants repay their PACE assessments. With over 1500 participants now in the program as of March 2012, financed by approximately $45 million in bonds, this spread is also used to finance ongoing administrative and operational costs. Grant funds were attained in March, 2011 to finance the staffing and overhead associated with expanding the program (detailed in Chapter 5). Finally, the Administrative Fee is an annual charge rolled into the annual PACE assessment that pays for 1) a third

party to administer the assessments, and 2) the Auditor-Controller's direct charge fee for collecting and distributing the charge on the Tax Roll.

BOND ISSUANCE

A local agency might issue revenue bonds to fund all or part of its PACE program. In such case, the local agency pledges assessment or special tax revenues collected from the participating property owners to pay debt service on the bonds. The bonds may be purchased by a third-party investor (i.e., open market bond) or may be purchased as an investment of the local government that established the program (i.e., self-financed). SCEIP uses the "self-financed" model, described below.

In Sonoma County, the Sonoma County Financing Authority (the "Authority") is a joint powers agency formed to assist the County with its financings. The County and the Authority cooperate to provide the County the funds needed to make disbursements to property owners for the cost of improvements on the owners' properties. Following this brief description of the funding process are the related authorizing documents.

Each month, the County disburses funds to property owners for completed improvements and for partially completed improvements that meet certain criteria. The County makes disbursements to property owners from one of two different sources of money, either from the proceeds of bonds issued on the day that the County makes its disbursement or, at the County's discretion, from a revolving fund that provides cash on hand to make a disbursement on any day. On the first business day of each month, the Authority issues a bond in a principal amount equal to the aggregate amount of the disbursements that the County will make to property owners on that day and that has already made from the revolving fund during the prior month. The Authority issues a bond with a 10-year term to provide funding for improvements that property owners agree to repay over 10 years and a bond with a 20-year term to provide funding for improvements that property owners agree to repay over 20 years. The bond proceeds are either used to make disbursements directly to property owners on the day of bond issuance or to repay the revolving fund for any disbursements made during the month prior to the bond issuance.

The County Treasury Pooled Investment Fund, the Sonoma County Water Agency, or under specific circumstances, a third party invests in the Authority's bonds. The Authority loans the bond proceeds to the County, with a separate

loan agreement for the 10-year bond and for the 20-year bond. Each loan agreement requires the County to repay the Authority's loan with assessment revenues that the County receives from each property owner to whom the County made a disbursement in connection with the Authority's loan. In turn, the Authority pledges the loan payments from the County to make debt service payments on the related bond.

Each year, the County may use assessment revenues, which exceed the amount needed to repay the loan, to fund a reserve account and a program expense account. The monies in the reserve account will provide additional security for the repayment of the loan and the monies in the expense fund may be used to reimburse the County for its costs in administering SCEIP.

Sample SCEIP bond documents, including Board of Supervisor resolutions authorizing the transactions and sample validation procedure documents (see "Bond Validation" section below), are available in the Document Library.

OWNER ARRANGED FINANCING

A number of governments have launched a new type of PACE program called owner arranged financing. Under this model, property owners can independently secure financing for a defined project with an investor of their choice, which may be their existing mortgage lender and/or a 3rd party. The investor purchases a bond from the government, the proceeds from which are then used to provide permanent financing for their project(s). The terms of the financing are negotiated independently of the government and are predicated on 1) the priority lien that the PACE mechanism affords, 2) the nature of the improvements and the associated costs and savings, and 3) the underlying credit of the owner/building. This model is designed to more closely match traditional commercial property project finance, create a competitive marketplace for financing, allow for specialized financing that addresses unique market segments, and avoid the timing delays associated with the pooled bond approach in which a government must wait to aggregate a sufficient number of disparate projects before issuing a bond. This approach may also be better suited for larger projects (e.g. greater than $500K) and/or buildings with better credit. To date, the Cities of San Francisco, Los Angeles, and Melbourne (AUS) have launched PACE programs based on the open market model.

SCEIP Bond Financing allows for third-party financing of commercial projects. In such case, the Authority specifically approves the third party investor, which is

any investor other than the County Treasury Pooled Investment Fund or the Water Agency, to purchase the SCEIP bond. For example, in 2011 Clean Fund, a San Rafael, California based company, provided SCEIP's first third-party financing by funding a $1,600,000 commercial project.

The County expects SCEIP's third-party financing to benefit PACE financing in several important ways. It assists with future marketing of PACE bonds to the secondary investor market, a key element of the future viability of PACE programs. It serves as a model for owner-arranged financing, a structure that in the case of SCEIP frees up the capacity of the County Treasury Pooled Investment Fund and the Water Agency to finance future projects. And finally, it provides an excellent reference for successfully developing PACE programs in the commercial property market.

DEBT SERVICE RESERVE FUND

To account for potential delays in the collection of assessments (and thus bond payments), some governments have incorporated a debt service reserve fund (DSRF) into their program. (A DSRF is a traditional element in property-secured bonds.) A DSRF can be capitalized using either proceeds from the bond offering (i.e. the bond is "grossed up") or from another source such as the state or federal government. These funds typically reside in an escrow account and are sized to cover bond payment shortfalls (e.g. 10% of the principal amount of the bond) for as long as it might take for the government, building owner and other stakeholders to cure a delinquent assessment payment through established tax collection procedures. It is important to note that these funds are not expected to cover capital losses and governments will still likely pursue a building owner for delinquent amounts which the DSRF was used to cover. Ultimately, the use of a DSRF is meant to provide additional security for the investor and will likely lower the building owner's interest rate and/or avoid the need for any governmental level guarantees.

BOND VALIDATION

PACE financing is a relatively new financing structure that poses new legal issues. In cases where a local agency needs to eliminate legal questions about the validity of a proposed financing program, California law permits the local agency to bring an action in court to validate the program. The local agency must file a complaint in the local court for validation proceedings. Following the local agency's filing, the court issues an order to publish a summons. The published

summons provides all interested persons with notice of the validation action. The validation process includes a 30-day period for an interested person to file an answer challenging the validation action. Even if no answer is filed, the court holds a hearing and determines whether the local agency is entitled to a judgment validating its proposed financing program. If the court validates the proposed financing program and the time to appeal passes, the local agency's counsel may rely on the court's judgment to provide an unqualified opinion regarding the validity of the financing program. The validation process could take as little as four months for an uncontested action or could take years for a contested action.

For Sonoma County, the validating judgment will be helpful in the event that SCEIP bonds are marketed to the public.

PROGRAM FORMATION

With the program designed, staff in place and funding secured, the local government is now ready to form its assessment program. Following the procedures outlined in the "Statutory Requirements" section above, the local government should allow enough time to complete all required steps prior to the advertised launch date. It is recommended that the adoption of the Resolution of Intention, the AB 811 Board action that begins the statutory process, occur no earlier than 60 days prior to program implementation to avoid a cool-down of an excited market.

Sonoma County's PACE assessment program formation documents (formed under AB 811) are provided in the Document Library.

BEST PRACTICES FOR PROGRAM DEVELOPMENT

The ultimate goal of this pre-launch stage is to ensure that when the program is operational, PACE program Best Practices are met. Best Practices are those operational policies that produce the program benefits described in Chapter One. In short, they will ensure:

- **Homeowner Protection**
- **Mortgage Lender Protection**

- **Project Investor Protection**
- **Local Government Protection**
- **Sustainability of Program and PACE**

Fundamentally, Best Practices are intended to result in a successful PACE program. Some of these, with referenced resources for others, are discussed below.

STRATEGIC PLANNING

The strategic plan that is referred to throughout this manual is a highly recommended best practice prior to designing and developing a PACE program. The strategic plan defines the goals and measurable objectives of the program and should integrate the local government's greenhouse gas reduction targets or economic development and workforce development goals. To ensure strategic thinking, it is important to engage local stakeholders and potential partners to assist in determining program goals, key program design elements, and criteria for eligible improvements. From this plan will follow the design details and task lists for developing the program itself. Alternatively, a local government may create a program charter that will serve the same purpose.

The Sonoma County Energy Independence Program and Sonoma County Energy and Sustainability Division Strategic and Business Plans are provided in the "Resources" section of this manual.

TIME AND BUDGET

This Best Practice is the result of a Lesson Learned from the Sonoma County experience. Sonoma County was fortunate to have the funding resources available to finance a program when it was determined that a PACE program was feasible for the County. In its eagerness to feed a large need in the community for energy efficiency and renewable energy alternative financing, the County embarked on an aggressive program launch schedule. The end result has been an extremely successful program, but the workload on staff prior to and in the months after launch was tremendous. Certain planning exercises were compromised and program adjustments were made weekly, if not daily which caused some confusion for line staff and contractors.

It is a recommended Best Practice for a local government to take the time to plan comprehensively and budget realistically.

STRONG CONTRACTOR STANDARDS

Adopting strong contractor standards has multiple benefits. Contractor standards will promote quality PACE improvements that can achieve the County's GHG goals and improve the value of property. Finally, enforced criteria for program participation incentivize best practices for quality work and professional customer service within the contractor community. SCEIP's Contractor standards include:

- **Valid license** in good standing as required by law for specific improvements
- **Business license** as required by city jurisdiction
- **Liability Insurance**
- **Workers' Compensation insurance**
- **Requirements for workers**
- **Compliance of projects with program requirements**
- **Notice to Proceed authorization** from program
- **Documented quality assurance inspection** of work by licensed inspectors prior to funding improvement (e.g. permit for work signed off by licensed building inspector)

The SCEIP Contractor Standards is provided in the Document Library.

STRINGENT UNDERWRITING CRITERIA

Certain measures can be required by a PACE program that limit risk to investors and lending institutions, and property owners. These include, but are not limited to:

- **Sizing the financing to the property value**
- **Setting a maximum loan to value ratio** or minimum equity requirement
- **Proof of clear title**
- **Matching the length of financing term** to useful life of improvement
- **Checking default history and property tax status**
- **Documented energy efficiency gains** of improvement, in order to be eligible for financing

SCEIP's underwriting criteria are incorporated into its Program Policies manual, provided in the Document Library.

LENDER ACKNOWLEDGEMENT

Opinions vary on whether requiring lender acknowledgement, or consent, is a Best Practice for a PACE program. In a residential program, it is virtually impossible to obtain a lender's consent to PACE financing. First, the Federal Housing Finance Agency (FHFA) has instructed Fannie Mae and Freddie Mac not to purchase any loans where a PACE assessment is in place. The result has been that no residential lender will accept a mortgage with a PACE lien in place, and no lender will consent to a PACE lien. Second, for residential loans, banks are frequently only the servicing agent for the mortgage: the mortgage itself has been sold to either Fannie Mae or Freddie Mac, or another investor. Thus it is impossible to determine who has the authority to consent. The better position is that no consent or acknowledgement is required, because the PACE lien results from a local government assessment. Lenders have never required consent for local government assessments, and indeed, it would contravene public policy to have mortgage lenders block public improvements that had been authorized by governmental entities. There may be benefit to providing notice to mortgage lenders, as many lenders pay property taxes from escrow accounts maintained by the lender on behalf of the property owner. Notice would allow the lender to adjust the monthly payment to cover the increase needed to pay the assessment.

Commercial loans, however, differ significantly. Unlike residential loans, most commercial loans are both serviced and held by the bank making the loan. Thus the property owner has a relationship with the bank that is mutually beneficial and enduring. Generally, the banks' interest have been to assure that the switch from utility payment to assessment payment is at least cost neutral for the property owner.

An advised, associated Best Practice for any non-residential PACE program is to allocate adequate staff time to reaching out to the lender community prior to program launch in order to educate this business sector and respond to any concerns or misperceptions that may exist. Several benefits of PACE financing exist for mortgage lenders, as listed in the Introduction; SCEIP has experienced a positive reception to outreach efforts.

The practice of requiring lender acknowledgement prior to financing a non-residential project seems to have been incorporated into most if not all programs. A March, 2011 policy brief by the Clinton Climate Initiative found that "in all active and planned programs, the existing mortgage holder must provide written consent or formal acknowledgement for the property to participate in

the program. Mortgage lenders from local, regional and national banks have provided their approval for these projects."[22] Sonoma County has always required Lender Acknowledgement prior to accepting an application for non-residential property. This Lender Acknowledgement form is provided in the Document Library.

EXISTING GUIDELINES FOR PROGRAM DESIGN

Policy guidelines for PACE programs have been written by an assortment of agencies and organizations, and more are being developed as an increasing number of states adopt PACE-enabling legislation and programs in demographically different areas of the county emerge. Some of the Best Practices documents that have been published are provided in the "Resources" section of this manual.

[22] Lawrence Berkeley National Laboratory, "Property Assessed Clean Energy (PACE) Financing: Update on Commercial Programs Policy Brief", March 23, 2011 may be found in the Resources section of this manual.

CHAPTER THREE CHECKLIST

	Operations	MEO	Finance	Legal
Preparation Phase 1.0 - Legal Process				
The goal of this task is to deliver the process and documentation to execute the legal and governance steps required before launching of a PACE Program in a given jurisdiction. Activities include and are not limited to Board of Supervisor/City Council resolutions, notice of public hearing, Program Report and Administrative Guidelines, and the validation process. **NOTE:** The activities below reflect the California AB 811 model for Counties; this list may be modified as needed to accommodate the statutory requirements of other PACE-enabling state legislation or to accommodate cities/towns acting independently of Counties.				
1.0 Activities				
1.1 Selection of bond counsel who should approve all legal documents				
1.2 Preparation of the Resolution of Intention for the Board of Supervisors declaring the County's intention to move forward with the PACE program				
1.3 Preparation of the written notice to be mailed to each water or electric provider within the boundaries of the County a Notice of Proposed Contractual Assessment Program				
1.4 Preparation and publishing of a notice of public hearing to announce County's intention to form a contractual assessment program as per Chapter 29 of Part 3 of Division 7 of the Streets and Highways Code and to set a public hearing date as stated in the Resolution of Intention.				
1.5 Preparation and distribution to towns/cities (where applicable) within the County, resolutions consenting to the inclusion of parcels within the incorporated territory of the town or city in the Program. This resolution authorizes the town/city to levy assessments, to impose the assessment liens and to finance the Authorized Improvements on such parcels.				
1.6 (if applicable) If town/city is working independently of County to levy program assessments, preparation and execution of agreement with County to include the assessment on tax roll				
1.7 Preparation of board item establishing an enterprise fund for the program				
1.8 Preparation of board item of the budget for the program and present as either a budget revision or a new budget depending budget cycle				

	Operations	MEO	Finance	Legal
1.9 Preparation of the Program Report and Administrative Guidelines detailing program goals, benefits, requirements, parameters, financial strategy, consumer protection, water and energy efficiency measures, map of program area, etc.				
1.10 Preparation of resolution confirming program report, establishing program, authorizing the County to enter into contractual assessments to finance the installation of Authorized Improvements in the County, and hold a noticed public hearing as required by the Resolution of Intention				
1.11 Preparation of documents approving bond issuance				
1.12 Preparation for and execution of the validation process				
1.0 Deliverables:				
· Report of bond counsel selection process and result				
· Draft mailed notice of public hearing				
· Draft Resolutions per the implementation plan				
· Draft published notice of public hearing				
· Required resolutions				
· Proof of proceedings				
· Draft Board Items per the implementation plan				
· Draft Budget				
· Draft Long Term Service Agreement				
· Draft Program Report and Administrative Guidelines compliant with AB 811 and Energy Upgrade California financing guidelines. The Guidelines will include:				
o Eligible improvements, including permit requirements and energy savings expected; compliance with DOE Guidelines for PACE Programs				
o Verification of proper permits, installation and energy savings				
o Contractor qualification requirements and quality assurance program for energy savings				
o Financing plan				
o Draft assessment contract				
· Draft Validation Action				

Preparation Phase 2.0 - Program Governance	Operations	MEO	Finance	Legal
The goal of this task is to identify the committees and committee members who will be responsible for delivering the processes and documentation that will govern a PACE program in the jurisdiction, and who will continue to champion the program. These members may include the original Advisory Committee from the Investigation Phase.				
2.0 Activities				
2.1 Select and convene advisory committees. Engage key community leaders (public and private) to create a:				
· Vendor/Contractor Council				
· Stakeholder/advisory group				
· Program Steering Committee (operations, policy, marketing)				
· Program Ad Hoc Committee from Board of Supervisors; identify key elected officials as program advisors				
· Technical Review Committee / Engineering Support (eligible improvements)				
· Policy Review Panel (if other than above)				
· Legal Counsel				
· Financing Plan Management team (treasury, tax collection, accounting, and bonding)				
2.2 Define governance and technical review processes				
Preparation Phase 3.0 - Development Phase				
The goal of this task is to deliver the process and documentation for detailed development of the program in preparation for launch. Activities in this subtask include and are not limited to creation of a: strategic and business plan, marketing plan, program operations plan, program performance measures, and risk mitigation and contingency plan.				

	Operations	MEO	Finance	Legal
3.0 Activities				
3.1 Completion of a strategic planning process, culminating in a draft Strategic Plan, with program governance team assisted by stakeholder input				
3.2 Completion of a business planning process as an enhancement to the strategic plan with program governance team: staffing plan (internal, outsource, etc.), training plan, space plan, resource plan, technology plan, etc.				
3.3 Creation of a Marketing, Education and Outreach Plan. Include the incorporation of participation of stakeholders, i.e. sponsors, ad hoc, committees, etc.				
3.4 Development of presentation and event collateral materials				
3.5 Design of printed and electronic marketing collateral				
a. Development of individualized professional marketing materials in coordination with each of the participating jurisdictions. May include TV advertisements, radio advertisements, web-based marketing materials, printed brochures, and various flyers for insertion into property tax bills, utility bills or other mailers.				
3.6 Development of a Program Operations Plan:				
a. Define, document and test application documentation and process				
b. Define, document and test data management tools and systems				
c. Define , document and test change order process				
d. Define , document and test contract closing process				
e. Define, document and test disbursement process				
f. Define, document and test assessment placement and payoff administration				
g. Execute time and motion studies of complete process with staff				
3.7 Development of Performance Measures as related to the goals of the Strategic Plan.				
3.8 Definition of quality control and program compliance metrics				
3.9 Development of a Risk Mitigation and Contingency Plan which evaluates factors relevant to the local program with consideration for:				
a. Program Participation				
b. Retrofit Quality				
c. Financing Options				
d. Emerging federal guidelines				

	Operations	MEO	Finance	Legal
3.10 Evaluate and define eligibility criteria, compliance with DOE guidelines				
3.11 Determination of contractor qualifications and quality assurance program				
3.12 Draft Implementation Plan				
3.0 Deliverables:				
· Strategic Plan				
· Business Plan including space, technology, staffing and training plans				
· Marketing Plan				
· Marketing Collateral designs				
· Web presence design				
· Final service delivery model design: fixed location storefront, travelling storefront, kiosks, etc.				
· Program process flowcharts, standard operating procedures, and internal service delivery documentation				
· Results of time and motion studies for process execution and process improvement plan				
· Program performance measure plan				
· Risk Mitigation and Contingency Plan				
· List of Eligible Improvements				
· Contractor Standards agreement and Quality Assurance plan				
· PACE Program Implementation plan				

CHAPTER THREE LESSONS LEARNED: PROGRAM DEVELOPMENT

This section provides information specific to the Sonoma County program. Lessons learned by other PACE programs are provided in their individual profiles located in Chapter 6.

Situation	Lessons Learned
The Importance of a Strategic Plan: SCEIP did not have a strategic plan in place at program launch (this was developed a year after launch). Goals for the program had been verbally discussed and established but there was no documentation of goals or measurable objectives other than ultimate program success, which was poorly defined.	The Strategic Plan provides overarching guidance for policy decisions. A strategic planning process concurrent with PACE program development will define achievable objectives, staffing, space and technology needs, marketing activities, and budget. It will also set parameters for how the program, once successful, will expand.
Stay Flexible! Although the Strategic Plan is an overarching guiding document, the many policy and procedural decisions that will be made to deliver the program operationally will change. For several months after SCEIP launched, operational changes occurred almost daily. In addition, inflexibility can be costly. For example, when SCEIP launched, it printed too many of certain brochures resulting in wasted money, already limited, as the program evolved and even contact information changed.	Stay flexible, but review core goals and objectives frequently. Advise staff prior to hiring that work will be conducted in a changing environment, and create a protocol for documenting changes in order to ascertain, if needed later, the reason for the change.
The Importance of Education: The general public does not understand how the energy and water systems of buildings interact together to function as a system, or how that system impacts an occupant's health, comfort and costs.	Education will increase the uptake of a PACE program, particularly if the message and application process are simple. Visual aids, such as a House of Pressure, can be helpful to providing tangible illustrations of energy efficiency and the whole building system.
Communication Plan: SCEIP's initial marketing was overly dependent on contractor community due to insufficient resources for marketing activities, resulting in some market	Based on results of market analysis, budget adequately for marketing activities to garner participation of targeted property sectors.

sectors participating and others nearly unaware of program.	
Document Storage: Without a protocol for naming conventions, user permissions, document storage structure and file retention, document control may soon become unwieldy, containing multiple copies of documents in multiple locations and making it difficult to locate, or be sure of, the latest version.	Prior to program launch, decisions should be made and a policy written addressing digital storage protocol and appointing a server manager.
Administrative Costs: Operating expenses in SCEIP's first year exceeded pre-launch planning.	A Strategic Plan is helpful for creating a realistic budget. Budget for success! Be prepared to increase staff as needed.

CHAPTER FOUR: PROGRAM LAUNCH- THE FIRST SIX MONTHS

This chapter discusses the activities involved with launching and operating a basic PACE program, using SCEIP as the example.

OPERATING PROCESSES

Existing and emerging programs will all have their own idiosyncratic procedures, unique operating structures and varying financing strategies. In addition, external forces, such as 1) changing direction from federal regulatory agencies, 2) a changing marketplace that increasingly embraces energy efficiency and encourages the development of new technologies, and 3) shifting paradigms for the world of energy efficiency due to emerging concepts such as whole building performance, have resulted in the dynamic and evolving nature of PACE program guidelines and best practices. It is therefore difficult to write more than a very general overview of operating processes.

This section provides a general discussion of the three major operational process stages for any PACE program, with specifics that pertain to the SCEIP operations. The SCEIP Document of Procedures Report is provided in the Document Library.

APPLICATION THROUGH CONTRACT SIGNING

This operational stage may also be considered the "Customer Service" stage. Although all operating stages involve interaction with program participants, most of the customer and contractor interactions will occur during the application process. In order to accommodate a high level of customer service throughout this process, Sonoma County operates a physical "storefront" location to meet with applicants or their representatives in addition to providing an online application tool on its website.

SCEIP's operational steps for program staff during this stage are described below. All forms and checklists referred to in this section are provided in the Document Library.

1. **Application Intake**: Upon receipt of an application, a staff member will review the application and attachments for completeness. In Sonoma County, an Intake Checklist is used to determine whether all

requirements for a complete application have been fulfilled. These requirements include provision of:

- A signed FHFA disclosure form (for residential applicants)
- A signed, complete application
- Bids for work, with material technical specifications, supporting requested amount and improvement eligibility
- Mortgage statement aged no more than 45 days
- Trust or corporation formation documents, the latter accompanied by a letter from the Board or Partnership assigning signature authority (if property is held in trust or by a corporation)
- Notarized Lender Acknowledgment (required for commercial properties)
- Energy Analysis results (required for commercial properties)
- Authorization for utility data access
- Appraisal, if necessary to determine property value
- Customer authorization for a third party to correspond with program staff on behalf of the applicant (such as a contractor, if applicable)

All owners of record on the property on which the improvement will be made must sign the application and FHFA disclosure form. The staff member receiving the application will verify the property value and tax status in order to determine that the program's underwriting criteria are met. After the Intake process, complete applications are distributed to file managers on a rotational basis. Incomplete applications are returned to the applicant with a request for missing information.

2. **Application Processing**: Staff will review the application for completeness and prepare a Truth in Lending Act (TILA) disclosure form for the applicant(s).[23] Upon receipt of the TILA signed by all owners of record, and upon receipt of a check or money order for title search costs from the applicant, the file manager will order a title search for the property. The assigned file manager will also populate the various program databases with application data. In Sonoma County, database and spreadsheet tools are used to generate a variety of reports (see Program

[23] Although it is not clear TILA forms are required for contractual assessments, the better practice is to provide the property owner complete disclosure of fees and costs associated with the PACE assessment. The TILA form provides a well-established mechanism to do this.

Reporting section below). Upon receipt of a clean title report, the file manager submits the application for approval with a Recommendation for Approval cover sheet.

3. **Application Approval**: The application and supporting documents are reviewed by the Program Manager or authorized designee. If the amount requested exceeds a threshold set by program policy, a higher level of review and approval is required by the program Steering Committee or county Board of Supervisors. If the application is approved, the Recommendation for Approval sheet is signed and the file is returned to the assigned file manager. The file manager notifies the applicant of approval status.

4. **Contract Signing**: Upon receiving application approval, the file manager creates the contract documents, which include the assessment contract, the implementation agreement and the right to cancel form. After the contract documents have been prepared, the applicant is notified to schedule a contract signing. In Sonoma County, SCEIP provides a complimentary notary service for applicants who wish to sign at the storefront location. If not, the contracts are mailed to the applicant for an off-site signing.

LIEN RECORDATION THROUGH BONDING

Many of the activities during this stage of the operating process are internal to the local government and begin to involve the Office of the Tax Collector and the Office of the Recorder. SCEIP's process is described here.

5. **Lien Recordation and Notice to Proceed**: When the contract documents have been signed and notarized and received back by SCEIP (in the case of an off-site signing) with a check or money order for the recording fee, the assessment contract is sent to the county Recorder and the lien for the full approved amount is placed on the property. After the three day right to cancel (RTC) period has expired, the file manager sends a Notice to Proceed letter to the applicant and work may begin. If the applicant returns a signed RTC form to SCEIP during the three day RTC period, the lien is removed at no cost to the applicant, and all application costs and fees are returned to the applicant.
The Lien Recordation activities conducted by the Recorder's office include:

- A supplemental title search to ensure that there have been no changes to the property status since the original title report was created.
- A Notice of Assessment and any other documents required under state law to be recorded are created and recorded.
- Spreadsheet(s) are populated for use in tracking and reporting program data.

If the applicant desires to make changes to the requested amount (increase) or term of repayment after the contract has been signed and the lien recorded, a Contract Amendment must be executed following review by program staff of supporting documentation. A new lien amending the changes is recorded for an additional fee.

6. **Request for Disbursement**: In Sonoma County, there are two types of disbursement requests, an interim disbursement and a final, or single, disbursement. If an approved financing amount meets or exceeds a threshold established by program policy (currently $40,000), the interim disbursement option is available.
    - Single disbursement: When improvement work has been completed, the applicant returns to the program a signed Request for Disbursement (RFD) form, invoices supporting the request, and a copy of all final permits signed off by the jurisdiction's building inspector documenting completion of work to the jurisdiction's standards.
    - Interim Disbursement: When 75% of the materials are on-site and secure or, for a multi-improvement project, when one improvement is completed, the applicant may request a first disbursement. In the former case, an inspection by program staff is required to document that 75% of the materials are on-site. Following the inspection, the signed disbursement request, accompanied by copies of invoices and the building permit(s), will be processed and 50% of the approved amount will be disbursed. In the latter case, no field inspection is required in lieu of a final permit signed by the jurisdiction's building inspector. The total amount of the first improvement, in the case of a multi-improvement project, will be funded.

7. **Bonding**: When the RFD is received and approved by program staff, it is sent to staff in the Auditor-Controller-Treasurer-Tax Collector's (ACTTC)

office. There it is reviewed and a Final Assessment Settlement Statement is created. All statements generated from RFDs in one month are compiled into a spreadsheet. This spreadsheet is sent to an outside vendor that provides the services for managing the creation of the charges to the tax roll for each SCEIP assessment, for assessment prepayments/payoffs, individual property assessment records, and bond records. [24] This vendor also creates a repayment schedule for each applicant.

The ACTTC office staff also creates a bond summary that is sent with the RFDs monthly to a second outside vendor that provides bond counsel services. Bond counsel creates the bond documents associated with these requests which are then forwarded to appropriate individuals for signature.[25] Original signed bond documents are returned to bond counsel. In the meantime, ACTTC staff prepares the disbursement checks, accompanied by the repayment schedule and the settlement statement, which are mailed to or picked up by the applicant, given their choice on the RFD.

All properties that receive disbursements between October of one year and September of the next are included in the current year's tax roll. Capitalized interest begins accumulating on amount disbursed to property owners from date of disbursement. The data files used to create the new assessments are sent from the third party tax roll management vendor to the ACTTC and include the parcel numbers and respective assessment dollar amounts. The files are reviewed by ACTTC staff after import to ensure the transfer was complete and accurate as part of the normal tax roll extension process.

AFTER BONDING

Many of the activities during this stage of the operating process are internal to the local government and begin to involve the Office of the Tax Collector and the Office of the Recorder. SCEIP's process is described here.

[24] Third party service agreements, including the scopes of work, are provided in the Document Library.
[25] Described by the SCEIP Procedure document, provided in the Document Library

8. **Early Assessment Payoff:** Applicants do have the ability to pay off their assessment before the repayment period of the contract. In Sonoma County, applicants cannot make partial payoffs. In some cases, lenders to residential property purchasers are requiring the payoff of the PACE assessment prior to the transfer of the property.

   The applicant requesting the early payoff will contact the third party tax management vendor directly to receive a payoff quote, which includes the remaining principal, the interest that has accumulated since September 1 of the last tax cycle, year and a fee for removing the lien. This amount is sent via check to the ACTTC and the assessment lien is removed from the property. The ACTTC advises the third party tax roll management vendor that the assessment has been paid off.

9. **Expired Contracts:** Applicants have a program policy-defined period of time to complete their projects. They may request a time extension if they experience unforeseen delays. In some cases, the project work exceeds the contractual period and/or the applicant makes other arrangements for paying the contractor, and no longer wishes to participate in the PACE program. In this case, the applicant must pay a fee and the assessment lien is removed from the property.

THIRD PARTY ADMINISTRATION

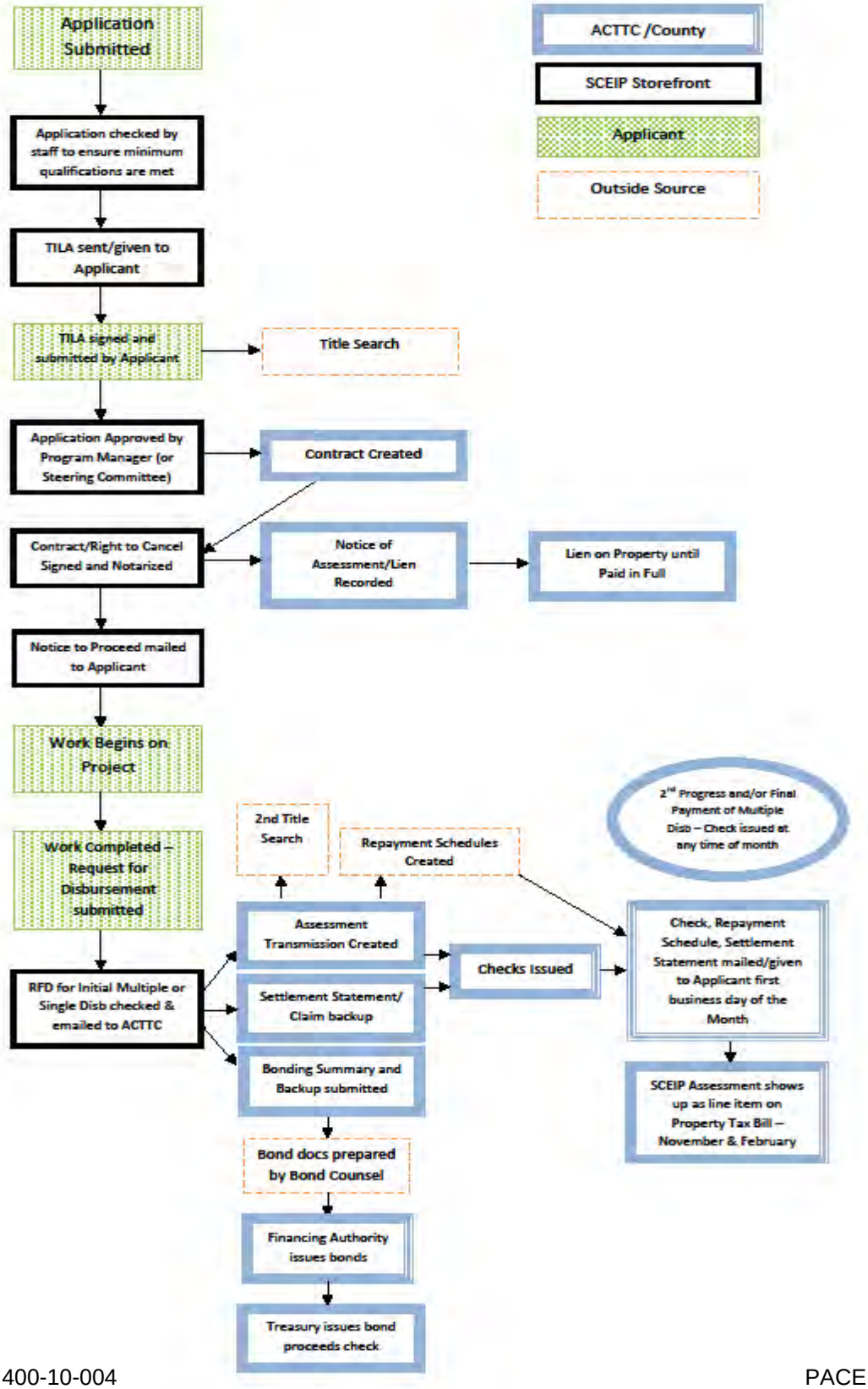
The sections above described operations specific to SCEIP, but there are many models for operating a PACE program. If, after the Investigation phase, a local government decides that it wants to offer PACE financing to its constituency community but does not wish to or lacks the in-house capacity to administer its program, the third party administration option exists. Under this model, the local government contracts with a third party to conduct some or all of the tasks associated with operating a PACE program.

Examples of this structure are the San Francisco County and Los Angeles County programs. San Francisco is working with a third party administrator to assist the city in developing and administering the program, and their subcontractor is serving as the special tax administrator responsible for formation services (Boundary Map Preparation and Recordation, Method of Apportionment of Special Tax , and other related tasks), as well as Administration Services (Data Collection, Annual Special Tax Levy Calculation and Enrollment, Annual Reports, Delinquent Tax Reporting, Prepayment Calculations, etc.).

In Los Angeles, application review and certain other administrative functions are being managed by a third-party administrator, with the County performing the back-end legal work.

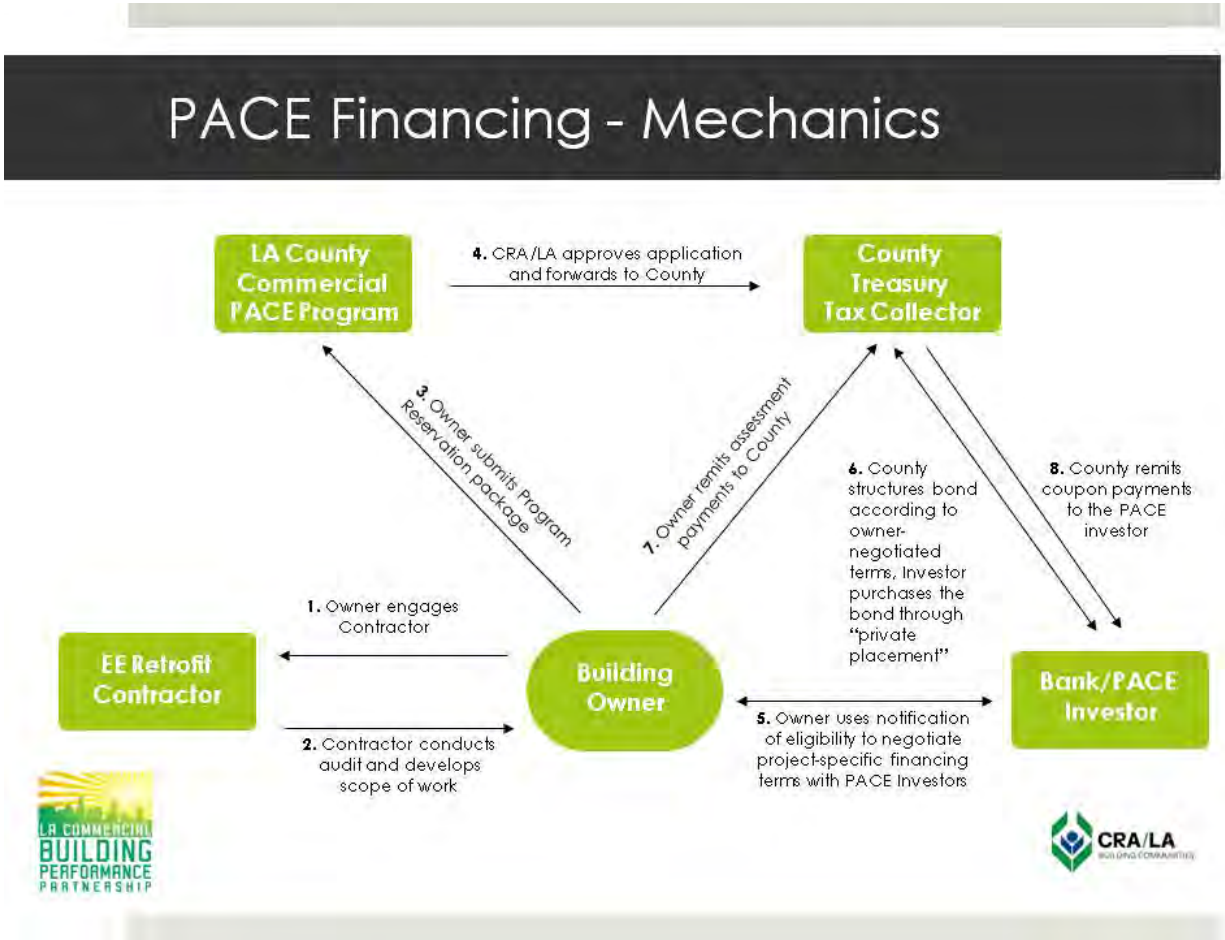
SONOMA COUNTY PROCESS FLOW

The illustration below summarizes the SCEIP process flow and illustrates the interconnection of the three process stages. In Sonoma County, the ACTTC is the Department of the Auditor-Controller-Treasurer-Tax Collector.


Application Submitted
ACTTC /County
SCEIP Storefront
Applicant
Outside Source
Application checked by staff to ensure minimum qualifications are met
TILA sent/given to Applicant
TILA signed and submitted by Applicant
Title Search
Application Approved by Program Manager (or Steering Committee)
Contract Created
Contract/Right to Cancel Signed and Notarized
Notice of Assessment/Lien Recorded
Lien on Property until Paid in Full
Notice to Proceed mailed to Applicant
Work Begins on Project
Work Completed – Request for Disbursement submitted
2nd Progress and/or Final Payment of Multiple Disb – Check issued at any time of month
2nd Title Search
Repayment Schedules Created
Assessment Transmission Created
Checks Issued
Check, Repayment Schedule, Settlement Statement mailed/given to Applicant first business day of the Month
RFD for Initial Multiple or Single Disb checked & emailed to ACTTC
Settlement Statement/ Claim backup
Bonding Summary and Backup submitted
SCEIP Assessment shows up as line item on Property Tax Bill – November & February
Bond docs prepared by Bond Counsel
Financing Authority issues bonds
Treasury issues bond proceeds check

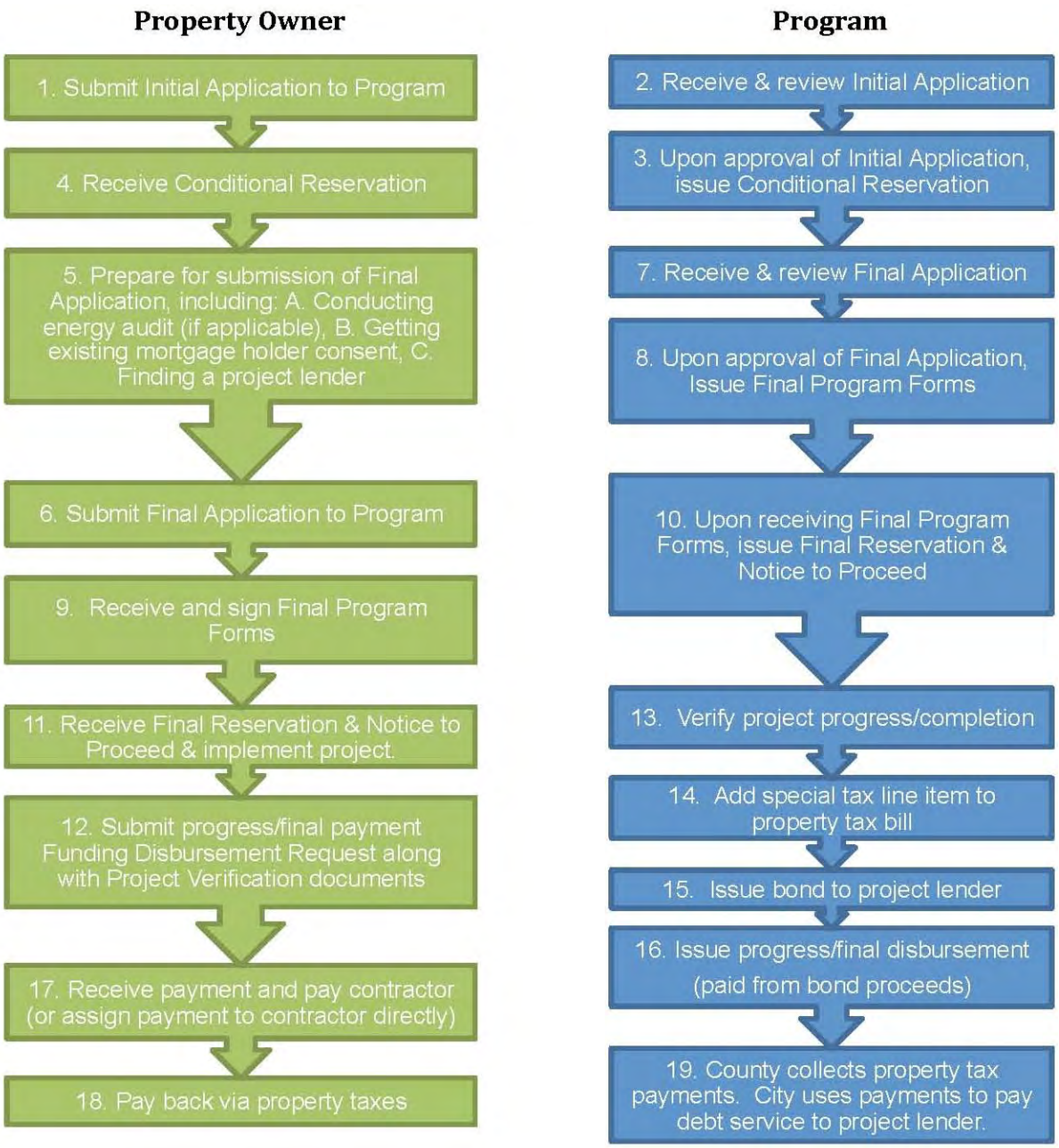
LOS ANGELES COUNTY PROCESS FLOW

The illustration below summarizes the LA County process flow and illustrates the interconnection of the three process stages.



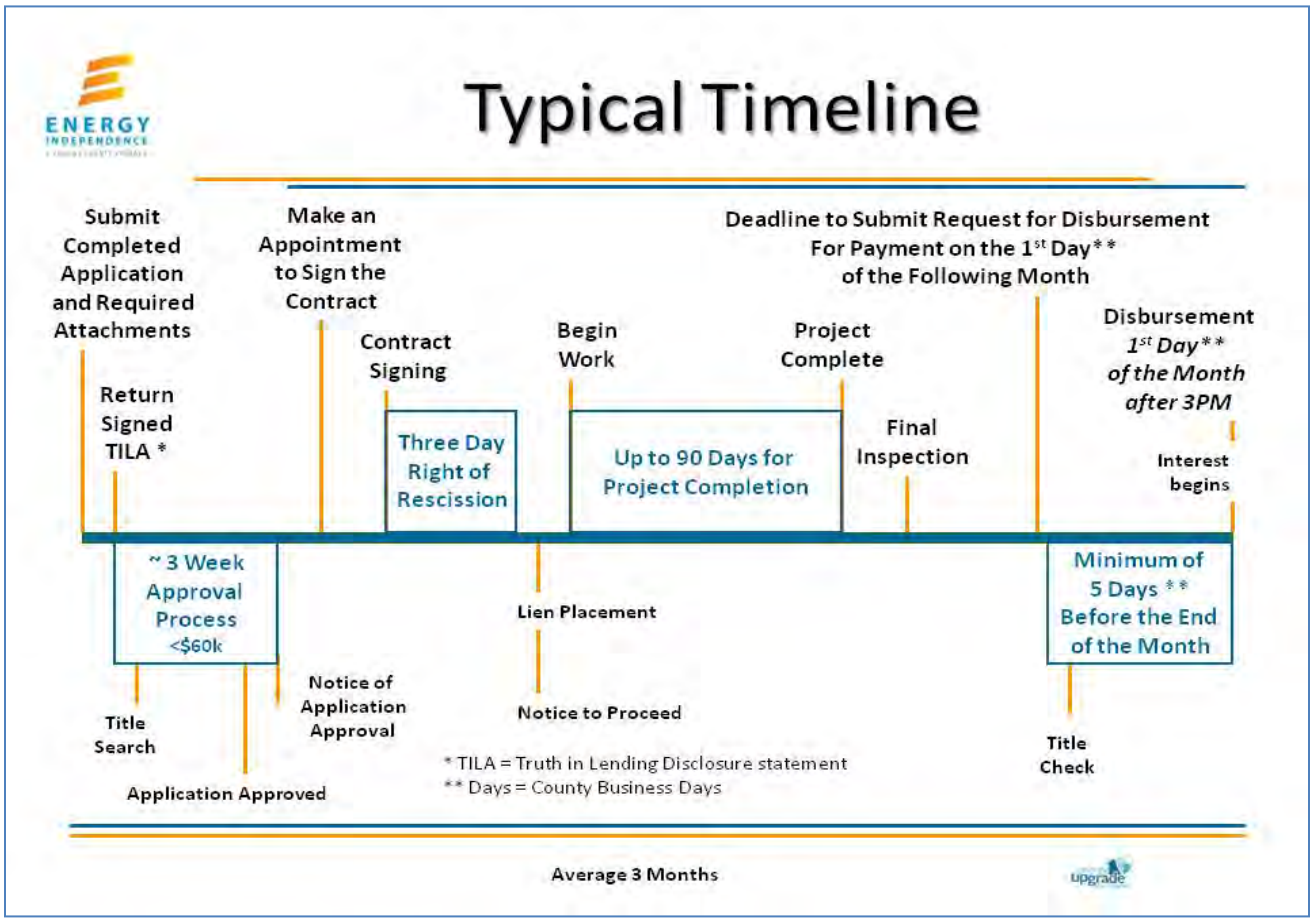
CITY AND COUNTY OF SAN FRANCISCO PROCESS FLOW

The illustration below, which may be found in the City and County of San Francisco GreenFinanceSF Program Handbook, summarizes the City and County of San Francisco process flow. The steps are numbered to indicate interaction.



TIMELINE FOR PROCESSES

In Sonoma County, the typical timeline for the first two major operating process stages (Application through Bonding) is three months, as described below. It should be noted that in Sonoma County this is the average for residential projects; a commercial-based PACE program is more likely to fund larger, multi-improvement projects with multiple contractors, which may protract this timeline by as much as an additional 3-6 months.



INTRAOFFICE COMMUNICATION

Given the variety of tasks, staff and offices involved with providing PACE program services from project start to completion, a chain of command and communication protocol is recommended to ensure the absence of cracks into which an application in process could fall. This protocol could be part of a comprehensive Communication Plan or exist as a stand-alone, documented internal policy. At a minimum, a best practice here is to assign a dedicated file manager to the application who will be responsible for all stages of the application process and accountable for ensuring all information related to the project is entered accurately into applicable databases. As will be discussed next, accurate program reporting is key to the long-term success of a PACE program.

PROGRAM REPORTING

EVALUATING REPORTING NEEDS AND USE

Reporting on program activity is key to the long-term success of a PACE program. There are many needs for program reports: reporting to elected officials who allocate budgets, reporting to regulatory agencies who determine policies, reporting to the program governance who use results to support adjustment of program policies, and writing grant proposals, to name a few. It is recommended that a jurisdiction conducts an evaluation of how it may use reports, what reports it will need to generate, and what data will be required to be collected. Out of this exercise will derive a design for a database or a number of databases, as well as a data management protocol.

This Data Assessment task could be conducted in the Program Development stage, but a jurisdiction may find it useful to wait until after program launch in order to have a “real time” gauge on the reporting needs. In the meantime, especially if the application process is automated with an online tool, essential information can be captured for later reporting needs.

DATA MANAGEMENT

Part of the reporting assessment exercise should include some thought towards how data will be collected and managed. As mentioned above, automating the application process has the associated benefits of automating data collection and ensuring its accuracy, particularly when required fields or drop-down menus

are provided for the applicant and file manager. However, not all data collection can be automated and the question for jurisdictions to consider is how it will ensure that accurate, properly formatted data is being entered by multiple users, usually with a wide range of computer skills and attention to detail.

POTENTIAL REPORTING NEEDS

There is a large range of needs for program reporting. Based on Sonoma County's experience, this section discusses potential end users and report types. Samples of reports produced by Sonoma County are provided in the Document Library.

1. **Elected Officials:** Reports used to justify budgetary decisions, drive strategic priorities, support communications with and presentations to professional associations. These might include:
    - Job creation statistics, particularly local jobs
    - GHGs reduced
    - Project types and sectors
    - Funding statistics
    - Overall program activity, such as number of applications received and approved

2. **Internal Use:** Reports used to evaluate program effectiveness and delineate areas for targeted marketing or program change by tracking certain indicators. These might include:
    - Types of projects funded
    - # of applications received by sector
    - # of projects funded by type and sector
    - How applicants heard about the program
    - # of applications by geographic region
    - # of applications by business type and size

3. **Program Partners:** Reports used to support continued support for and/or allocation of resources to program

4. **Public:** Reports to elicit general interest and continued support for the program, provide technical support to other emerging programs, and garner interest from third-party investors. Data of interest to the public might include:

- Volume of projects funded, in terms of number and investment
- Job creation statistics, particularly local jobs
- GHGs reduced

5. **Grant Funding:** Reports used for program expansion or sustainability funding.

MARKETING, EDUCATION AND OUTREACH

Sample marketing, education and outreach collateral from early SCEIP operation is provided in the Document Library.

PRE-LAUNCH ACTIVITIES

Targeted marketing, education and outreach activities executed just prior to, but not too long before, program launch can create an eager anticipation for the program. This will result in a high participation rate from the beginning, contributing to a self-feeding mechanism of program momentum. Some of these activities might include:

- Press releases to media with a wide audience
- Meet-and-greet informational events specifically for contractors
- Informational meetings targeted to potential participants. For example, a program for residential customers could be held at a public library.
- Employee information sessions for the local government's staff
- TV, radio and newspaper advertisements
- Direct mailings
- Property tax bill inserts, depending on timing

PROGRAM LAUNCH EVENT

The program launch should be considered like the "Grand Opening" of a business, complete with a high profile, heavily advertised event that is hosted by elected officials and senior staff and to which local media and other community leaders have been invited. The event program could include remarks by elected officials, a brief overview by staff of the program and how it will work, and time for attendees to mingle and learn more about the program. Resources such as

the application, brochures, business cards, a looping video, lists of participating contractors, staff themselves, a list of upcoming trainings or informational meetings, and giveaways embossed with program information should be on hand for the attendees to bring home.

ONGOING EDUCATION AND OUTREACH

Building on the momentum created by the Grand Opening event and any media coverage, the jurisdiction will want to continue to educate the public about the program. A combination of targeted and broad-based efforts should be used because an educated general public will support participation in the program by the targeted market. In addition to those activities listed above, some of the ongoing education and outreach efforts might include:

- Presentations to community service groups and associations, such as the Rotary Club and Realtor's Association
- Tabling at events such as county fairs and local conferences
- Production of targeted collateral, such as a postcard to small and medium businesses
- Production of bi-lingual or multi-lingual brochures
- Hosting or co-sponsoring events directed at a target market
- Delivering presentations at regional conferences
- Social media
- Digital newsletter

The scope and scale of marketing, education and outreach activities will be determined largely by the budget as described by the Marketing and Staffing Plans. It is recommended that a local government allocate sufficient resources to this area of operations, because program participation is essential to the viability of the program. A local government should also leverage in-house and partnering city and town resources, such as an internal newsletter and networking opportunities by senior management and elected officials, which do not require extra funding.

CUSTOMER TOOLS

WEBSITE

A program website can have a big impact on program participation. A well-constructed website will provide education to consumers and alleviate potential

confusion or myths about the program, thus eliminating some of the barriers to entry. Recommended resources for customers include:

- Program documents
- Frequently Asked Questions addressing program basics
- List of participating contractors
- List of eligible improvements
- Announcements for workforce training and educational events
- Embedded calendar of events and office closures
- Contact information
- Links to outside resources

In addition to hosting static educational resources, certain online interactive tools can greatly increase customer awareness and facilitate program participation. These are discussed below.

ACTION PLAN TOOLS

These are energy and water efficiency analysis tools for property owners and contractors to easily assess energy and water use, see priorities, and then take action. Provision of this tool may be as simple as creating a link to the Energy Star's Home Advisor or Commercial Building Performance Assessment tools. Alternatively, a program may wish to provide a higher-level custom tool.

In January 2012, SCEIP launched custom Action Planning tools for residential customers designed and maintained by a third-party vendor. The primary reason for adding this unique service was to engage and motivate consumers to take action on the reduction of energy use and drive demand for retrofits. This online tool helps consumers optimize their home energy system. A combination of pre-populated data along with some basic questions about the consumer's property energy use feeds a calculator. The Action Plan engine outputs a list of economic gains per measure prioritized by the return on investment. If money is not the user's primary motivator, the tool also outputs priority lists of measures based on comfort, behavior, or maintenance. The intention is to increase consumer rates-of-action by reducing confusion over billing, incentives, tiered pricing, and measures they can take to give each consumer a tailored, simple and specific plan of action. It incorporates all possibilities for home fuel types (natural gas, electric, etc.) and all aspects of a structure, and integrates across all types of potential consumer action (behavior, efficiency and renewable retrofits, etc.). The tool's logarithms are programmed to fully promote those measures that are whole-house measures so that consumers can clearly see the benefits of a

whole-house efficiency retrofit program, such as that promoted by Energy Upgrade California. The priority measures are then tied to a workflow that connects consumers with qualified contractors and financing. All applicable rebates are also integrated into the system.

ONLINE APPLICATION TOOL

This is an automated tool that walks an applicant through a step-by-step process for determining eligibility, selecting measures, selecting finance amounts, uploading required documents, paying fees, and signing disclosures. In January 2012, SCEIP launched its online application tool, designed by a third-party vendor with an enhanced tool designed by a third-party vendor, Renewable Funding, expected to launch in March 2012. It is anticipated that this tool will facilitate and expedite the application process for the customer or their contractor representative and will also resolve data management and reporting challenges that have been experienced by the program.

ENERGY ANALYSES

Various, and sometimes conflicting, guidelines exist for the adoption of an energy analysis by PACE programs, which may be found in the "Resources" section of this manual. The U.S. Department of Energy (DOE) recommends that financing should be for high energy-efficiency value improvements that are identified on a per property basis by an energy analysis.[26] Additional DOE guidelines state that a PACE program design should include "an energy audit and modeling of expected savings to identify energy efficiency and renewable energy property improvement measures that are likely to deliver energy and dollar savings in excess of financed costs over the assessment term. Local governments should limit investment to those identified measures."[27]

The California Home Energy Retrofit Coordinating Committee (CA HERCC)[28] has written detailed energy efficiency and home energy analysis recommendations for California PACE programs, such as:

[26] From Policy Framework for PACE Financing Programs, October 18, 2009.
[27] From Guidelines for Pilot PACE Financing Programs, May 7, 2010.
[28] CA HERCC is an ad hoc committee comprised of energy efficiency and program implementation experts from many different organizations. More information may be found at http://www.builditgreen.org/home-energy-retrofit/

- **A HERS Phase II-compliant audit and rating** (Whole House Home Energy Rating with test-in and test-out and combustion safety testing) shall be performed and a report written that includes a list of recommended cost-effective measures.
- **Each project financed shall achieve a minimum of 20% reduction in HERS rating without renewables** via energy efficiency measures prior to financing renewable energy projects or the home shall achieve a score of 100 or less on the HERs Phase II Index.
- **Recommended HERS Rater and Contractor Qualifications** and Quality Assurance.

The Energy Upgrade California (EUC) state program requires that residential and commercial properties demonstrate a 10% gain in energy efficiency prior to obtaining renewable energy generation project financing, if these renewable projects are to be funded by PACE financing that derives from EUC grants. To assist property owners in meeting this requirement, the EUC program provides rebates for energy analyses and associated energy efficiency improvements. Since its inception, SCEIP has strongly encouraged homeowners to obtain an onsite energy survey by a Home Energy Rating System (HERS) rater or equivalent, or to fill out an online energy rating survey provided by Pacific Gas and Electric (PG&E) Company, which supplies power to Sonoma County residents. From July 1, 2011 through March 31, 3012, as a result of receiving a grant, a partnership with Energy Upgrade California and a desire to align more tightly with DOE recommendations, SCEIP began to require residential property owners to demonstrate a 10% gain in energy efficiency prior to receiving PACE funding for a renewable energy generation project.[29] This requirement was most often met when the property owner made energy efficiency improvements that were recommended by an energy analysis. In many cases, financing for the energy efficiency improvements was rolled into financing for the renewable energy generation project.

An onsite energy analysis has always been required for commercial property owners applying for SCEIP financing. As part of the documentation supporting a complete application, commercial property owners must submit the results of the ASHRAE Level 1-equivalent analysis that is offered free of charge by PG&E. [30] The City and County of San Francisco, Los Angeles County, and Placer County

[29] The impacts to SCEIP of this loading order requirement is the subject of Sonoma County Case Study: Loading Order in Chapter 5.

[30] "Procedures for Commercial Building Energy Audits, 2nd Ed.," 2011, available directly from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Commercial PACE programs all have energy analysis requirements. These are described by their program documents, which may be found in the "Resources" section of this manual.

CHAPTER FOUR LESSONS LEARNED: THE FIRST SIX MONTHS

This section provides information specific to the Sonoma County program. Lessons learned by other PACE programs are provided in their individual profiles located in Chapter 6.

Challenge	Lessons Learned
Data Management: Eight individual Excel spreadsheets were used by over 30 different staff members throughout the tenure of the program. Missing information, inaccurate information, corrupted data and much time was required to re-populate missing or incorrect information.	1. Assess reporting needs before designing the data collection mechanism. 2. Choose a software solution that provides an automatically populating database for tracking and an electronic conversation log – this saves staff time, creates accountability and minimizes processing delays.
Define Team Roles: There was no clear delineation of responsibilities which led to duplication of effort, errors, and afforded no economies of scale in work process.	This was resolved by assigning staff-specific primary job functions, such as: Receptionist, Application Intake Coordinator, File Managers, Signing Notary and Program Manager A lesser number of staff hours are needed to accomplish the program objectives if each staff member is focused on a specific portion of the overall process. Cross-training is essential – try to avoid any single-point of failure.
Designate Space: The original work space layout encouraged frequent staff interruptions from phone calls and public interactions in the main area of the SCEIP storefront operation. The back office area was improperly configured to accommodate the necessary functions.	This was resolved by reorganizing the workspace into two functionally distinct areas. A lesser number of staff hours are needed to accomplish the program objectives if staff functions are performed in a dedicated space for concentrated accomplishment of work needs.
Have the Right Tools: Staff productivity was impacted by lack of easy access to computer terminals, printer/scanner/copiers, and	This was resolved by adding the technological resources to accomplish program objectives.

appropriate software resources.	Adequate office equipment, technology and training are needed to reduce staff costs and accomplish program objectives.
Participating Contractors: At SCEIP program launch, the sole contractor requirements were a bid for the work for which funding was requested, and documentation of a valid California state business license by the bidding contractor. A few contractors took advantage of the program's initial success, such as representing themselves as SCEIP staff, using SCEIP marketing materials to promote their businesses, and other disreputable business practices that shed a poor light on the program and other reputable contractors.	SCEIP developed Contractor Standards covering such elements as: compliance with program requirements, liability insurance, worker's compensation, and licensing and certification. Any contractor working on a SCEIP-funded project is required to sign this document. Those agreeing to abide by the standards are included on a Participating Contractor list. This has the added benefit of providing an increased level of assurance that contractors meet certain minimum requirements to the customer. SCEIP maintains ongoing communications with participating contractors in order to support their business success and provide regional and local resources. This communication channel occurs through meetings, phone calls and emails from the SCEIP staff. In general, contractors in Sonoma County don't use email as their main source for communication. SCEIP has found that the local contractor community responds much better to face-to-face meetings and telephone conversations vs. receiving information electronically. **Note:** Participating Contractor information and forms are provided in the Document Library.
Effective Marketing Methods: Initially, due to budget constraints, SCEIP depended heavily on contractors to market the program. This created a two-fold challenge: first, program participation and types of funding requests tended to be limited to their particular line of work (in SCEIP's case, residential solar	A local government should implement a multi-pronged marketing effort from program launch that follows from a solid marketing plan. In meeting its challenges, SCEIP broadened its marketing strategies significantly from the

electricity generation); and second, this narrow focus compromised the program's later ability to transform the market to recognize loading order.	"word of mouth" model to the following effective methods: Property Owner Stories: Testimonials from participants, particularly other homeowners, created momentum for program uptake. These were used widely in TV, radio and print media ads. Energy Champions: Similar to above, these property owners hosted presentations and tours of their properties to highlight the benefits of energy efficiency and PACE financing. Trusted Leaders: Enlisting trusted local leaders from government, business and the community as Energy Champions maximized the property owners' story tool and allowed the program to reach specific constituencies. Employee Outreach: Employers invite SCEIP staff to present program benefits to their staff. Employees benefit from their knowledge and employers demonstrate their support for staff and their potential for home retrofit projects.

CHAPTER FIVE: ONGOING OPERATIONS

As a program matures, feedback from early participants and stakeholder groups, changing revenue sources, process improvements and new opportunities will result in adjustment to many of its operations. This chapter provides emerging programs with an overview of what may be down the road and suggestions that a developing program may want to consider and incorporate before program launch. Many of the sections below discuss the specific experiences and lessons learned of the Sonoma County program.

FUNDING FOR PROGRAM SUSTAINABILITY & EXPANSION

The constraining factor for all PACE programs is revenue with which to operate and fund projects. It is primarily important for a program to have adequate funding to sustain itself in perpetuity; it is secondarily important to have additional revenue to expand services. Both of these topics are discussed below.

OPEN MARKET BONDING

Additional funding for projects may be attained via the open bond market. This model, as used to fund new projects, is discussed in Chapter Three. However, if a program was implemented using a source of in-house funding with a predetermined threshold amount, such as unallocated reserves or, as in Sonoma County's case, a treasury pool, it may be necessary to go to the open market in order to issue refunding bonds to replenish the in-house warehousing funds.

Refunding bonds operate similarly to the bonds that funded the PACE improvements: the sources of repayment for the Refunding Bonds are installments of principal, interest and premium, if any, to be paid on the unpaid Assessments by the owners of real property under applicable Assessment Contracts. Assessments constitute a superior priority lien and charge upon real properties in the county (or city/town, as applicable) under the applicable Assessment Contracts. The Refunding Bonds are not a debt of the general fund of the county or city. The county collects Assessment Revenues in each Fiscal Year through the county's property tax system in the same manner as other real property taxes are collected. Payments to the holders of the Refunding Bonds will be made by the Fiscal Agent.[31]

[31] A March, 2012 open market bonding feasibility study prepared for SCEIP is provided in the Document Library.

In Sonoma County, the County has adopted the Alternative Method of Distribution of Tax Levies and Collections and of Tax Sale Proceeds (the "Teeter Plan"), pursuant to Sections 4701 through 4717 of the California Revenue and Taxation Code (the "Code"). The Code allows the County to distribute secured real property and supplemental property taxes on an accrual basis which results in full payment of assessments each year. Any subsequent delinquent payments and related penalties and interest will revert to the County.

REVOLVING LOAN FUND

A line of credit is a lump sum available to draw down as project funding is disbursed. It becomes a *revolving* line of credit (revolving loan fund, or RLF) as these funds are replenished, such as through bonding. The initial source of this lump sum revolving fund may be from a foundation, a grant, an unallocated reserve, or a third-party investor. This form of funding is typically used to finance projects rather than ongoing operations or program start-up costs. Although a revolving fund may be an option for warehouse funding from program launch, it is more likely to be a source of funding after a program has been established and the fund provider (if external to the local government) has some assurance as to the sustainability of the program. In the case where the revolving loan fund is sourced from internally generated funds, the local government may choose to use a RLF from program launch.

In Sonoma County, a revolving loan fund was established through a grant from the California Energy Commission (CEC) that was used to fund residential projects prior to bonding. This allowed contractors to be paid immediately rather than requiring them to wait until the next bonding cycle, which favorably enhanced program participation. The RLF is replenished the first business day of each month during the bonding cycle; instead of disbursing the bonded amounts to the property owner, the disbursement is paid to the RLF to make it whole for the amount disbursed to property owners mid-month.

GRANT FUNDING

As discussed in Chapter Three, grant funding is a potential source of start-up or program development capital for a program. However, grants are rarely a source of funding for ongoing (administrative) operations or project warehouse funding until a program has been established and the granting agency has assurance of program sustainability supported by reporting metrics and indicators. Grants are an excellent source of funding for a mature program to enhance its services or,

as discussed above, to establish a revolving line of credit, particularly if the line of credit funds a specific type of project, sector or need (i.e., energy efficiency improvements to low income multi-family properties or underserved communities). As discussed in detail below, SCEIP received a generous grant from the CEC to both establish a revolving line of credit for residential properties and expand many of its program services.

FUNDING FOR PROGRAM EXPANSION

As a program matures, feedback from contractors and early participants will necessitate program changes. This feedback may also define opportunities for enhancing and improving services. Like any successful municipal program, expanding scope requires additional capital. Sources of funding for program expansion are:

- **Reallocation of funds within the government organization**: Elected officials control the budget, and they may decide on the basis of a program's success that it is in the highest interest of their constituency to increase funding to this area of the government's operations.
- **Grant funding**: If money cannot be reallocated from other sources within the organization, grant funds are an excellent option. The drawback to this is that the expanded services may end when the grant funding ends. However, this may also be a fortunate consequence if a municipality is only interested in piloting an expanded service or if the grant-funded service becomes more labor-intensive than foreseen. This source of funding using Sonoma County's experiences is discussed in detail below. If grant funding is used, staff must be sure they understand all of the grant requirements so that appropriate steps can be taken to meet all grant requirements.
- **Collaboration with partners**: Working with other agencies having mutual goals is an excellent way to pool limited resources and offer "more for less." Partners may emerge after a program reaches a certain maturity and participation level, that were earlier identified but reluctant to commit resources. In addition, collaboration may also increase the chances of receiving grant funding. SCEIP's experience with collaboration to enable service expansion is discussed in detail below.

RESTRICTIONS ON CERTAIN FUNDING SOURCES

The type and nature of activities for which certain sources of funding may be used may be dictated by law or by funding agencies and partners. We strongly advise that a local government engage counsel prior to accepting an outside source of funding in order to determine any such restrictions and their potential impact to the PACE program. For example, federal grant money received to provide commercial project funding may require that all contractors involved in the project are paid using the Davis-Bacon wage scale with the related record-keeping provisions.

A recent experience that SCEIP had involving restrictions on federal grant funds it accepted is documented below in the "Making Policy Changes" case study. In summary, due diligence and a thorough understanding of any "strings attached" will ensure a minimum of stress to program staff.

SERVICE EXPANSION

As a program matures, not only will it evolve many of its operating processes, it will also expand its reach and role. In addition to the areas discussed above, the following are some of the specific changes a program may experience or opportunities it may pursue and how these may be funded, based on the experience of SCEIP.

STRATEGIC PLANNING

A Chapter Two Best Practice recommended that a Strategic Plan be created prior to program design and development. That said, as a program experiences several months of operations, it may realize early success underestimated by the original Strategic Plan or conversely, the Plan objectives may have overestimated the capacity of the program. Although a Strategic Plan is typically written to endure over a long period of time, it should be revisited and readjusted as appropriate several months after program launch.

WORKFORCE TRAINING

Building workforce capacity is imperative to the sustainability of a PACE program. While workforce development was a peripheral component of the original SCEIP, the County early on realized the importance of a trained workforce to successfully delivery of the program. It has partnered with local training programs and the Workforce Investment Board to increase the number of trained residential energy efficiency and clean energy workers. Workforce

development is now an integral part of SCEIP's mission and operations, and since program launch, it has expanded substantially its role in this important activity. SCEIP continually reaches out to contractors and raters in the community through newsletter, email blasts, social media, partnering agencies and groups, forums, conferences and trainings.

In late 2009, SCEIP received $77,402 in grant funding through the Workforce Investment Board to develop services to identify and train workers for employment opportunities in green energy occupations, develop an online database to project green workforce needs, and to create a tool lending library of Home Energy Rating System (HERS) certified equipment. This grant also provided the funds to hire a part-time staff person to coordinate these activities.

The Tool Lending Library (TLL) launched in September 2010. The TLL has been an invaluable resource for Sonoma County energy professionals. The library has over 100 tools available, including three complete sets of residential envelope testing tools along with additional specialty tools and commercial toolkits. As of March 2012, there are 36 tool borrowers actively using the library. It has allowed building performance contractors and HERS Raters to borrow, free of charge, the necessary tools to perform the testing and verification of the work performed during the energy upgrades. The tool lending library has become a resource for those individuals entering the energy sector. Several of these individuals have gone through the Workforce Investment Board "Green Grant" training or the subsidized BPI or HERS training that was offered through Ecology Action and other agencies. They have borrowed the tools for practice, to use during their field testing, and as a resource for their business start-up. The TLL policy and procedures, including what constitutes an authorized borrower, may be found in the Document Library.

More recently, in March 2011 SCEIP received a grant from the California Energy Commission to subsidize HERSII residential energy analyses and to fund education, re-education, outreach and marketing activities to inform and train contractor participants on program changes and new opportunities that would occur as SCEIP moved to align with federal/state guidelines. This included funding to train building performance contractors on the energy analysis rebate program and energy audit software. As a result, SCEIP conducted several multi-day trainings free of charge to contractors. At the same time, SCEIP partnered with the Sonoma County Regional Climate Protection Authority (RCPA) to deliver Energy Upgrade California rebates and incentives, which also involved training contractors on new associated business opportunities.

In summary, as a result of several grants and partnerships, SCEIP has created a vehicle for workforce training. Approximately 160 individuals have participated in SCEIP-provided contractor classes, with approximately 25% of them taking more than one class. Concurrently, other regional agencies such as PG&E have offered additional contractor trainings associated with the SCEIP classes. In addition, 36 contractors are registered to use SCEIP's Tool Lending Library. Thus, conventional building contractors have entered the green building market, and many have changed their business models to include energy efficiency analysis and retrofit expertise, providing workforce capacity to meet PACE program demand.

RESOURCE CONSOLIDATION (BECOMING A ONE-STOP-SHOP)

A local government may find that as a positive consequence of a well-received PACE program (or concurrently with the implementation of a PACE program), there emerge over time many widespread efforts by other organizations throughout the region to promote different aspects of energy efficiency: other financing options, rebate and incentive programs, contractor services, educational efforts such as home tours and presentations, and general information. While all such efforts are beneficial to the consumer, multiple sources of sometimes multiple messages are also confounding to the consumer who may become too overwhelmed to take action. As its PACE program becomes established, the local government may become the logical lead in consolidating all of these resources.

Such was the case in Sonoma County. SCEIP obtained a grant from the CEC to prove the concept of the one-stop-shop by developing a local portal for multiple climate and energy efficiency programs and efforts in the region. This portal (the Hub Tool) integrates all efforts to present one face, or point of entry, to the consumer to minimize confusion. The Hub Tool features consist of consumer, contractor, and administration web portals that access an underlying central database structure which includes property, applications, contractors, and rebates. The website also supports the goals of lower maintenance costs, optimized content for search, and replication for other municipal governments. Some of the customer tools that work together to streamline and increase project activity are discussed in detail in Chapter Four and also include:

Consumer/Property Owner Web Portal

- **Web Presence**: Intuitive design for seamless access to program information, and other one-stop-shop web services including action planning, contractor/rebate search, and online application tools. Supports Energy Upgrade California content, SCEIP content, and associated branding
- **Community Map**: To illustrate the site of installed projects, identify sites offering the best opportunities for energy savings and solar generation, and provide other information deemed valuable by market research
- **Account Creation**: Enables single sign-on user for all web tools with ability to save data through the process
- **Action Planning Tools**: Energy & Water Efficiency Analysis Tools for property owners and contractors to easily assess energy use, see priorities, and then take action
- **Eligible Projects/Packages**: Accessible when using action planning tools or when applying on line
- **Access to Rebate and Incentive Information**
- **Directory of Professionals**: Search for qualified professionals filtered by project type
- **Online Application Tools**: Intelligent step by step process for determining eligibility, selecting measures, selecting finance amounts, uploading required documents, paying fees, and signing disclosures
- **Sonoma County Programs Information**: Information about local programs and events

Program Administration Portal

- **Content Management System – CMS**: Enables staff update of content throughout the website including pages, videos, images, web services (contractor/rebate listings, action planning tools, application tools) and these utilities:
- **Dashboard**: Configured through the content management system (CMS) so SCEIP and other Sonoma program administrators can automatically update the performance management metrics for public viewing
- **Reporting**: Automation of all required program reporting, updated through the CMS
- **Eligible Contractor Management**: Management of eligible contractors through the CMS
- **SCEIP (PACE) Administration**: Administration of the application and underwriting process

Contractor Portal: Separated secured site for contractor community

- **Account Creation**: Enables single sign-on user for all eligible web tools with ability to save data through the process. Contractor signs on to site to access their customers, projects, and contractor-only resources
- **Contractor Participant Information**: Update of company information
- **Contractor Workflow Process Management**: Ability to plan (via action planning tools) and apply on behalf of the customer
- **Contractor Resources**: Training, information and tools for contractors only

Centralized Data Repository: Database infrastructure for above portals

- **Property Database**: Property specific information to assist customers and contractors in estimating project's impacts on a property's footprint
- **Application (Project) Database**: repository for consumer and/or contractor application data related to improvements on a property with specific project information
- **Contractor Database**: Database of qualified contractors including licensing, certifications, company information, and products they deliver
- **Rebate Database**: Database of local, state, and national rebates and tax relief with filters for specific measures

In addition to the grant funding, the successful implementation of the one-stop-shop portal was made possible by close collaboration with program partners such as Energy Upgrade California, the contractor community, various non-profit organizations and the local utility PG&E.

The RFPs and Service Agreements for the development and implementation of the Hub Tool are provided in the Document Library.

SHARED SERVICES

As PACE program staff develop skills processing, tracking and reporting on applications and projects, they may become a desired resource for other agencies that lack the budget and/or time to hire and train staff to administer similar programs, particularly if those programs are limited in duration. The PACE program staff may have the opportunity to expand their role to become part-time consultants or administrators for other similar programs.

As an example of the potential for shared service opportunities, SCEIP will soon become the administrator for an on-water bill financing program piloted by an incorporated city within Sonoma County. In this capacity, SCEIP staff will oversee program planning and implementation as well as track program participation and results.

Although most shared services will not be for PACE programs, they are opportunities to leverage PACE program staff to gain additional program exposure and revenue for staff salaries.

EVOLVING STAFFING AND SPACE NEEDS

As a program becomes established with more participants and potentially expanded services, the local government will require more staff, space and office equipment. By the end of the second calendar year, the SCEIP staffing consisted of 1 full time manager, 2 full time assistant managers, a receptionist, a technical analyst (funded through a grant) and 4 program representatives. This was a nearly three-fold increase in on-site personnel from 3.5 FTE to 9 FTE. As a result, there was a need for expanded space particularly in the areas with customer access. The lobby was the center of program activity and was expected to see an increase in traffic with the anticipated addition of the online web portal, the acquisition and development of education and outreach tools, and the market transformation of the building performance industry. In addition, the CEC grant made necessary the addition of several more term-limited positions, so the program had to develop a mechanism for expanding and contracting its space and equipment needs as funding was or was not available.

In similar situations to SCEIP, a local government might consider some of the following space accommodations:

- Additional public work stations for completing online action planning or program application
- Addition of resource books and materials on water conservation, energy efficiency and renewable energy generation
- Addition of public comfort services such as coffee, water, vending, to support their length of stay
- Addition of services desk to guide visitors through the process and answer questions
- Dedicated presentation and training room
- Building performance testing equipment demonstration space

- Increase of existing functional areas needed to accommodate program growth
- The ability to consolidate and expand office/cubicle space to accommodate the fluctuating space needs of term-limited, temporary positions

To accommodate changing personnel needs, SCEIP made use of temporary employment agencies, contracted service providers, and temporary staff "on loan" from other departments until its expanded program services and increased consistent need for a certain level of professional skills justified hiring permanent employees.

REGIONAL PROGRAM PARTNERSHIPS

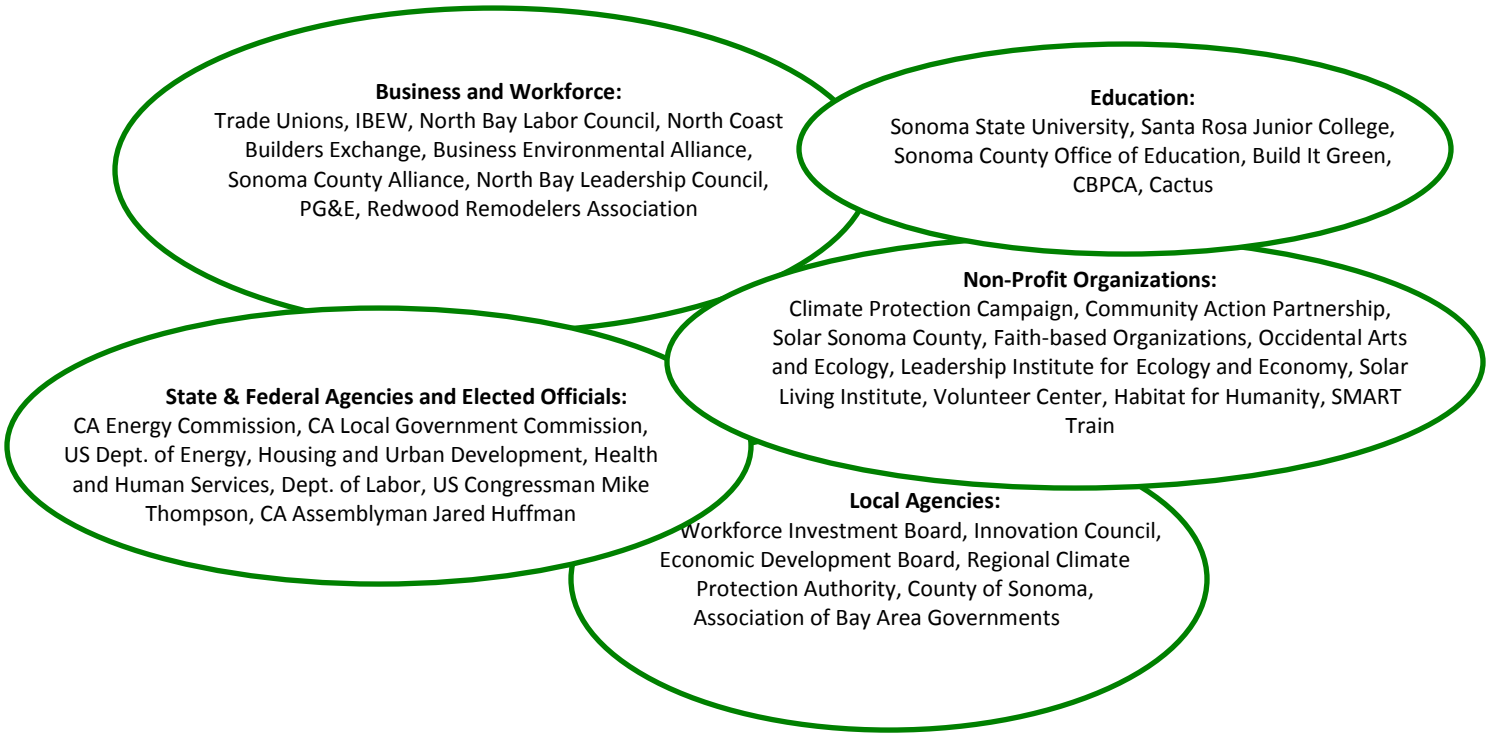
Program partnerships will evolve as a PACE program matures. This will provide opportunities for expanded services and marketing efforts through pooling of monetary and in-kind resources, ideas and staff capacity. Although many of its current partners conceptually supported the development of a PACE program, it wasn't until the program was launched and established that the partnerships fully became defined.

In Sonoma County, many partners play many different roles, all of which support some or most aspects of SCEIP. Although too many to name here, some of these partnerships currently provide for:

- Promoting education for efficiency and influence projects toward a "reduce then produce" concept
- Improving collection of customer data in order to develop education and outreach (utility partnership)
- Linking with green jobs training
- Offering additional rebates and incentives for energy efficiency, water conservation and renewable energy generation improvements
- Alignment with other County-wide projects including without limitation Energy Upgrade California, the Home Energy Assistance Program (HEAP), Sonoma County Water Agency conservation projects, and Green Jobs programs
- Engaging with other municipalities as a resource to leverage resources and workload (shared services)
- Working through the challenges created by the need to adapt to emerging state and federal program parameters
- Providing feedback and data collection on program initiatives

- Collaborating on grant proposals

Some of the SCEIP partners are:[32]



SCEIP attributes its success and continued support by the elected officials, business community and general public to these strong partnerships.

[32] This illustration is provided as an example of the different areas of SCEIP partnerships and is not intended to be all-inclusive of all organizations and agencies. For more information on any of the partners shown, please visit their websites which may be found via an Internet search engine.

MARKETING, EDUCATION AND OUTREACH

INCREASED STAFF TIME

As a direct result of service expansion, marketing and education methods are certain to expand as well. Initially, SCEIP had a relatively small budget for these efforts. With increased financing to expand its services, a portion of this financing was allocated to promoting of these services as well as enhanced promotion of the core PACE program. A full-time staff person was hired to coordinate marketing, education and outreach efforts and significantly more activities have been performed in the areas of media coverage, presentations and event tabling, targeted brochures and mailers, and website development.

PARTNERSHIPS AND FEEDBACK

Leveraging partnerships to "get the word out" becomes increasingly important as a program evolves and services expand. However, as discussed in the policy change case study below, it is important that the message to consumers is simple and consistent or the consumer will become confused to the point of inaction. SCEIP's one-stop-shop model facilitates streamlined marketing and education, as well as the recently created Marketing Team advisory board that is comprised of representatives of major collaborating partners and subcontractors.

A program that has been operating for over a year may want to consider a participant and contractor survey. This can provide valuable feedback that can dictate needed adjustments to the program, changes to policies and ideas for tailoring outreach efforts.

BRANDING

A consistent program brand is as important as a consistent, simple message. Like any branding, the association between the program and its services will become more widespread and ingrained over time. Most recently, SCEIP entered into a partnership with Energy Upgrade California but, in order to avoid confusing consumers by changing how the program is identified, SCEIP managers made the decision to retain the original SCEIP brand. Although consumers have confused EUC with the regional utility at tabling events, SCEIP has remained distinct.

MARKETING PLAN

As a program matures, we advise that the marketing plan be revisited. The revised marketing plans for SCEIP are provided in the "Resources" section of this manual. SCEIP marketing materials, including participant and contractor surveys, are provided in the Document Library.

DATA MANAGEMENT AND REPORTING

Many of the reporting needs a program will have are discussed in Chapter 4. With program maturity, staff should expect that many types of program data will accumulate and it is the management of this data that becomes important to consider. Ideally, the program will have been launched on a database platform, which has the versatility to easily accommodate changing reporting needs and can ensure consistency of data collection over time.

SCEIP's data is presently managed through the use of Excel spreadsheets. As the volume of data has grown, these spreadsheets have become more unstable, thereby eliminating many of their automated functions. Additionally, the spreadsheets can only be accessed by one staff member at a time which has created an inefficient process. The program is moving to a database tool with robust reporting capabilities that can be utilized by multiple agencies. The service agreement with scope of work for this initiative is provided in the Document Library.

ANNUAL REPORT

After a year of operation, it might be in the best interest of the program to produce an annual report. This allows a program to highlight its achievements and justify its budgetary requests to local government management and elected officials. It also provides a vehicle for transparency to the public, information to collaborating partners and potential partners, and an excellent resource for grant proposals and marketing materials. A copy of the SCEIP 2011 Annual Report may be found in the Document Library.

MAKING POLICY CHANGES

From time to time, it may be necessary for a program to make changes to its policy as a result of conditions of funding (particularly grant funding), changing federal guidelines and accepted best practices, and feedback from the

community. In order to prepare for the consequences of a policy change, program managers and advisory boards should consider the following:

- **Legal**: Is this change the result of unavoidable legal requirements or is it a process improvement? In the former case, are these requirements in perpetuity? What legal counsel is needed, and how much will this cost to the program?
- **Operational**: How will the change affect program operations? Will it result in more or less workload for staff? Does program have capacity to meet increased work load? Is policy change time-limited or will extra resources be needed in perpetuity? What are all foreseeable operational consequences of policy change, and are the program and staff equipped to address them?
- **Elected Official Notification**: Is the policy change minor or something that requires advance approval from an elected board? How are participating local governments affected? Is notification of/approval for change required by participating local governments?
- **Contractors**: How will the policy change affect the contractor community, their workload and skill set to deliver on new program requirements? If affected, how will they be educated on the new requirements and/or trained for new skills?
- **Marketing, Education and Outreach**: How will the general public be affected by program changes? What and how much outreach will be conducted to ensure an educated market?

The following case study is an example of the potential ramifications to all of the above of making a significant policy change.

SONOMA COUNTY CASE STUDY: LOADING ORDER

On July 1, 2011, SCEIP modified the program requirements for PACE financing to align with the conditions of the American Recovery and Reinvestment Act (ARRA)-funded California Energy Commission (CEC) grant. Under these conditions, all renewable energy generation projects including solar photovoltaic (PV) required a 10 percent energy efficiency improvement as part of the project for homes with a Home Energy Rating System (HERS) score above 85. This requirement was designed to meet the mandate of California Assembly Bill 578,[33] and to achieve the goals established in the California Energy Action Plan, Integrated Energy Policy Report, and Long Term Energy Efficiency Strategic Plan.

[33] The full text of AB 578 may be viewed by clicking here.

These plans place high priority on achieving dramatically greater energy efficiency in existing buildings including achieving an average energy savings of 40 percent in all California residential buildings by 2020. The CEC, in conjunction with the California Public Utilities Commission, implemented the Energy Upgrade California (EUC) Program, providing the framework and infrastructure for a comprehensive residential and commercial retrofit program through the grant funding. Under the CEC grant, SCEIP has partnered with Energy Upgrade to deliver this framework and the one-stop-shop model.

This policy change involved two state agencies, residential participants, the contractor community, grant reporting requirements, program revenue stream, changes to several operational procedures and most program documents, new regional partnerships and associated role definition and new education and outreach requirements.

The immediate effect to SCEIP was a significant drop in overall program participation.[34] The reduction in solar PV applications was expected as a direct consequence of the increased requirements. The week prior to July 1, 2011, SCEIP received over 40 residential solar PV project applications. In the 7 months since July 1 (through January 31, 2012), SCEIP has received just 20 of these applications.

However, SCEIP allows over 90 other eligible improvements and, after July 1, 2011, requests for financing of these projects declined as well. In response, program staff and collaborating partners conducted several focus group activities and contractor meetings to determine the nature of the issues with the new program requirement and simultaneous expansion with EUC partnership. The leading barriers to program participation and effectiveness overall include:

1. The Federal Housing and Finance Agency determination about PACE
2. The continued slow recovery of the U.S. economy
3. The 10 percent energy efficiency requirement for renewable energy generation financing
4. Property owner pre-existing awareness of the SCEIP and confusion by the introduction of the EUC statewide model

[34] This is documented in the sample February 2012 monthly report located in the Document Library. This report illustrates the changes in program participation from launch through February 29, 2012, including the impact of the FHFA instructions on July 6, 2010 and the implementation of the July 1, 2011 loading order requirement.

5. Limited understanding of the benefits of energy efficiency, water conservation, renewable energy generation and the science of the whole building approach to retrofits
6. The 7 percent interest rate for PACE financing

With focus on the elements the program can affect, the conclusions specific to this policy change and general to implementing a major policy change are the following:[35]

1. Keep it Simple

Interactions with Sonoma County consumers have shown a simple message focused on the consumer point of view produces better leads and more consumer confidence. Consumers can and do get overwhelmed by the complexity of multiple and overlapping rebates, the decision about who to hire (i.e. a whole-house BPI contractor or a HERS II rater), the question of whether they can afford an upgrade, how much they will save (return on investment) and how to pay for it. The Sonoma County marketing team found that it was helpful to guide individual consumers to a qualified home building performance contractor who could help the homeowner determine what rebates applied to their needs and goals. This guidance was accomplished primarily through SCEIP's one-stop-shop model as described above.

2. Educate, Educate, Educate

Education is imperative! For most property owners, the concept of loading order is new; they need to understand the whole-building concept and what it can do for them in terms of lower energy bills and a healthier and more comfortable indoor environment. Consumers need to understand fully the cost, benefits and project process of an energy analysis and how recommended improvements are determined before they will understand the "reduce before you produce" mantra. Clarifying the effects of electrical efficiency and gas load reduction improvements and how they correlate with solar PV for generation is important.

3. Train the Contractor Workforce

Equally important is workforce training, so that the professionals working with the property owners can fully assess the owners' needs and assist them to take advantage of all applicable rebate and financing options. In Sonoma County, the EUC and SCEIP programs developed a Participating Contractor list that involved certain requirements for contractors wishing to work in these programs. The

[35] These lessons learned are also captured in summarized form at the end of this chapter.

requirements included a level of training and certification that is expected by EUC/SCEIP, which recognizes a contractor must be a salesperson, a building scientist, a rebate and financing guide and homeowner advocate all rolled into one. This business model is relatively new and many Participating Contractors, especially the small- to medium-size companies, are still struggling to fulfill this expanded role while maintaining a viable profit. Locally EUC/SCEIP continues to work with local agencies and resources to support workforce and business development.

4. Use Proven Marketing Strategies

SCEIP has expanded its marketing channels beyond the traditional tools of TV, radio, billboards and news print. Although some of these mechanisms have their value, the most effective means of educating property owners was found to be a) testimonials from homeowners who had gone through an energy analysis and loading order project, particularly when those homeowners were neighbors, and b) Sonoma County Participating Contractors expressing an interest in "promoting the program" from the very beginning, volunteering to staff tables and make presentations. SCEIP contractors do participate in outreach events to promote the program as a whole, versus their individual companies, in order to foster consumer confidence in the EUC and SCEIP programs. Worth mentioning are also use of our trusted messenger channels. Outreach events specifically targeted through employer invitation, school visit presentations and community group invitations have resulted in program interest and education of the public.

5. Constant Communication

Communication with the state agencies, elected officials, partnering agencies and advisory boards was essential for SCEIP to adjust its operations and marketing strategies quickly to accommodate the unforeseen consequences of the loading order policy change. Open dialogue and strong partnerships were the foundation that provided for the eventual success of the whole house / loading order concept and market transformation.

POLICY AND PROCEDURE REVIEW AND DOCUMENTATION

As has been discussed in this chapter, ongoing operations will necessitate changes to the operational processes and policies of an evolving PACE program. A periodic review of guiding documents to ensure consistency with new program policies and procedures is advised.

Documents that will require review and potential adjustment include without

limitation: Program Report and Administrative Guidelines (or other document required by law for the program), program policies, program operating procedures, and all forms and templates that may have changed with changing policies and procedures, such as the disbursement request form or notice to proceed letter. The strategic plan should also be adjusted as program services are expanded.

As documents are altered, protocol should be established for tracking versioning and to ensure that the most up-to-date documents are available on the website, as applicable, and in use by all staff.

CHAPTER FIVE LESSONS LEARNED: ONGOING OPERATIONS

This section provides information specific to the Sonoma County program. Lessons learned by other PACE programs are provided in their individual profiles located in Chapter 6.

Challenge	Lessons Learned
Policy change: Due to alignment with DOE guidelines and requirements attached to accepting federally-sourced grant funds, SCEIP implemented a new policy requiring applicants to demonstrate 10% efficiency improvement before solar or other renewable energy generation projects were financed. As a result, program volume declined substantially.	A local government must consider and prepare for all potential consequences of significant policy changes, and use this thoughtful deliberation to ascertain if a program change is in the public best interest regardless of its potential affect on program participation. Consideration must be given to all potentially affected stakeholders, particularly the contractor community, and education of all stakeholders prior to program changes is imperative.
Energy Analysis: With grant funds from the state, SCEIP was able to offer free or nearly free Home Energy Rating System (HERS) energy analyses to residential customers for a limited time. The purpose of the energy analysis data was to allow potential applicants to evaluate their options from a scientific perspective and gain the greatest savings available, for the lowest possible cost, and to provide for the new SCEIP policy of demonstrated 10% efficiency improvement before solar or other clean generation projects were financed.	Sonoma County homeowners have benefited immensely by taking advantage of the energy analysis rebate program provided by SCEIP. Learning how their home consumes energy, some of their own behavioral patterns and about the availability of rebates for upgrades is a crucial part in creating the market transformation necessary to reach the aggressive GHG reduction goals. However, beware the unintended consequences of a successful program expansion! SCEIP learned that it needed to consider the effect of a new program on the capacity of the labor force (contractors) to provide the services. Contractors were overwhelmed with the associated paperwork requirement and many lacked the capital to expand their labor force and training to meet increased demand for services created by

	SCEIP (see next lesson learned).
Expanding Services and Participating Contractors: SCEIP contractors expressed an interest in promoting the program's service expansion (subsidized energy analysis and EUC whole house upgrade partnership) from the very beginning, volunteering to staff tables and make presentations. They offered to participate in outreach events to promote the program as a whole, versus their individual companies, in order to foster consumer confidence. However, increasing complexity of the rebate and financing processes offset expectations that associated increased business volume would cover the costs of participating in the expanded programs. These unplanned costs became a significant barrier for small contractors who have limited capacity to absorb the administrative overhead to offering the EUC incentives.	The majority of customers still enter the program through contractor outreach and "word of mouth." Having well trained and competent contractors involved in the outreach and education of the consumers is a plus. Working closely with participating contractors and bringing them into marketing partnerships benefits both parties (contractor and program). Educating the participating contractors and facilitating open communication between contractor sectors (i.e., between HERS raters and building performance contractors) is essential in program success. Educating contractors on the administrative requirements of a program change is equally essential to ensure they set realistic expectations and avoid program burn out.
Workforce Development: SCEIP contractors have identified the following as areas where they need support: (1) accurate use of EnergyPro software, (2) rebate programs and how they work together, (3) administration of rebate and financing application paperwork, (4) professional training and scholarships, (5) integrations of HERS II raters into their home performance contractor business model, (6) sales and marketing training, (7) business model options for small/medium sized companies, (8) growth capital to expand as demand rises, and (9) integration of efficiency and solar services.	SCEIP, partnering with EUC program administrator RCPA, has used local and regional resources to respond to the specific needs identified by local Participating Contractors. SCEIP has hosted several EnergyPro software trainings; circulated information about regional trainings and scholarship programs; and held a series of contractor marketing meetings to offer support for company marketing campaigns, collateral, and co-op marketing tools, as well as providing individual marketing coaching. In addition, the SCEIP website will host a contractor portal to support continuing education and provide resources for business development.
Contractor Tools: Contractors and raters needed access to the tools necessary to	Building workforce capacity is imperative to the sustainability of a PACE program. This is

deliver SCEIP program services.	assisted by providing the workforce with the tools they need to deliver program services. SCEIP created a Tool Lending Library (TLL) to fulfill this need. A sufficiently-equipped library will cost approximately $15,000-$20,000. SCEIP's TLL was made possible by a partnership with the Sonoma County Human Services Department, which obtained a grant from the California Clean Energy Workforce Training Program.
Open Market Bonding: SCEIP conducted a feasibility study to research and implement a refunding bond strategy for pooled PACE assessment bonds. This strategy would allow jurisdictions to bring their assessments to market to obtain financing more quickly when program need requires, by pooling contracts rather than trying to drive a program to a marketable scale before bonding. This study was funded by a grant from the California Energy Commission. **Note:** This Bonding Feasibility study is provided in the Document Library.	Based on the structures presented as part of the RFP submissions, discussion with the selected RFP bond underwriter, and knowledge gained during the draft feasibility study of financing options, it appears that there may be multiple financing structures available for a successful bond transaction. However, due to the legal structural considerations, the imposed grant deadlines to consummate a bond transaction, the market's inexperience with an asset class such as this and the SEC rules making process, an open market bond transaction is not feasible in March of 2012 (for Sonoma County) due to timing and financial considerations.
Restrictions on Funding Sources: Requirements by the federal government attached to the use of ARRA stimulus grant money for program service expansion created a significant reporting burden for staff and caused a decline in program participation.	A local government must consider and prepare for all potential consequences of accepting outside sources of funding, particularly if additional requirements will impact the flexibility of a program, create additional work load, negatively affect program participation, or confuse the consumer by causing the program to deviate from its core services. Using the Strategic Plan as litmus test for accepting or refusing funding is recommended.
Streamlining the message: Having multiple programs, incentives (PG&E Whole House Upgrade, SCEIP and Regional Energy Analysis rebates, regional incentives) and participating	Having the One-Stop-Shop is essential in streamlining information for participants and contractors. Without a central location for participants to go to access information on

contractor types (HERS II, BPI, single-measure) and multiple application forms and requirements becomes cumbersome to manage and articulate to consumers.	rebates and incentives, find contractors, fill out forms, connect with workshops and events, potential customers get overwhelmed, confused and frustrated. In Sonoma County, a one-stop-shop web-based portal (the Hub Tool) integrates all efforts to present one face, or point of entry, to the consumer to minimize confusion. The Hub Tool features consist of consumer, contractor, and administration web portals that access an underlying central database structure which includes property, applications, contractors, and rebates.
Partnerships for Program Success: A local government may find that as a positive consequence of a well-received PACE program, there emerge over time many widespread efforts by other organizations throughout the region to promote different aspects of energy efficiency: other financing options, rebate and incentive programs, contractor services, educational efforts such as home tours and presentations, and general information.	Having existing partnerships and building new to leverage core competencies minimizes the duplication of effort and decreases consumer confusion. It is easier to leverage the work of others than to create a service or a marketing effort from scratch; building the cart while you push it is VERY challenging. These partnerships include, without limitation, utility companies, non-profits, local business, educational institutions, and contractors. It is essential to communicate through as many channels as possible, and to not assume everyone uses technology! As one example of a successful partnership, SCEIP has used a collaborative approach for marketing, education and outreach. SCEIP partnered with the Regional Climate Protection Authority (RCPA), a local Sonoma County SEP grant (Energy Upgrade California) participant. By using this approach, SCEIP was able to leverage the marketing funds from both organizations to create a comprehensive, streamlined marketing campaign and to also leverage staff availability for events and presentations.

Leave No One Behind: In Sonoma County, underserved communities continue to demonstrate low participation rates in retrofit programs. The observed demographic of SCEIP participants is dominantly Caucasian, middle to upper class, and college-educated.	To reach other demographic groups, SCEIP has expanded its outreach and education efforts such as creating more bilingual (Spanish) collateral, targeting underserved communities for presentations in neighborhoods and local libraries, and making connections with various service organizations. SCEIP has also partnered with several agencies serving lower income customers such as Community Action Partnership to educate potential participants of the benefits of energy efficiency. We continue to reach out to the multi-family commercial real estate sector as well. Additionally, because PACE provides funding to property owners rather than tenants, SCEIP has expanded its services beyond being a strictly PACE program to administering other programs in which tenants may participate such as on-bill financing for water and energy efficiency improvements.

CHAPTER SIX: PACE MODEL PROGRAMS

This chapter provides a summary overview for four PACE programs in California: those of Sonoma County (residential and commercial), Placer County (commercial), the City and County of San Francisco (commercial), and Los Angeles County (commercial). Contact information for individual programs is located in the “Program Snapshot” sidebar.

ENERGY INDEPENDENCE
A SONOMA COUNTY PROGRAM

PACE MODEL PROGRAMS

COUNTY OF SONOMA: ENERGY INDEPENDENCE PROGRAM

SUMMARY

The County of Sonoma adopted a Resolution of Intention to establish an AB 811 program on March 3, 2009. Following a public hearing, on March 25, 2009, Sonoma County's Board of Supervisors approved the program report, established the AB 811 assessment program and launched the Sonoma County Energy Independence Program (SCEIP). SCEIP was the first countywide municipal program of its kind in the State of California to provide PACE financing, and continues to provide both residential and non-residential PACE financing.

Joined by every incorporated city and town, SCEIP covers all areas in the geographic County of Sonoma. Since program launch, SCEIP has financed over $55 million in projects, representing over 1600 residential properties, 50 non-residential properties and 2600 individual improvements. Because a majority of the improvements have been performed by local contractors, most of the $55 million in funding provided by the County has remained within the local community generating over 70 job-years of local labor.

SCEIP allows more than 90 eligible measures for energy efficiency, water conservation and renewable energy generation. Since program launch, SCEIP has financed over 7.7 MW of photovoltaic solar generation, equating to a GHG reduction of 4,700 tons annually. An effort to quantify the energy savings and GHG reduction for financed energy efficiency and water conservation projects is currently underway. In March, 2011, this program became a partner of Energy Upgrade California, a state-wide initiative to reduce energy consumption in existing buildings.

PROGRAM SNAPSHOT

Launch Date:
March 2009

State/Geographic Area:
CA / Sonoma County (unincorporated and 9 incorporated cities)

Applicable Sectors:
Residential, Commercial, Industrial, Agricultural, Multifamily (≥5 units)

Legal Authority:
CA Assembly Bill 811

Project Funding Source:
County Treasury Pool, Open Market bonds

Initial Investment:
$45 million

Eligible Improvements:
Energy efficiency, water conservation, renewables, custom

Energy Audit Requirements:
ASHRAE L1 for non-residential

Mortgage Lender Requirements:
For commercial properties, must provide lender acknowledgement of PACE assessment

Program Property Underwriting Criteria:
Located in Sonoma County
On secured tax roll
Current on mortgage debt and property taxes
No recent defaults, bankruptcies or late property taxes
Property debt cannot exceed property value, excluding PACE assessment
Amount funded cannot exceed 10% property value
Title search to confirm ownership

Web Site:
www.sonomacountyenergy.org

Finance Model

SCEIP has adopted the self-financing model. The "warehouse" of funds for the program includes $45 million from the Sonoma County Treasury and $15 million from the Sonoma County Water Agency reserve fund. The Sonoma County Joint Powers Financing Authority ("Authority") manages this warehouse. The Treasury Pool purchases bonds issued by the Authority, which acts as a pass-through to provide these funds to SCEIP for project financing. The County repays the Treasury Pool at a 3% interest rate from the assessments received by the County pursuant to the assessment contracts with the property owners (excluding the annual administrative assessments to be paid by the property owners).

SCEIP also allows private investors to purchase bonds directly from the Authority to fund specific projects.

Program Metrics
as of March 1, 2012

Number of applications received:
2365

Number of Approved Projects:
1813

Range of Approved Amount:
$2,540 - $2.3 million

Improvements Funded:
1551 Energy Efficiency
58 Water Conservation
1029 Generation

 # Partnering Open Market PACE Lenders
1

 # Projects Funded by Open Market Lenders
1 (Commercial Generation)

Operations

SCEIP operates from a central business office, or "storefront." A spacious lobby accommodates a receptionist, walk-in visits, and application processing with the public and contractors. Secured office space houses meeting and contract signing rooms, cubicle and office work areas, a building performance tool lending library, and an office supply and equipment room.

Staffing fluctuates with program activity and services. Currently, due to grant funding and internships, SCEIP employs 10 full-time employees for its day-to-day operations. Financial expertise is provided by the county Treasurer/Tax Collector office personnel, program oversight is managed by the General Services Department, and guidance is provided by a steering committee comprised of 10 County staff with legal, financial, managerial, and energy and sustainability expertise. A website provides a "one-stop-shop" clearinghouse for online applications, energy efficiency education, contractor listings, partnering agency programs and resources, rebate and incentive information, resources specifically for contractors and municipalities, and general inquiries.

Applications are accepted online or by fax, email, postal mail or walk-in. Applications are reviewed for eligibility and completeness prior to a request for a title search and, given a clean

title report, typically approved within three to four weeks of application receipt. Notice to proceed follows the contract signing and legal rescission period, and disbursement of project funding occurs with documentation of project completion. Bonding of project funds occurs the first business day of each month following the disbursement, and interest accrues (capitalized interest) from bonding date to September 1. The assessment appears on the first tax bill after September 1, at which time the repayment term commences. Full prepayment of the assessment is allowed; currently there is no prepayment penalty.

Marketing, Education and Outreach

In addition to its website, SCEIP employs a wide variety of marketing, education and outreach (MEO) methods. Approaches depend on target audience or market sector, and range in cost and scale. Various MEO activities include tabling events, small and large group presentations, mailers, print, TV and radio ads, social media, a monthly e-newsletter, email blasts, banner advertisements on other websites, tax bill inserts and yard signs. Grant funds have allowed SCEIP to expand marketing efforts and test the effectiveness of different approaches.

Education of contractors and partner agency staff about SCEIP has been a particularly effective mechanism for program uptake. SCEIP has found that word of mouth has driven most of SCEIP's volume. Enlisting participants who have had a positive experience with the program to host open houses, give presentations and provide quotable testimonials has also been effective to engage their neighbors and professional colleagues, and like-minded property owners.

Workforce Development

Workforce development is an integral part of SCEIP's mission and operations, and since program launch it has substantially expanded its role in this important activity. SCEIP has partnered with local training programs and the Workforce Investment Board to increase the number of trained residential energy efficiency and clean-energy workers. In addition, SCEIP continually reaches out to contractors and raters in the community through its dedicated web portal, newsletter, email blasts, social media, partnering agencies and groups, forums, conferences and trainings.

In late 2009, grant funding allowed SCEIP to purchase building performance testing equipment and open a tool lending library. This library allows building performance contractors and HERS Raters to borrow, free of charge, the necessary tools to perform the testing and verification of the work performed during the energy upgrades. The tool lending library has become a resource for those individuals entering the energy sector.

PARTNERSHIPS

SCEIP attributes its success and continued support from elected officials, the business community and general public to strong partnerships with collaborating organizations and agencies. In addition to the nine incorporated cities and towns in Sonoma County, all of which are included in the SCEIP assessment program, partners include local agencies, the utility companies, business organizations, non-profit organizations and state and federal agencies.

LESSONS LEARNED

Over the last three years, the lessons that have been learned by SCEIP staff and advisors have been many. Please refer to the Lessons Learned section of the Replication manual for a summary of major lessons learned since program launch.

PACE MODEL PROGRAMS

PLACER COUNTY: MPOWER PLACER

SUMMARY

MPOWER Placer (**M**oney for **P**roperty **O**wner **W**ater and **E**nergy efficiency **R**etrofitting) is a countywide program that promotes more efficient use of water and energy, enables businesses to reduce energy costs, and strengthens our local economy through job creation. Now, more than ever, commercial and multifamily property owners are looking for ways to save money on their energy bills, reduce their impact on the environment, and stimulate the local economy. With the help of MPOWER Placer that goal couldn't be easier. With no upfront costs MPOWER Placer finances to qualified Placer County property owners energy efficiency improvements and energy generation systems such as solar photovoltaic.

FINANCE MODEL

MPOWER Placer's funding source is a financing arrangement whereby the County Financing Authority issued a bond not to exceed $33 million that was purchased by the County Treasurer for its Treasury Pool. As projects are approved funds are drawn from the Treasury Pool. As the number of projects increase they can be bundled together and sold to interested investors on Wall Street.

OPERATIONS

Staffing levels are kept low and all personnel are cross-trained to perform the duties required by the MPOWER Placer program. The financial expertise is provided by Treasurer/Tax Collector management personnel while the day-to-day activities are performed by two Program Specialists who were selected due to their backgrounds in building planning /construction as well as customer service and technical skills. Operations are conducted from the Placer County Treasurer Tax Collector Office

PROGRAM SNAPSHOT

Launch Date:
March 2010

State/Geographic Area:
CA/Placer County
(Sacramento Valley to Lake Tahoe)

Applicable Sectors:
Commercial, Industrial, Agricultural, Multi-Family

Legal Authority:
AB 811

Property Eligibility:
Principal amount may not exceed 10% of property value plus value of improvement The property value must demonstrate a 10% equity prior to the assessment financing.

Project Funding Source:
County Treasury Pool, Open Market bonds

Initial Investment:
Invested (Bonded): Up to $33M.
Disbursed: $1.1M as of 2/29/12

Annual Operating Budget
$600,000

Other Program Criteria
Documentation showing that the installation of the financed improvement will generate a net positive cash-flow. Properties aggregate tax rate may not exceed 5% of the value.

Eligible Improvements:
Energy efficiency, water conservation, renewables, custom

Energy Analysis Requirements:
Energy Audit Required – provided for free by local utility providers partnered with mPOWER Placer

Contractor Requirements:
Current contractors and business license

Mortgage Lender Requirements:
Lender must sign acknowledgement letter

Web Site:
www.mPOWERplacer.org

where the public can speak with MPOWER Placer staff and apply for funding. From time to time the Program also operates from mobile locations. A website is also maintained providing Program information, outreach, education and an opportunity to apply directly online. Outreach seminars are conducted throughout the County at various city and county venues. Travel to community outreach seminars and other types of marketing events are provided by one of the county owned hybrid pool cars. All of these measures contribute to the low overhead cost of operation.

PROGRAM METRICS
as of March 1, 2012

Number of applications received:
19
Number of Approved Projects:
5

Range of Approved Amount:
$38,570-$331,162

Projects Approved:
0 Energy efficiency
0 Water conservation
5 Renewable energy generation

 # Partnering Open Market Lenders
3 and growing

 # Projects Funded by Open Market Lenders
2

MARKETING, EDUCATION AND OUTREACH

MPOWER Placer found the most effective marketing and outreach approach to be a broad outreach using a variety of avenues. For this reason, several different approaches are pursued to market mPOWER Placer and PACE in order to reach as much and as extensive of a commercial audience as possible.

The MPOWER Placer website is designed to provide a detailed overview of the program; offer information to building owners that will assist in the reduction of energy and water use; and allow online application for energy efficient improvements. All other types of advertising are designed to drive traffic to the website.

A seminar is required for property owners wanting to utilize MPOWER Placer PACE financing. Since PACE programs offer a unique financing model, it is important the property owners fully understand all aspects of the program. The seminar explains the PACE financing as well as the concept of loading order, hiring a contractor and other best practices.
Regular email blasts are possibly the single most effective tool employed. MPOWER Placer has become more widely known by informing our large contractor base, trade organizations and property owners about community workshops and other relevant information at every opportunity.

Earned media articles and press releases in local newspapers and business journals are no-cost effective marketing tools that allow MPOWER Placer to explain the importance of PACE and highlight the MPOWER Placer program. News articles featuring commercial properties that have installed energy efficient measures with the help of MPOWER Placer financing not only benefit MPOWER Placer but also the business investing in the improvements.

Due to the lender notification requirement for PACE programs, MPOWER Placer has taken a proactive approach to educate local banks by holding outreach events. Program benefits and safeguards are presented and an open dialogue between bank representatives and MPOWER Placer staff is encouraged. Based on the outcome of some of those meetings, MPOWER Placer has amended the Assessment Contract to assuage concerns over bank liabilities and lien status. Social media marketing using Facebook and Twitter is a recent addition to MPOWER Placer's outreach efforts. This has proven to be a fast effective method of reaching a large number of like-minded individuals and companies with real-time events and newsworthy postings.

Workforce Development

MPOWER Placer holds educational seminars for contractors specializing in energy efficiency to explain the PACE financing model and add MPOWER Placer as a sales tool for their businesses. We frequently partner with other organizations to provide broad based meaningful information that contractors can immediately utilize in their business.

Partnerships

MPOWER Placer works closely with their stakeholder community to obtain services, referrals, education opportunities, program synergies, and combine different service options for property owners in Placer County. We also utilize stakeholders in the legislative efforts to further PACE development.

- Agencies: Placer County Manufacturer's Group, Placer County Economic Development, Placer County Community Development Resource Agency
- Cities: all seven cities in Placer County
- Sacramento Area Realtors
- Northern California Bankers Association
- U.S. Small Business Administration
- County Departments and Divisions: General Services, Assessor, Recorder
- Educational institutions: Golden Sierra Job Training Agency, UC Davis,
- Local building and trade organizations: BCI, PCCA
- Non-profits: Green Cabinet, Valley Vision, Sierra Business Council, Placer Sustain, Green Finance, PACENOW
- Pacific Gas and Electric Company (PG&E), Roseville Electric, SMUD, Liberty Energy
- Placer County Air Pollution Control
- Placer County Water Agency
- State and Federal Agencies: CEC, CPUC

The local utility providers (PG&E and Roseville Electric) have been big supporters of MPOWER Placer. They provide referrals, access to commercial accounts for seminars, as well as free ASHRAE Level I energy audits for applicants. In addition, they have provided an additional knowledge base for green technologies and energy efficiency,

LESSONS LEARNED

There are several lessons that have been learned.

1. Consistent messaging is the key to success. When sharing the PACE message and details, it is important that correct terminology be used at all times. When discussing with lenders, it is important for them to understand the assessment is a priority lien, not a subordination. There is no acceleration of the PACE assessment in the event of delinquency or default. We frequently state the following:

   > *MPOWER Placer and PACE programs are a Win, Win, Win situation. Property owners win because they realize utility bill savings and gain energy independence. Local agencies win because they achieve energy independence and goals related to reductions in energy consumption. Lenders win because they receive increased collateral value on their loans and increased positive cash flow for their borrowers.*

2. Marketing to a commercial PACE program is very different from marketing a residential/commercial PACE program. Depending on the type of property, many commercial properties are not owner occupied. Some of the owners are utility paying and some aren't. Trying to contact the interested party can be difficult and that hinders uptake of the program.

GreenFinanceSF
Saving You Money, Energy and Water

PACE MODEL PROGRAMS

CITY AND COUNTY OF SAN FRANCISCO: GREENFINANCESF

SUMMARY

The GreenFinanceSF Program is sponsored by the City and County of San Francisco, and administered by the Department of the Environment in partnership with Renewable Funding and a number of contractors. GreenFinanceSF is a Property Assessed Clean Energy, or PACE program. PACE provides building owners access to low-cost financing to make clean energy upgrades. PACE is completely voluntary, and greatly improves the economics of investing in these kinds of improvements, which can ultimately reduce operating costs, attract tenants, and enhance property value.

The GreenFinanceSF-Commercial program is using the "open market" PACE model in which property owners negotiate project financing, including the interest rate and repayment term, with qualified project lenders willing to fund their project. When a project is approved, the City sells a bond to the project lender, and the proceeds from the sale fund the project. A special tax is then levied on the property, which is collected through the property tax bill and paid back to the project lender. The Program assists in facilitating introductions between interested owners and qualified project lenders.

FINANCE MODEL

The GreenFinanceSF-Commercial program is using the "open market" PACE model which enables property owners to independently secure financing for a defined project with an investor of their choice; this may be a third-party investor, bank, or the existing mortgage lender, as long as they meet program requirements. The investor purchases a special tax bond from the City, and the proceeds are then used to provide permanent financing for their project(s).

PROGRAM SNAPSHOT

Launch Date:
November 2011

State/Geographic Area:
City and County of San Francisco

Applicable Sectors:
Commercial, Industrial, Multifamily (≥5 units)

Legal Authority:
Mello-Roos Community Facilities Act of 1982

Project Funding Source:
Private placement PACE bonds

Program Property Underwriting Criteria:
Located in City/County of San Francisco
Currently pay property taxes[1]
Lien holder consent/acknowledgement
Current on mortgage debt and property taxes
No recent defaults, bankruptcies or late property taxes
Combined property debt cannot exceed property value[2]
Title search to confirm ownership

Initial Investment:
Legislation has authorized up to $100M in special tax bonds, to be purchased by private investors

Eligible Improvements:
Energy efficiency, water conservation, renewables, custom

Energy Audit Requirements:
ASHRAE L1 for < $100,000 cost
ASHRAE L2 for > $100,000 cost

Mortgage Lender Requirements:
Must provide affirmative acknowledgement/consent to PACE special tax

Web Site:
wwww.greenfinancesf.org

Operations

One of the notable characteristics of the open market PACE model is that implementation should be less labor and resource intensive than other approaches (e.g. residential, pooled bonds). This is because: 1) it leaves detailed underwriting and other financial analysis to sophisticated property owners, investors and other parties, i.e. the Program sponsor establishes the property and project eligibility criteria and other elements (e.g. quality assurance), and reviews and approves applications based on those minimum requirements; and 2) commercial projects will be lower volume/higher cost than residential projects.

Like Los Angeles, there is a two-step application process for PACE financing through GreenFinanceSF. Interested property owners can submit an Initial Application to quickly indicate their interest in participation and to submit preliminary details of their proposed project. This also allows the Program to promptly ascertain project eligibility and issue a Conditional Reservation to owners that meet program requirements. The Initial Application includes a request for an allocation from the Debt Service Reserve Fund, if desired. The Conditional Reservation will remain valid as long as the applicant makes progress toward completing the second step of the application process.

The Final Application is a more detailed process that requires the property owner to complete all related planning and application tasks, including: conducting an energy audit (if applicable), obtaining existing mortgage holder acknowledgment/consent, and finding a project lender. Upon review and approval of the complete Final Application, the Program will issue a Final Reservation, including adjustments based on any refinements to project scope and desired amount to be financed that have occurred since issuance of the Conditional Reservation.

When applications are approved, a bond will be issued to the project lender; bond counsel will assist with legal and bond documentation. At closing,

Program Metrics
as of March 1, 2012

Number of applications received:
1

Number of Approved Projects:
In process

Range of Approved Amount:
No upper limit. Current project inquiries range from $300K - $1.5M

Projects Approved/Pending:
Based on current project inquiries, both energy efficiency and renewable energy generation

 # Partnering Open Market PACE Lenders
6, with more coming

Total Market Size
262M square feet of commercial property > 10,000 sq. ft. in City and County of San Francisco

Footnotes:
[1]Nonprofit entities that do not pay ad valorem property taxes can agree to pay Mello-Roos special taxes, and are eligible for GreenFinanceSF

[2]Value can be determined by assessed value (public records), or an appraisal by a City-approved appraiser (appraisal will assume completion of financed improvements and the burden of the special taxes)

bond proceeds will be deposited into the bond fund managed by the city's fiscal agent and disbursed to fund the project. The city's special tax administrator will set the Rate and Method of Apportionment of the special taxes, forward to the Treasurer/Tax Collector for inclusion in the annual tax roll, and also provide ongoing reports on the performance of the special taxes. As the PACE payments are collected by the City, they will be remitted to the PACE investor. The Department of the Environment will monitor program activities and report regularly to the Board of Supervisors.

Marketing, Education and Outreach

The GreenFinanceSF program has conducted many activities to market and promote the program opportunity, including: website; press releases, social media, industry blogs, newsletters; direct mailers; meetings with individual owners and Industry group presentations; program partner meetings (capital providers, utilities, contractors/service providers, mortgage lenders). The Program has also linked the PACE financing opportunity with education and outreach efforts in support of the "Existing Commercial Buildings Energy Performance Ordinance," which requires owners of affected commercial properties to benchmark their building with ENERGY STAR Portfolio Manager and conduct energy audits, and to report results to the City.

Workforce Development

The GreenFinanceSF team has been working closely with PACE service providers to generate demand for projects, and is especially interested in working with local energy companies**.**
At the time of this writing there are active discussions underway with other PACE programs and to seek grants that will help develop partnerships with local workforce investment boards and colleges to advance training opportunities for commercial building upgrade activities (e.g. audits, construction).

Partnerships

The City selected Renewable Funding and Goodwin Consulting Group through an RFP to assist with program design and administration, and special tax administration. Other key partners include bond counsel (Jones Hall), technical engineering (kW Engineering), and other city departments (City Attorney, Office of Public Finance, Treasurer/Tax Collector). Other key partners include Pacific Gas and Electric, and SF Energy Watch.

Open Market PACE is inherently an active collaboration between the City sponsor and private sector actors such as investors, ESCOs and other energy service providers, mortgage lenders, and the local commercial real estate community. We continue to have productive dialogues with all interested parties to increase awareness and education about the benefits of PACE.

LESSONS LEARNED

During the development process, the Program team conducted substantial outreach to commercial PACE stakeholders in hopes of soliciting feedback on key areas such as program underwriting, legal and bond documents, and technical standards. There was also a great deal of information sharing between San Francisco and Los Angeles during this time. We believe that the transparent and inclusive development process that led to similar approaches for the two open market PACE programs in SF and LA will contribute to successful implementation.

PACE MODEL PROGRAMS

LOS ANGELES COUNTY: COMMERCIAL PACE PROGRAM

SUMMARY

Los Angeles County launched an open market (or "owner arranged") PACE financing program in November 2011, utilizing AB811 as the legal underpinning.

This model is designed to more closely match traditional commercial property project finance, create a competitive marketplace for financing, allow for specialized financing that addresses unique market segments, allow existing mortgage lenders to proactively participate, and avoid the timing delays associated with the pooled bond approach in which a government must wait to aggregate a sufficient number of disparate projects before issuing a bond.

To facilitate deals coming together, Los Angeles County is creating a list of PACE investors, which will be posted on the program website so that interested property owners, contractors, and banks, can connect with potential investors. The program website is envisioned to eventually serve as a clearinghouse for PACE financings, where property owners can seek proposals from potential investors, and where investors can source projects.

FINANCE MODEL

Under this model, property owners have the flexibility to independently secure financing for a defined project with an investor of their choice, which may be their existing mortgage lender and/or a 3rd party. The investor purchases a tax assessment bond from the County, the proceeds from which are then used to provide permanent financing for their project(s).

PROGRAM SNAPSHOT

Launch Date: November 2011

State/Geographic Area:
CA/Los Angeles County

Applicable Sectors:
Commercial, Multi-family (>5 units)

Legal Authority:
AB 811

Property Eligibility:
Commercial property located within boundaries of a City or unincorporated area that has opted in to the PACE financing district, and which meets program underwriting criteria

Project Funding Source:
Proceeds from the private placement of individual bonds for each project

Initial Investment:
The Program will be funded with private capital, and as such no initial investment was required by the County

Eligible Improvements:
Energy efficiency/conservation, water efficiency/conservation, on-site clean power generation, industrial process energy/water efficiency/conservation, earthquake code compliance

Energy Analysis Requirements:
ASHRAE Level 2 Energy Audit, with cost and savings projections for all energy and water conservation or renewable energy measures proposed.

Contractor Requirements:
At present, contractor selection is left to the property owner.

Mortgage Lender Requirements:
Must consent to PACE assessment

Web Site:
www.EnergyUpgradeCA/LAPACE

The terms of the financing are negotiated independently of the government, and are predicated on 1) the senior lien that the PACE mechanism affords, 2) the nature of the improvements and the associated costs and savings, and 3) the underlying credit of the owner/building.

There is a two part application process for PACE financing. Part 1, the PACE Reservation, serves to verify through a preliminary title search that basic program underwriting requirements are satisfied, including verification that:

1. The property is used for commercial purposes and is not residential and not publicly owned;
2. The applicant is the legal owner of the property, and all the legal owners of such property agree to participate;
3. All existing private lien holders on the property acknowledge/consent to the PACE assessment;
4. The property is located within Los Angeles County, and if within the boundaries of a city, the city has adopted a resolution opting into the Los Angeles County Energy Program to support PACE transactions;
5. The property is not undergoing initial development at the time of project financing;
6. Property taxes and assessments are current on the property and have not been delinquent for a period up to five years (or since the date of the most recent transfer if less than five years);
7. The property is not subject to any involuntary liens or judgments;
8. The property owner certifies that he/she is not in bankruptcy and the property is not an asset in a bankruptcy proceeding;
9. The property owner certifies that he/she has not declared bankruptcy within the last 10 years;
10. The property owner certifies and demonstrates that he/she is current on his/her mortgage, has not defaulted on the deed(s) of trust and can legally enter into the Program.

PROGRAM METRICS
as of March 1, 2012

Number of applications received:
5
Number of Approved Projects:
In process

Range of Approved Amount:
No upper limit. Current applications range from $400k - $2m

Projects Approved/Pending:
1 energy efficiency
1 renewable energy generation

 # Partnering Open Market Lenders
5, with more coming

Total Market Size
1.82 billion square feet of commercial property in LA County

Part 2 of the application process, the PACE Financing Application, serves to initiate the formal request for PACE financing. Along with the PACE Financing Application Form, the applicant must also submit:

1. Lien-holder Consent Form
2. Investor Commitment Letter / Term Sheet
3. Contractor bid documents to back up the proposed scope of work
4. Evidence of authority of signatory to enter in to the PACE financing

Once the PACE Financing Application is approved, the materials are forwarded to LA County and the parties begin drafting of the transaction documents. Unless otherwise specified, upon closing the funds are placed in escrow and drawn down according to the construction schedule, much like a normal construction loan. Payments are due according to the normal property tax collection schedule, in March and September each year until the bond is fully amortized.

Operations

Application processing and phone/email inquiries are currently handled through a centralized office, which has been contracted out by LA County. LA County manages bond issuance and assessment administration, as well as payments to PACE investors. LA County is ramping up marketing efforts, and will bring on a 3rd party program manager in 2012.

Marketing, Education and Outreach

LA County has been working closely with the City of LA to market the program, primarily through email marketing, webinars, in person presentations, and one-on-one meetings with property owners, banks, investors, and contractors. LA County will ramp up with activity in 2012, now that the program is fully operational.

Workforce Development

LA County has been working closely with the contractor community to educate them on PACE as a tool to fund their projects. This interaction has primarily occurred through webinars, and in-person presentations to industry groups and labor unions.

Partnerships

Utilities: Los Angeles Department of Water and Power, So Cal Edison, and So Cal

Industry Groups: Environmental Bankers Association, US Green Building Council, Building Owners and Managers Association

Labor: International Brotherhood of Electrical Workers, National Electrical Contractors Association

LESSONS LEARNED

While it is still early, there are several key lessons that have been learned so far:

1. Position PACE as an opportunity for banks, not as a threat. Mortgage lenders may elect to offer PACE as a new product for their existing customers, thus avoiding the consent issue. Banks have a built-in customer base, and have deep knowledge of their clients' financial situations. The fastest way to scale PACE is for banks to get on board and utilize PACE as a tool for their existing clients to upgrade their buildings. Another option in certain localities, such as Los Angeles, is for banks to co-invest alongside a third-party investor and put in place covenants to protect the parties' interests.

2. Emphasize that there is no acceleration of the PACE assessment in the event of delinquency or default. Many assume that the full amount becomes due if there is a non-payment, since this is the norm with most forms of debt. However that is not the case with PACE, so PACE is much less risky to banks than they initially think.

   Example:
   - Commercial building worth $10 million
   - Mortgage of $8 million
   - $500,000 PACE retrofit
   - Assume the PACE project is financed with a 6%, 20 year assessment such that there are annual payments of about $43,000.
   - If the building is foreclosed on after a year and there is a PACE payment in arrears then this amount, $43,000, is paid ahead of the mortgage
   - This represents approximately 0.5% of the value of the mortgage
   - Mortgagee will be made whole, since there is sufficient equity in the property

3. Emphasize that PACE assessments should be a "pass-through" under most commercial leases, enabling the owner to recoup his invested capital from tenants and thus solving the "split incentive" in non-owner-occupied buildings.

QUESTIONS AND ANSWERS

The Questions and Answers specific to the SCEIP program are so noted.

GENERAL PACE

Q: What is PACE?

A: Property Assessed Clean Energy (PACE) is a program that provides up-front financing ("PACE financing") through a municipality to eligible property owners to finance installation of energy efficiency and water conservation improvements and renewable energy systems on their property. The program is 100% voluntary.

Property owners repay PACE financing through an assessment levied against their property, which is payable on their property tax bill. The assessment is paid off over a term determined by a contract between the property owner and the local government. The typical maximum repayment duration is 20 years. The obligation to repay the assessment is attached to the improved property, not the property owner, and transfers with the sale of the property to the new owner.[36]

Q: What are the benefits to a local government of developing a PACE program?

A: PACE can be a significant component of a local government's effort to reduce local greenhouse gas emissions, to promote energy efficiency improvements in its buildings, to make the shift to renewable sources of energy more affordable, and to reduce energy costs for residents and businesses. PACE poses little to no liability or exposure to the local government's general fund. Thus, a local government can implement a PACE program and recoup almost all costs of running the program through a pass-through to participating property owners. PACE can drive local economic development by ensuring that local solar installers and renewable energy companies are integral partners in the program. A side benefit of PACE is spurring local job creation.

Q: How long does it take to launch a PACE program?

A: Once enabling legislation is passed, the process for adopting and implementing PACE is very similar to establishing any other special tax or assessment district. Approximately 3 to 12 months depending on the local government's approval process and schedule.

[36] See "Federal Mortgage Regulators" below for a detailed discussion of the current status of this intent

Q: Who will provide the up-front funding for the program?

A: Cities and counties typically provide funding for the program through the issuance of a bond that is repaid through special taxes or assessments on the annual tax bill of participating property owners. Repayment of the special taxes or assessments is secured by the participating properties.

Q: How long does it take to launch a PACE program?

A: Once enabling legislation is passed by the state, the process for adopting and implementing PACE is very similar to establishing any other special tax or assessment district. Approximately 3 to 12 months depending on the local government's approval process and schedule.

Q: Why is PACE necessary when private financing options already exist?

A: There are several financing options available in the market, including third-party finance options such as a Power Purchase Agreement (PPA), solar leases, home equity lines of credit, and conventional loans. Municipal financing represents yet another option. Ultimately, property owners will determine which mechanism works best for their situation. However, PACE does have several unique benefits that should be noted, including:

A) The lien can stay with the property and is transferred as the property changes hands. This removes a long-standing barrier to homeowners making energy improvements. FHFA policy currently interferes with this benefit.[37]

B) PACE assessments are available to cover whole house energy improvements, including energy efficiency as well as solar, for which other financing mechanisms may not currently exist.

Q: What property types are eligible to participate in a PACE program?

A: It is the choice of the local government. In Sonoma County, any property type is eligible if it is on the secured tax roll; tax-exempt and government organizations are not eligible to participate in SCEIP.

Q: Can tax exempt non-profits participate in a PACE program?

A: At least in California, it is possible to provide PACE financing for property owned by non-profit entities that do not otherwise pay property tax. In order to place a PACE assessment on a property that is not on the secured tax role, the Tax Collector must agree to prepare a tax statement and collect the amount for the special PACE assessment. There are also policy considerations: for example, if a church or a hospital is one/two/five years delinquent, is the municipality willing to foreclose? Also, investors may have additional concerns about lending to properties owned by non-profit entities. Each municipality can modify their program to fit their need. We would recommend discussing with legal counsel.

[37] See "Federal Mortgage Regulators" below for a detailed discussion of the current status of this intent

Q: What are the benefits of PACE to property owners?

A: Key benefits include: 1) PACE does not rely on, or draw down, a property owner's available credit line. 2) Property owners enjoy decreased utility bills. 3) Finally, the repayment obligation attaches to the property not the property owner, and as such generally allows for seamless transferability when the property changes ownership.[38] Given that the average American moves out of their home every six to nine years while repayment for deep energy retrofits and solar investments take longer, transferability of financial obligation is a crucial benefit of PACE.

Q: How much will a participant save on their electric bill?

A: Every property is different. For most property owners a few simple calculations - based on a potential participant's current energy consumption - can estimate the expected reduction in their utility bill. The goal is for utility bill savings from solar and efficiency improvements to be the same or greater than the amount of the incremental property taxes during the 20-year financing period.

PROGRAM COSTS

Q: What is the ratio of administrative costs to total cost of improvements?

A: For SCEIP, this ratio is difficult to quantify because the Sonoma County program has incurred periodically large administrative costs due to its ongoing litigation with the Federal Housing Finance Agency (FHFA). Those costs removed, this ratio is approximately 4%.

Q: What is the projected cash flow and assessment activity for SCEIP?

A: It is difficult to predict cash flows because we continue to experience changes in the residential program participation, first related to the July 6, 2010 FHFA instructions to lenders and second related to the July 1, 2011 implementation of a 10% efficiency requirement prior to funding any renewable energy generation (i.e., solar PV) project. Sonoma also has debt service on loans attributed to uncaptured start-up expenses from the first year of operations (see related question below).

Q: How long did it take for Sonoma County to recoup start-up costs for SCEIP?

A: The program is repaying advances for program start up to the County, the Sonoma County Water Agency and County Counsel through fiscal year 2013-2014. A stable net positive cash flow is anticipated by FY 2013-2014 with dependencies on the impacts of HR 2599 and the litigation with the FHFA.

[38] See "Federal Mortgage Regulators" below for a detailed discussion of the current status of this intent

Q: In estimating the program costs, how much of the costs are fixed vs. variable costs related to demand/volume of applications being processed?
A: In the "ongoing delivery" section of the sample budget provided in the "Resources" section of this manual, fixed and variable costs have been identified to the best estimate possible. Sonoma cannot estimate the anticipated volume of another local government and highly recommends that the government perform a market survey to assist with this determination.

PROJECT FINANCING

Q: What types of bonds does SCEIP issue? How does the amount of interest paid on the bond compare to the amount of interest changed to participants?
A: SCEIP issues Contractual Revenue Assessment bonds with an interest rate of 3%. SCEIP participants pay an interest rate of 7%. The County uses the difference, or the "spread" to fund its SCEIP operations.

Q: What is the average assessment amount for Sonoma's bond issuance? Is there a maximum amount that SCEIP will finance, and on how the assessments were distributed between residential and commercial?
A: The average residential assessment is $28,000 and the average non-residential assessment is $194,000. The maximum portfolio that the Treasury Pool has authorized to invest is $45 million, with an additional $15 million available from the Sonoma County Water Agency. There is no maximum financing amount; the maximum available for each individual property is based on several underwriting criteria as described by the SCEIP Program Report and Administrative Guidelines provided in the Document Library.

Q: In Sonoma County, is there a standardized bond agreement or is there a different agreement for each transaction? Does the agreement change if outside financing is utilized?
A: Sonoma County currently has a standardized set of bond documents. However, if you start considering other alternatives, then the cost of designing different documents for other investors could become very costly. If the County goes to an outside financing source, then it will very likely have to pay substantial costs to prepare an offering circular and other legal documents to sell the bonds. The County did modify its existing bond documents, with the assistance of bond counsel, to accommodate an owner-arranged financing transaction where a bond was issued for a $1.6 million project and sold directly to an investor. In that case, the investor paid for the additional cost to modify the bond documents.

Q: Is Sonoma County working with any private capital or lending institutions to provide funding?

A: Sonoma County's initial pool of funds came from the purchase of Bonds by the County Treasury. The County was awarded funds through a grant from the California Energy Commission to execute a feasibility study of purchasing SCEIP bonds by a third-party investors. This study is provided in the Document Library. Selling our bonds on the open market will allow SCEIP to replenish its pool of funds, which will enable SCEIP to continue our financing.

SCEIP has also executed its first "owner arranged financing" model, wherein an application was submitted for $1.6M financing in conjunction with an external entity willing to immediately purchase the bond for that specific transaction. Documents for this transaction are provided in the Document Library.

FEDERAL MORTGAGE REGULATORS

Q: What are the concerns of the Federal mortgage regulating agencies?

A: The surge in interest in PACE programs in 2010 produced growing concern among mortgage regulators such as the Federal Housing Finance Agency (FHFA), and their regulated entities, Fannie Mae and Freddie Mac. In May 2010, Fannie Mae and Freddie Mac, government sponsored enterprises that purchase a very large segment of conforming single family home mortgages, issued letters of instructions to lending institutions. These instructions stated that the terms of the Fannie Mae/Freddie Mac Uniform Security Instruments prohibit loans that have senior lien status to a mortgage, thus implying that PACE assessments were loans and would be an unallowable encumbrance to a property with a Fannie Mae- or Freddie Mac-backed mortgage. Following this, on July 6, 2010 the FHFA issued a statement determining that "PACE loans...present significant risk to lenders and secondary market entities" and called for all state and local governments to pause their programs. These issues remain unresolved at this time.

Q: What is the delinquency rate for SCEIP?

A: 2009-10 was the first year PACE assessments were placed on the tax bills. Total Secured tax delinquencies in the county that year were 3.3%. PACE assessment delinquencies were 1.19% as of 6/30/10. As of February 2012, the 2009-10 Secured tax delinquencies have dropped to .75%. PACE assessment delinquencies have dropped to .27%.

2010-11: Total Secured tax delinquencies in the county were 2.3%. PACE assessment delinquencies were 1.84% as of 6/30/11. As of February 2012, the 2010-11 Secured tax delinquencies have dropped to 1.1% PACE assessment delinquencies have dropped to .76%.

As compared, then, the delinquency rate with a PACE assessment is much lower in comparison with county-wide delinquencies.

Mortgage Defaults: Of the 1,459 assessments placed on properties in Sonoma County, recorded documents show only 16 properties having completed the default process, an average of 1.1%. During the same timeframe (2009 through 2011), the average mortgage default rate in Sonoma County varied from 8% to over 10%. Thus, the default rate of properties with a PACE assessment is much lower than the rate for properties county-wide. This appears to refute the FHFA contention that PACE assessments cause higher risk for mortgage lenders.

MORTGAGE LENDERS

Q: Does House bill HR2599 require consent from the mortgage holder?

A: For non-residential properties, the current version of the bill in the House of Representatives requires authorization from the property's existing mortgage lender. On the residential side, all that is required is notice to the lender.

Q: Have any commercial lenders given authorization to allow PACE financing?

A: Yes, twenty different lenders have provided lender acknowledgement for projects funded by SCEIP alone, in addition to lenders working with other PACE programs throughout California such as the City and County of San Francisco, Placer County and Los Angeles County.

Q: Is PACE financing senior to bank financing?

A: PACE financing is not a loan; it is a voluntary contractual assessment. Under California law, a contractual assessment lien has the same superior lien priority as property taxes and other assessments and is senior to bank liens; however, in the event of a default, only the delinquent portion, not the entire PACE assessment, would need to be paid at the time of the foreclosure. The remainder of the assessment remains a lien on the property, assumed by the purchaser. There are some different models in some states, such as Vermont and Maine, where pursuant to state statute the PACE lien is subordinated to the first mortgage. One would need to review the specifics of the authorizing statutes on the extent of the subordination.

Q: How receptive have existing lenders been to accommodate the PACE- based financing that has a superior lien priority?

A: A mix of national, regional, and local commercial real estate (CRE) lenders have provided acknowledgement or consent for over 40 of the approximately 70 non-residential PACE projects completed to date. That evidence, and discussions with CRE lending officers, demonstrates that lender acknowledgement need not be an obstacle to non-residential PACE programs.

Furthermore, there is an opportunity for the existing lender to either purchase the bond itself, or to co-invest alongside a qualified 3rd party PACE investor.

MARKETING, OUTREACH AND EDUCATION

Q: What outreach materials and strategies has SCEIP used successfully to spread the word about its program?

A: SCEIP has developed many avenues to promote our program. Among them are: establishing and maintaining relationships from day one with our stakeholders: contractors, building officials, local utilities, partnering agencies, lenders, and community organizations, like realtors and environmental groups; staffing booths at local events like the county fair, spring and fall home shows, conservation/sustainability events; submitting ads in the local/regional newspapers and magazines, on local TV and radio stations; sponsoring contractor forums/training to inform and update local contractors of program information and changes.

SCEIP has also created brochures, provided PowerPoint presentations, webinars, composed monthly newsletters, included an informative flyer with the semi-annual tax bill, and implemented social media.

All of these have been important, but according to a recent survey of our residential customers, the most effective means of spreading the word have been through the contractors (word of mouth), print media, and referrals.

Q: What outreach strategies and materials have other PACE programs used that have had the most impact?

A: In Los Angeles, meetings organized by Business Improvement Districts and local advocacy groups have proven worthwhile, especially as a means to reach Class B/C property owners. San Francisco is now conducting similar activities, and is also seeking to actively bring together PACE investors and contractors/energy service providers to facilitate the project development process.

ENERGY ANALYSIS, LOADING ORDER AND SAVINGS

Q: Has Sonoma County had a mandatory loading order requirement for projects from the initiation of the program?

A: SCEIP has always required non-residential applicants to submit the results of an ASHRAE level 1 – equivalent energy analysis with their SCEIP application, and has advised, but not required, that the energy analysis-recommended improvements be completed prior to

financing renewable energy generation projects. Between July 1, 2011 and March 31, 2012, SCEIP operated a loading order pilot program for residential properties that required a 10% efficiency improvement prior to renewable project funding (see question below).

Q: What is meant by "10% efficiency for renewables"?

A: On July 1, 2011, SCEIP began requiring that applicants requesting PACE financing for renewable energy generation projects (i.e. solar pv) demonstrate at least a 10% increase in energy efficiency on their property prior to SCEIP funding the renewable project. This requirement was waived for residential properties testing in with a Home Energy Rating System (HERS) rating of 85 or better. SCEIP financed the 10% efficiency improvements, if desired by the applicant.

Q: Does SCEIP use energy audits to examine paybacks?

A: SCEIP does not require post-project reporting by the applicant. However, SCEIP does look at three years' worth of utility data – one year prior to project disbursement and two years after- in order to quantify the energy and GHG savings attributable to our financing.

Q: Does SCEIP have any metrics on: 1) Energy savings realized v. initial projections? 2) Payback periods on various types of improvements? 3) Impact of program on property cash flows: are realized energy savings greater or equal to additional assessment?

A: These important metrics are in the process of being quantified by SCEIP staff and consultants. Until recently, there has not been enough statistically valid before/after utility data to make supportable conclusions. Now that the program has been operating for almost three years with over 1600 participants (primarily residential), there is a sufficient sample size with which to work. These results will be made publicly available when work is complete.

QUESTIONS AND ANSWERS FROM WEBINAR PRESENTATIONS

PACE and Open Market Financing (December 14, 2011)

Marketing PACE to Commercial Real Estate Owners (January 18, 2012)

Sonoma County's Commercial PACE Program (February 15, 2012)

Implementing a Residential PACE Program (March 21, 2012)

RESOURCES

All the documents listed below are located on the Sonoma County Energy Independence Program website, "Resources for Local Governments" web page.

BEST PRACTICES, GUIDES AND GUIDELINES

Best Practices for Energy Retrofit Program Design: Best Practices White Paper (Home Performance Resource Center, March 2010)

Guide to Energy Efficiency and Renewable Energy Financing Districts for Local Governments. (Renewable and Appropriate Energy Laboratory for the City of Berkeley, California, September, 2009)

Guidelines for Pilot PACE Financing Programs (U.S. Department of Energy, May 7, 2010)

Manual for Establishing Renewable Energy Financing Districts (New Mexico Energy, Mineral and Natural Resources Department, June 3, 2010)

Policy Framework for PACE Financing Programs (U.S. Department of Energy, October 18, 2009)

Recommendations for Clean Energy Municipal Projects (CHERRC, June 2009)

PACE LEGISLATION

Assembly Bill 811 (State of California, 2008)

Senate Bill 555 (State of California, 2011)

Protection of PACE Act HR 2599 (pending in the U.S. Congress)

State Legal Authority for PACE Programs (Database of State Incentives for Renewables and Efficiency (DSIRE))

FHFA AND RELATED DOCUMENTS

FannieMae Lender Letter (May 5, 2010)

FreddieMac Industry Letter (May 5, 2010)

FHFA Statement on Certain Energy Retrofit Programs (Federal Housing Finance Agency, July 6, 2010)

Statement of FHFA Acting Director Edward J. Demarco on PACE Programs (Federal Housing Finance Agency, July 14, 2010)

Clean Energy Financing Policy Brief (Lawrence Berkeley National Laboratory, August 11, 2010)

FannieMae Announcement (August 31, 2010)

FreddieMac Bulletin (August 31, 2010)

SAMPLE PROGRAM DEVELOPMENT DOCUMENTS

Sonoma County Energy Independence Strategic Plan (SCEIP, July 13, 2010)

Sonoma County Energy & Sustainability Division Strategic Plan (January 23, 2012)

Sonoma County Energy & Sustainability Division Strategic Plan (January 23, 2012)

Sample Budget

SCEIP Marketing Plan (SCEIP, April 1, 2009)

SCEIP Marketing Plan - Residential (May, 2011)

SCEIP Marketing Plan – Non-Residential (July, 2011)

SCEIP Steering Committee Charter (Enterprise Project Management Office, March 8, 2012)

PACE PROGRAMS

Links to other PACE program websites

List of Third Party PACE Service Providers

GreenFinanceSF Program Handbook (City and County of San Francisco, November 17, 2011)

Los Angeles County Commercial Property Assessed Clean Energy (PACE) Program Reservation Form and Guidelines (Los Angeles County, 2011)

MPowerPlacer Program Report and Administrative Guidelines (Placer County, June 7, 2011)

SCEIP Program Report and Administrative Guidelines (revised) (Sonoma County, March 16 2012)

NATIONAL REPORTS

Accelerating Commercial PACE (David Gabrielson, PACENow, December 6, 2011)

Economic Impact Analysis of Property Assessed Clean Energy Programs (PACE) (ECONorthwest for PACENow, April, 2011)

Jobs and Economic Growth via Clean Energy Programs (Alan Strachan, 2011)

Property-Assessed Clean Energy (PACE) Financing of Renewables and Efficiency Programs Policy Brief (National Renewable Energy Laboratory, July 2010)

Property Assessed Clean Energy (PACE) Financing: Update on Commercial Programs Policy Brief (Lawrence Berkeley National Laboratory, March 23, 2011)

The Constitutionality of Property Assessed Clean Energy (PACE) Programs Under Federal and California Law (Ranchod, S., Yung, J., and Hart, G., Paul, Hastings, Janofsky & Walker LLP, May 28, 2010)

APPENDICES: CALIFORNIA PILOT PROGRAM DOCUMENT LIBRARIES

This Document Library is intended to give local governments a jump start in establishing a PACE program by providing sample documents to establish a PACE program, to set PACE program policies, to contract for related services and to establish ongoing PACE program operations.

Only Appendix A is directly linked to documents; all other appendices are linked to the home page of that jurisdiction's website where the program documents are available.

APPENDIX A: SONOMA COUNTY

Self-Funded, Residential and Non-Residential PACE model

- POLICY DOCUMENTS
- FORMATION DOCUMENTS
- BOND FINANCING DOCUMENTS
- SERVICE AGREEMENTS
- FORMS AND TEMPLATES
- FEASIBILITY STUDIES
- SAMPLE MARKETING AND OUTREACH MATERIALS
- SAMPLE REPORTS

APPENDIX B: LOS ANGELES COUNTY

Private Placement-Funded, Non-Residential PACE model

APPENDIX C: PLACER COUNTY

Self-Funded, Residential and Non-Residential PACE model

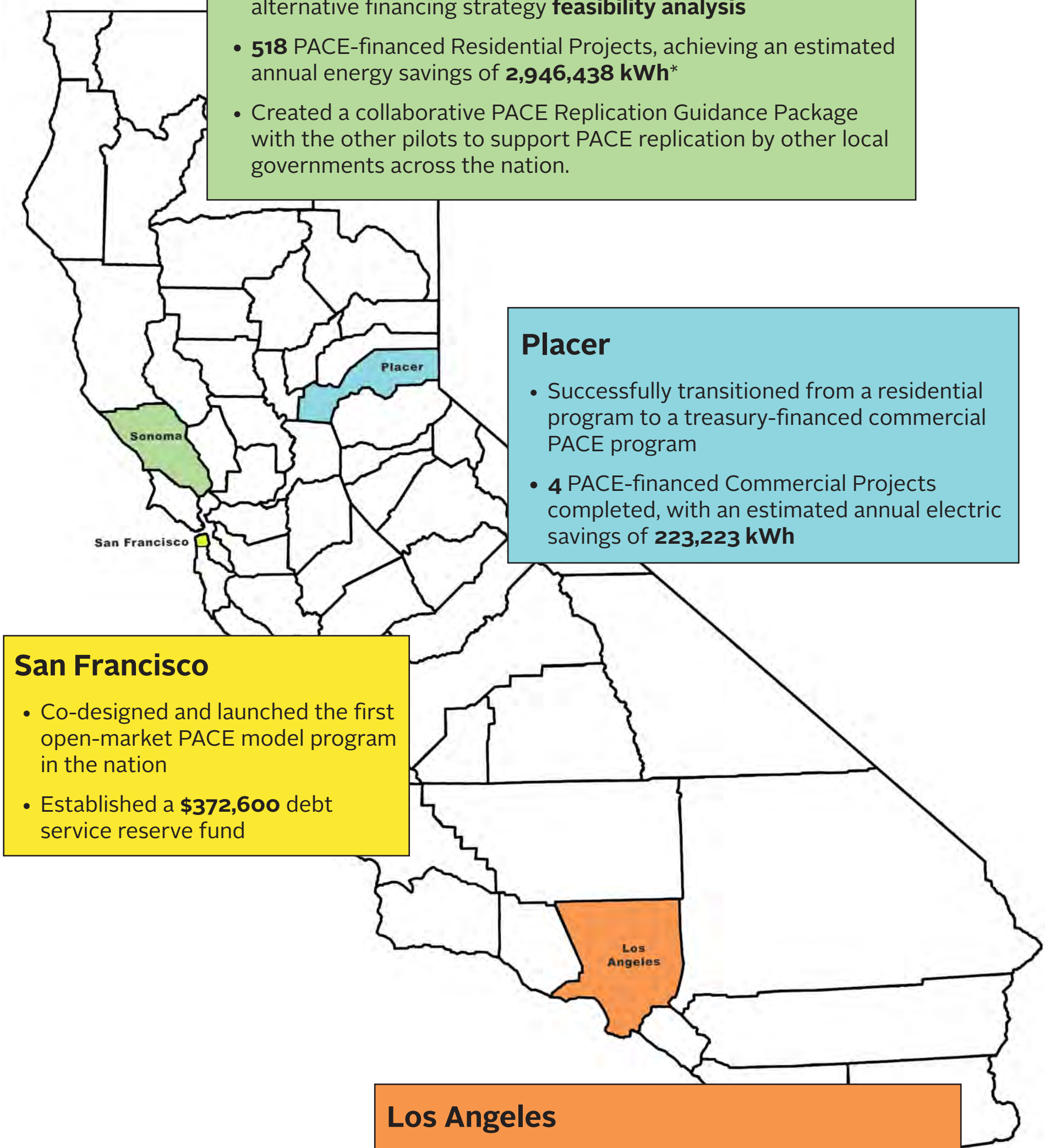
APPENDIX D: SAN FRANCISCO CITY AND COUNTY

Private Placement-Funded, Non-Residential PACE model

Disclaimer:

The information contained within these materials is offered only for general informational purposes. It does not constitute either general or specific legal advice and should not be substituted for legal, financial or other professional advice. These materials were created for an energy independence program individualized for the County of Sonoma and may not be suitable for all public agencies. These materials are not promised or guaranteed to be current, complete, or up-to-date. Different factual situations and evolving case law may require substantial modifications to these materials. As such, the authors make no representations or warranties with respect to the accuracy or completeness of the contents of these materials.

Energy Upgrade California PACE Success Map



Sonoma

- Conducted the nation's first PACE pooled bonding and alternative financing strategy **feasibility analysis**
- **518** PACE-financed Residential Projects, achieving an estimated annual energy savings of **2,946,438 kWh***
- Created a collaborative PACE Replication Guidance Package with the other pilots to support PACE replication by other local governments across the nation.

Placer

- Successfully transitioned from a residential program to a treasury-financed commercial PACE program
- **4** PACE-financed Commercial Projects completed, with an estimated annual electric savings of **223,223 kWh**

San Francisco

- Co-designed and launched the first open-market PACE model program in the nation
- Established a **$372,600** debt service reserve fund

Los Angeles

- Co-designed and launched the first open-market PACE model program in the nation
- **337** Commercial energy audits funded totaling **28,542,700 sq. ft.**, identified an estimated annual energy savings potential of **56,200,000 kWh**
- Established a **$2,000,000** debt service reserve fund

*savings associated with **370** solar improvement measures only. Energy savings from energy efficiency unavailable at this time.

To: Energy Commission
CC: LGC and Ecology Action
From: Renewable Funding and MIG
RE: **Task 2.2 Final Deliverables**
Date: March 27, 2012

Introduction
The EUC Scope of Work (SOW) outlines several final deliverables associated with the web portal (https://energyupgradeca.org/), Task 2.2 Integrated Statewide Web Portal. Final deliverables include:

1. Final Energy Upgrade California integrated web portal design
2. Final integrated web portal content for information and county pages
3. Final integrated web portal functionality and database structure
4. Final Energy Upgrade California integrated web portal customized design and content
5. Integrated public website

On April 1, 2012, the final deposit will be made into the code escrow account. This deposit will include site code, as well as content and images. This memo serves as documentation of the final deliverable for the six items above. The following is a brief description of each item.

1. Final integrated web portal design
Renewable Funding and MIG worked together on the web portal design. Overall site architecture was largely based on the existing software platform owned by RF. MIG developed the brand, color scheme and main content on the site.

2. Final integrated web portal content for information and county pages
MIG developed the content for the About the Program sections, as well as the statewide energy tour and materials in the Resource Library. Content and energy tour information are part of the deposit to the code escrow account. Materials from the Resource Library will be delivered separately by MIG.

3. Final integrated web portal functionality and database structure
Renewable Funding designed and developed the web portal functionality and database structure for all components of the site. All final functionality and database structure are provided in the code escrow account.

4. Final integrated web portal customized design and content
Renewable Funding and MIG worked together to customize the design and content for the Commercial PACE portal (https://commercial-pace.energyupgradeca.org/) and the Multifamily portal (https://multifamily.energyupgradeca.org/). The customized design and content for these portals will be included in the code escrow account.

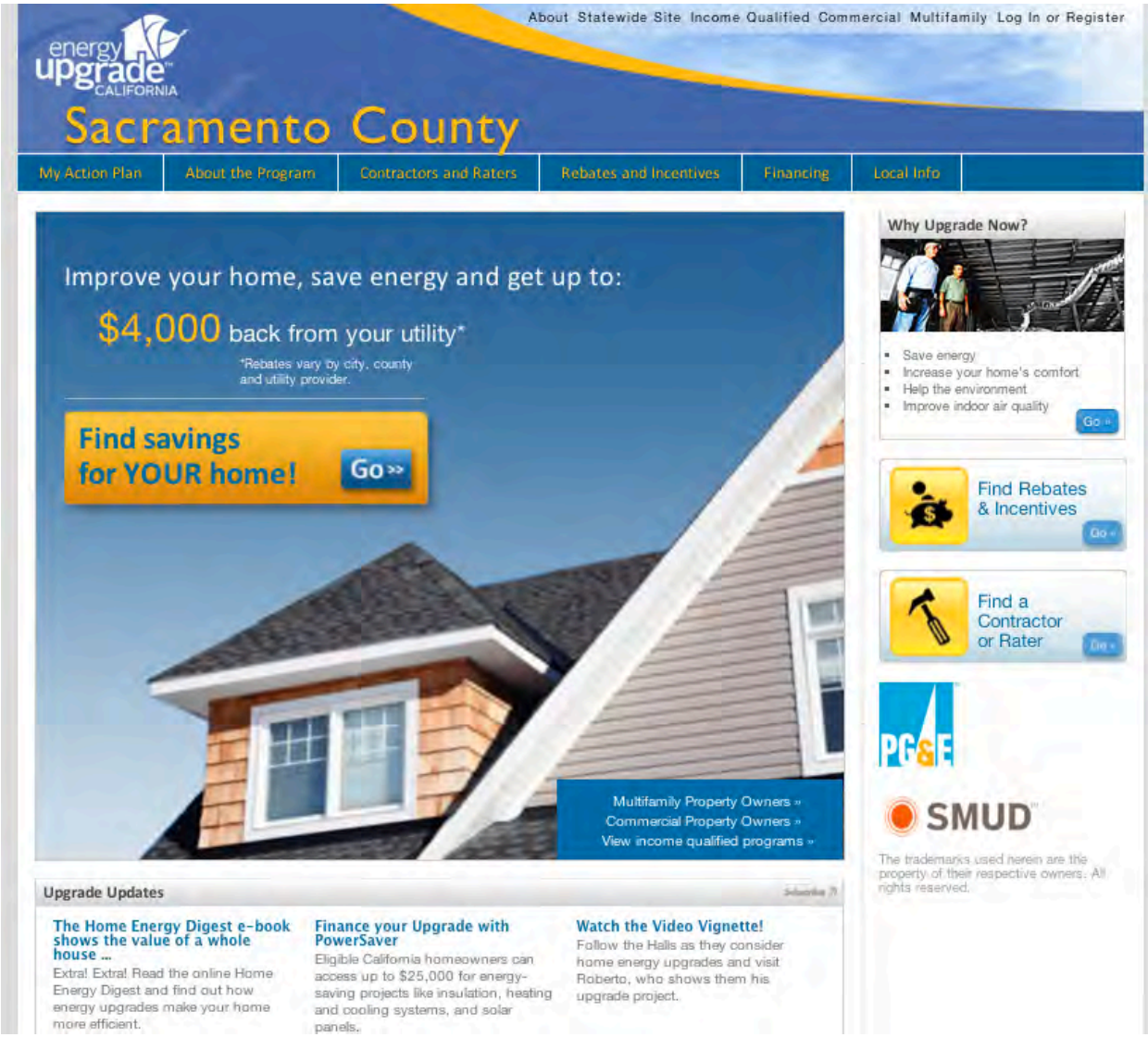
5. Integrated public website
Renewable Funding launched the public website for the residential portal on February 14, 2011. RF continued to improve and enhance the site over the course of the contract term. All code for the public website is delivered as part of the final deposit to the code escrow account.

Key Pages of EUC Residential Portal

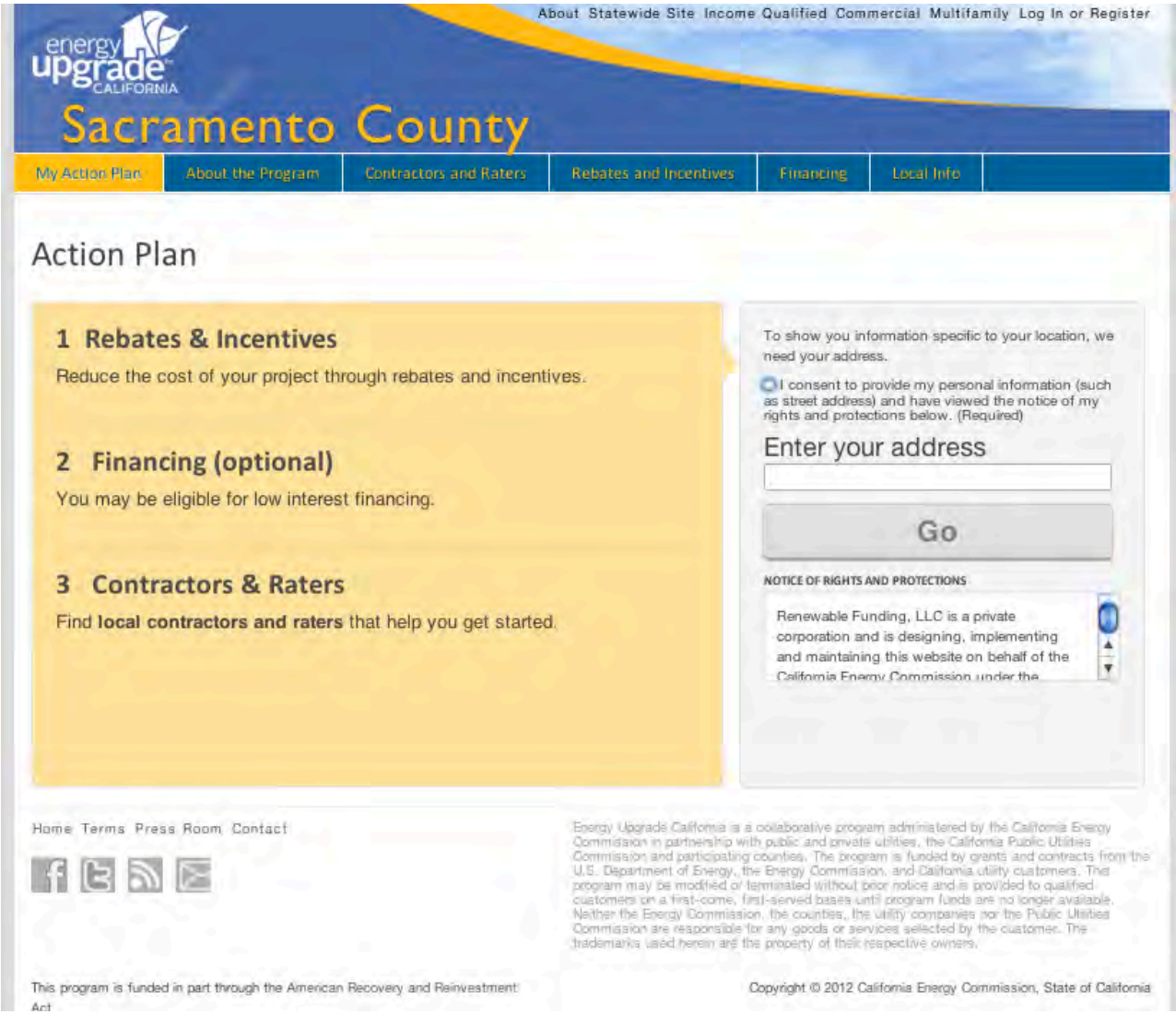
https://energyupgradeca.org/overview

https://energyupgradeca.org/statewide_tour_page0

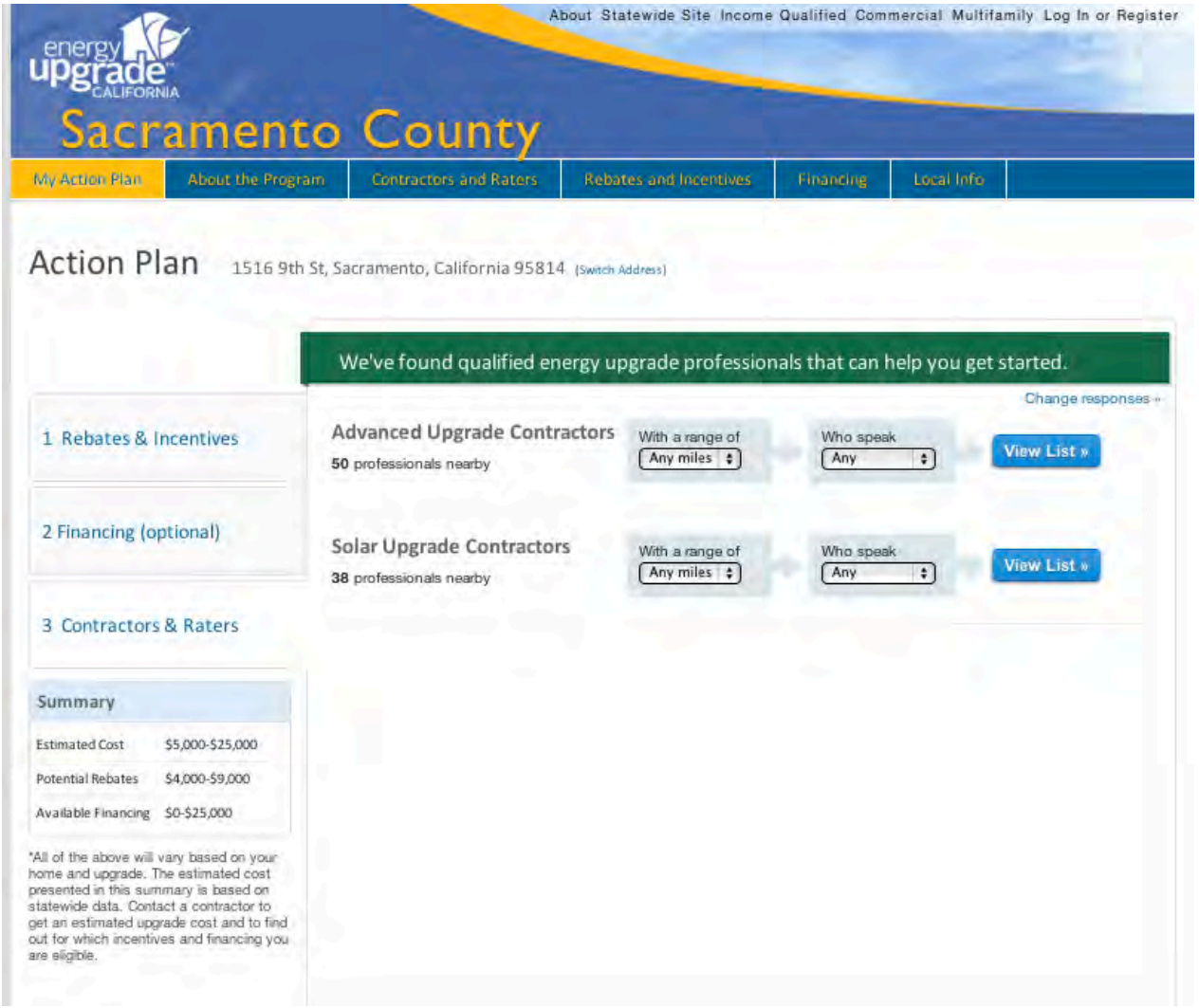
https://energyupgradeca.org/county/sacramento/overview



https://energyupgradeca.org/county/sacramento/action_plans/address

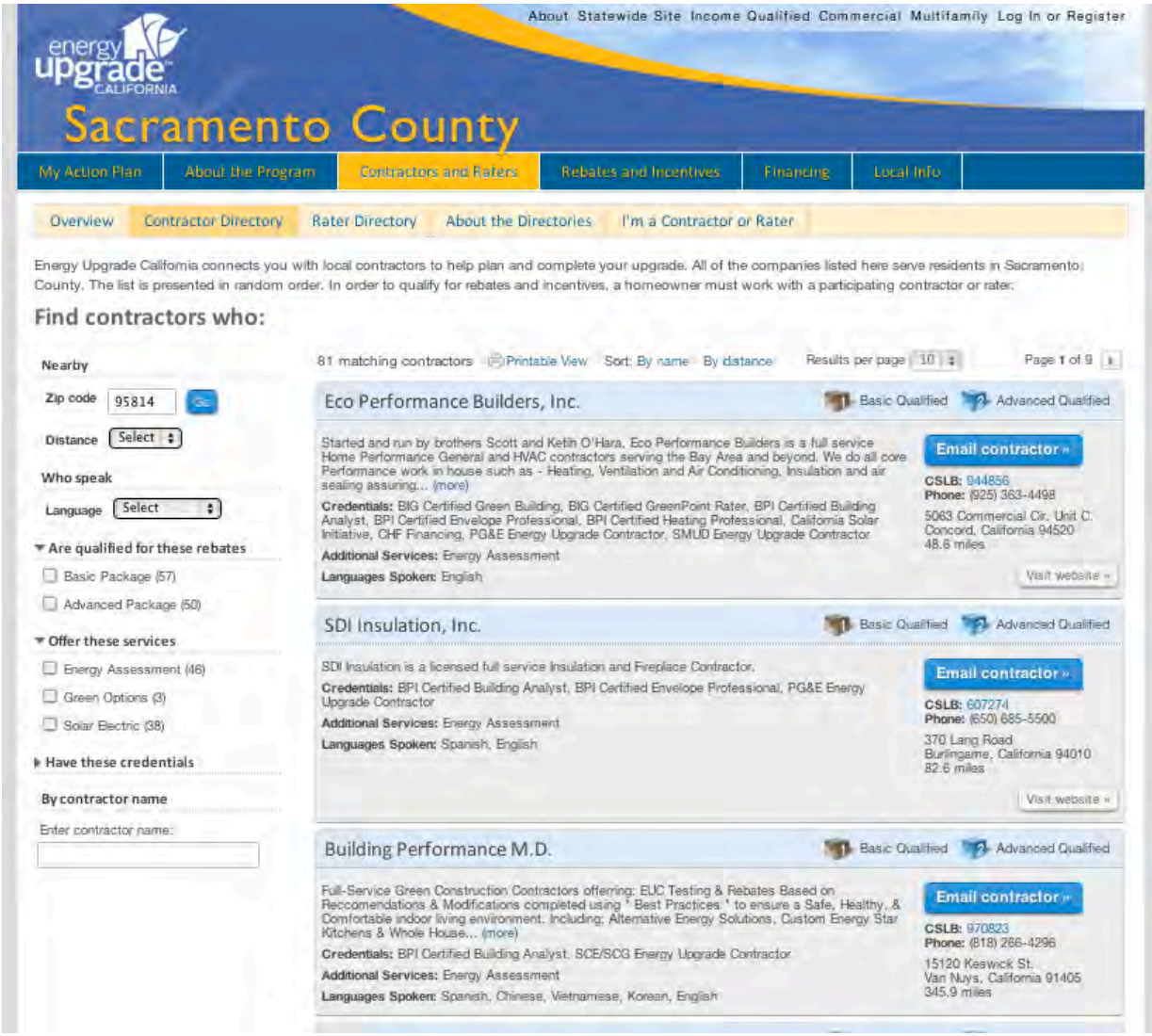


https://energyupgradeca.org/county/sacramento/action_plans/experts

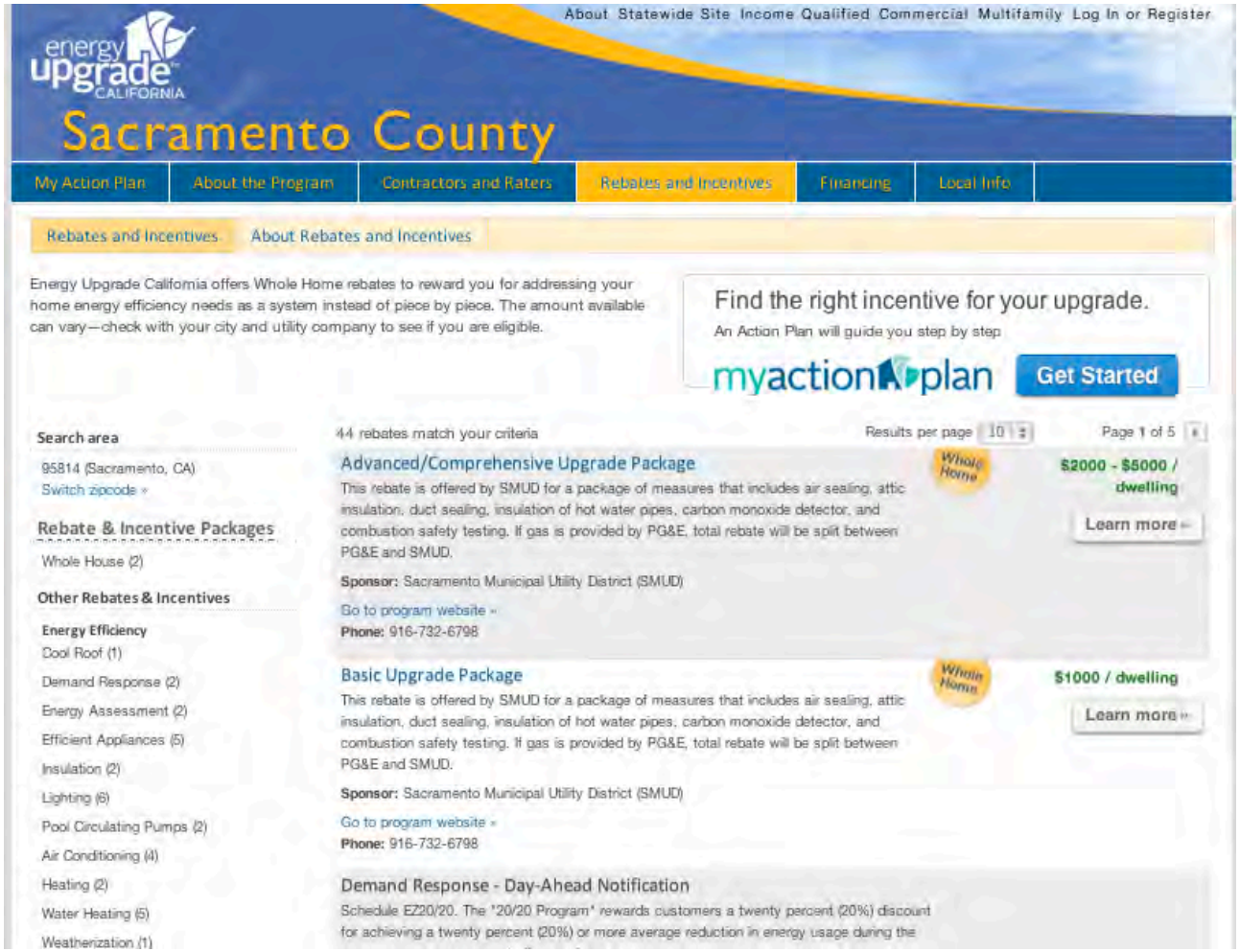


https://energyupgradeca.org/county/sacramento/about_overview

https://energyupgradeca.org/county/sacramento/vendors

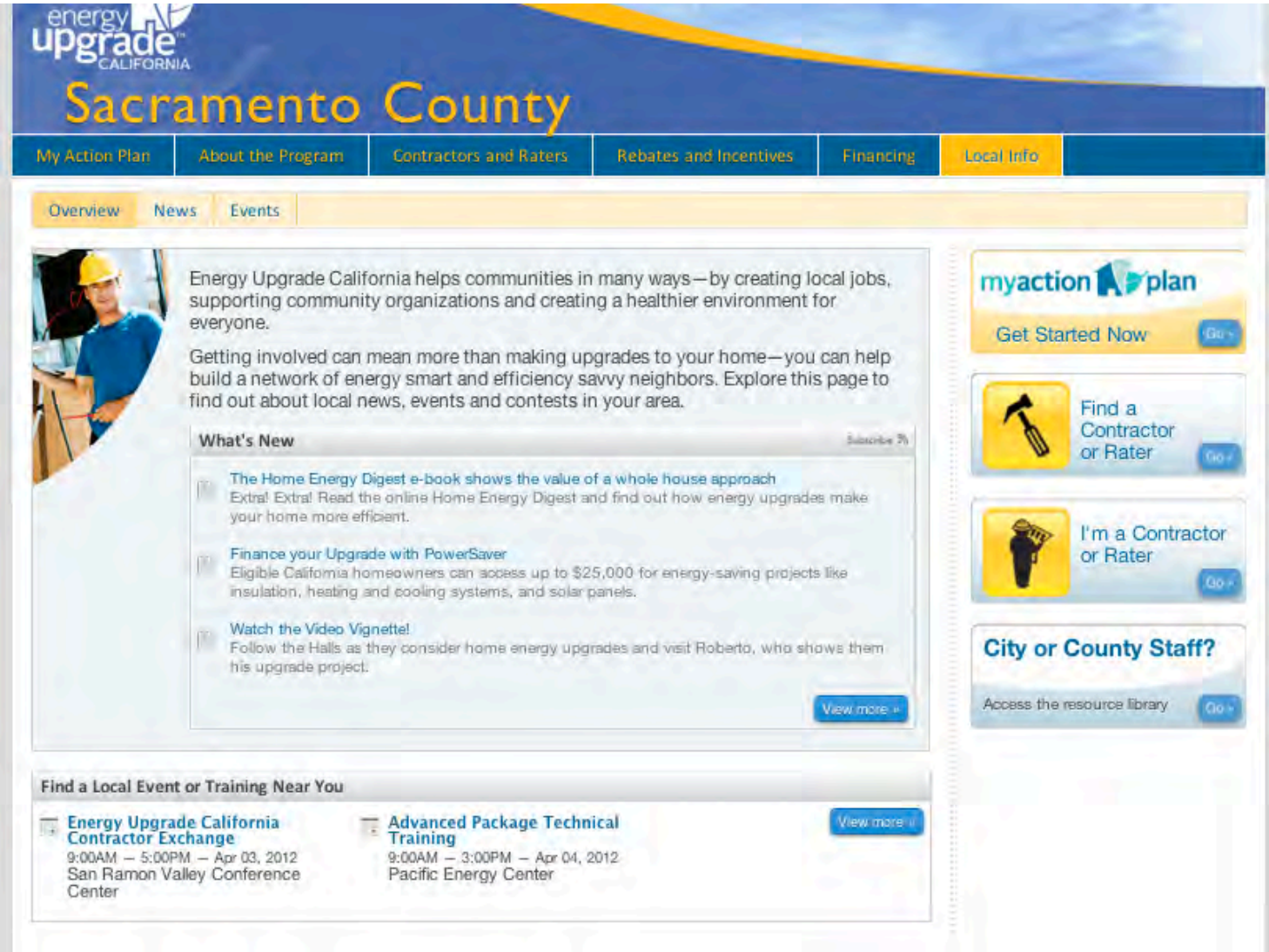


https://energyupgradeca.org/county/sacramento/incentives



https://energyupgradeca.org/county/sacramento/about_local_financing

https://energyupgradeca.org/county/sacramento/local_info_home



brand usage and graphic standards guide

energy upgrade™ CALIFORNIA

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1 | overview

1

program overview

California continues to lead the way in defining the new "green economy." **Energy Upgrade California™** is an unprecedented, statewide collaborative response to a daunting challenge: create a new industry, transform the market for energy efficiency upgrades to existing buildings and significantly reduce our energy consumption. The overarching goal is to create a sustained market for a whole-house performance approach to upgrading homes, leading to long-term behavior change and job creation.

Energy Upgrade California (Energy Upgrade) is an alliance among the California Energy Commission (Energy Commission), the California Public Utilities Commission and investor- and municipal-owned utilities, as well as California counties and cities. It is one program with one name, one brand and one website portal. Property owners statewide can enter a "one-stop shop" with clear, consolidated information about program elements and all the relevant federal, state and local rebates, incentives and financing options available to them.

These statewide brand usage and graphic standards guidelines will ensure long-term continuity of the Energy Upgrade brand.

2 | strategy

2

brand strategy

VISION

The **Energy Upgrade California™** brand is inspirational and aspirational—motivating users to make energy efficiency upgrades to their homes by presenting a compelling vision of a better quality of life. The brand vision is dynamic, positive and upbeat, and conveys a lifestyle of personal comfort and connection to the environment.

The brand reaches viewers at an instinctual and a rational level. A viewer's first response is emotional ("That's what I want.") and then intellectual ("How do I get it?"). Images and messages that resonate at the emotional level show the results of the program—comfortable homes, happy families, a healthy environment—while more program-oriented messages reach viewers at the cognitive level—rebates, cost savings, quality of service, etc. The brand creates a seamless connection between these two approaches, connecting the heart and the head.

CORE PRINCIPLES

The core principles of the Energy Upgrade brand support the brand vision and are reinforced in various ways and at various levels through effective brand implementation. The core principles for the Energy Upgrade brand are:

- **Quality**
  The brand reflects the quality of a prominent statewide program with maximum exposure.
- **Clarity**
  The brand clearly conveys the main benefits of the program and inspires people to participate—with imagery and messages that are direct and easy to understand.
- **Creativity**
  The brand promotes a long-lasting vision of the program through creative design that is memorable and compelling.
- **Consistency**
  The brand reinforces the benefits of the program through reliable and consistent messaging.
- **Community**
  The brand creates a sense of community by offering homeowners a vision of connection at the local level (families, friends, neighbors) and to the environment.

POSITIONING

A positioning statement describes: who the brand is for, what we want our target audience to do, and why.

The Energy Upgrade positioning statement is:

For homeowners who want to reduce their homes' energy use and increase comfort, while saving money and helping the environment, we are the source for practical information and innovative solutions—we make it simple.

Our unique positioning must be reflected in all communications.

PERSONALITY

The brand's core values and characteristics can be described and experienced as human personality traits.

- **Practical**
  We provide one-stop-shop information.
- **Can-Do**
  We make it easy so you can get things done.
- **Empowering**
  We provide you with the ability to make choices and take actions that make sense for you.
- **Inspirational**
  We bring new ideas and information that will inspire you to go beyond what you thought you could do.

VOCABULARY

The Energy Upgrade image and messaging must be consistent in order to establish stability, recognition and credibility.

While each county and utility is unique, it is important that we speak about Energy Upgrade with one voice.

Here are a few tips to follow when communicating about the program:

- Use “Energy Upgrade California” or “Energy Upgrade California in _____ County.” On second reference, use “Energy Upgrade.” Do not use the abbreviation “EUC” or “EUCA” in public documents.
- Research shows homeowners do not respond well to “prescriptive” or “performance” packages. Instead use terms such as “Basic Upgrade Package,” “Advanced Upgrade Package” and “Enhanced Options.”
- Avoid using terms such as “retrofit,” “remodel” or “whole-house retrofit.” These terms are associated with more extensive and expensive projects or seismic work.
- Use “home” or “house” instead of “residence” or “property” which sound less personal.
- Use “building” or “property” and “property owner” when describing a commercial, multifamily or industrial property.

- Use all initial caps to denote titles including “Energy Upgrade California Participating Contractor” and “Participating Contractor.” The terms “authorized,” “endorsed,” “certified” and “qualified” are not allowed in this program. The exception is for the related “Whole-House Home Energy Rating” program; Raters are called “certified.”
- Do not use “satisfaction” or “homeowner satisfaction guaranteed.”
- Participating Contractors should avoid using terms such as “audit” or “inspector” as research shows negative reaction to these. Instead, use “home energy assessment” or “comprehensive assessment” or “technical assessment.”
- Participating Raters should avoid using the terms “test-in” and “test out” when describing energy assessments. Instead, use “intial assessment” and “final Rating.”
- Use “Participating Contractor” or “Whole House Rater” to describe the person who is doing the assessment, not “auditor” or “assessor.” These terms imply an association with income and property taxes.
- Use “rebates and incentives” to cover both utility and county/city programs, if available. These are technically called incentives, not rebates, although homeowners more readily understand rebates.
- Use “utility bills” instead of “electric bill” or “gas bill.”

For sample media messages, talking points and FAQs, visit the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

USING THE GUIDELINES

The Brand Usage and Graphic Standards Guide provides a foundation for clear and consistent communication of the program's identity.

Adherence to the brand standards benefits all participating utilities, cities and counties, partners and affiliates. By consistently presenting the Energy Upgrade image, we build stability and raise the level of recognition and credibility among target audiences and the community at large.

This document includes a description of the Energy Upgrade brand and guidelines for use—such as required colors and typefaces, as well as taglines and use of imagery. Specific content includes:

- **Identity**
  Logos, colors, typography and imagery are all central elements of branding. It is critical that all Energy Upgrade marketing materials follow these guidelines.
- **Applications**
  The Energy Upgrade identity should be used on all program-related media. The examples in this section provide ideas on ways to brand promotional materials and events, as well as template examples for letterhead (Microsoft Word), poster (PDF) and slide presentations (PowerPoint).
- **Co-Branding**
  Program partners play a vital role in marketing Energy Upgrade. The appendices of this document include guidance on ways for partners to market themselves using the brand.

If you have questions about the usage and application of the Energy Upgrade brand, or the design of the collateral, please contact *library@energyupgradeca.org*.

USING THE ENERGY UPGRADE BRAND

To ensure the success of the Energy Upgrade brand, it is important that co-branded marketing highlight the unique services and strengths of program partners while presenting the Energy Upgrade brand appropriately and consistently, and accurately representing the relationship between brands.

The Energy Upgrade brand assets (logo, colors, graphic elements) may be used by any program partner including state agency, city or county, or independent- or municipal-owned utility for promotion of the Energy Upgrade program.

Participating Contractors and Raters have access to Energy Upgrade templates and logos for their marketing materials. Partner companies, including realtors, retail outlets and other commercial organizations, may use the brand only with permission from the Energy Commission.

Energy Upgrade offers two ways to market the brand.

1) **Use pre-designed Energy Upgrade marketing materials.**

   Several marketing pieces have already been designed for the Energy Upgrade California program such as informational brochures, fact sheets and PowerPoint templates. Download them from the Resource Library; use as-is.

2) **Design your own Energy Upgrade California marketing materials with authorized use of the Energy Upgrade California brand assets.**

   All co-branded collateral must adhere to color, size and clearspace guidelines described in the “Identity” section of this document.

The guidelines, as well as collateral, graphics, photography and templates for program communications, are available in the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

For specific co-branding information and how to access the Resource Library, see Appendix A: Cities and Counties and Appendix B: Participating Contractors.

3 | identity

REBATES for
RENOVATIONS
EnergyUpgradeCA.org
energy
upgra
CAL

3

brand identity

INTRODUCTION

This Brand Usage and Graphic Standards Guide provides a foundation for clear and consistent communication of the program's identity. Adhering to common standards ensures that the correct name and mark of **Energy Upgrade California™** appears on all communications and collateral.

The brand usage and graphic standards have been carefully developed through detailed consideration of many factors, both functional and aesthetic.

In media—publications, websites, advertising, signage, online, letterhead, or business cards—layout, color and typography are orchestrated to impart a unified "signature." This document includes a description of the Energy Upgrade brand and guidelines for use—including required colors and typefaces, as well as taglines and use of imagery.

The goal of this guide is to add consistency to all media over time. Each piece of communication builds upon and complements the established image, and creates a clear and positive impression of Energy Upgrade and its partners.

LOGO

The Energy Upgrade logo is the symbol of the program. Consequently, its construction and placement are of the utmost importance in maintaining the integrity of the brand.

The look and feel of the Energy Upgrade identity is determined by three basic components: the logo icon, color and typography. These elements have been carefully designed and selected to project a coherent, pleasing and meaningful image of Energy Upgrade to our audiences. Intelligent application across a wide variety of media, from grant applications to signage, will ensure the continued strength of our visual presence.

The logo is designed to represent the message, not send it. The clean and simple building shape and turning leaf convey the idea of green retrofits in a sophisticated, bold way. The colors are light and lively and the typography is designed so that it complements the icon. The wordmark (typography without the icon) also can be presented on its own and still retain the program identity.

Approved logos and wordmarks are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Proper and improper applications of the logo are described on the following pages.

ELEMENTS OF THE LOGO

The logo

The logo is the icon combined with the wordmark, in full color. Always use the original approved art. Never alter any aspect of it.

The wordmark

This type-only element of the logo is to be used when a participating organization cannot use the full logo in close relationship to their own logo.

Wordmark guidelines begin on page 29.

LOGO VARIATIONS AND SIZE

Preferred full color

Preferred one-color + black

Acceptable one-color variations

One-color variations against dark backgrounds

Minimum size

1”

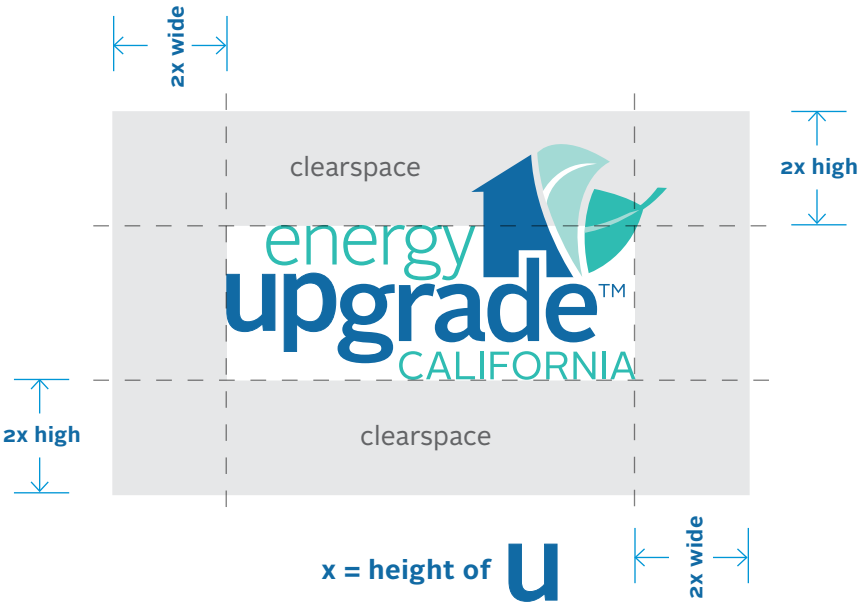
The Energy Upgrade logo is not to appear smaller than 1 inch in width.

3/4”

The Energy Upgrade wordmark is not to appear smaller than 3/4 inch in width.

LOGO CLEARSPACE

Clearspace provides a protective area surrounding the logo within which no other graphic elements such as another logo, typography, pictures, art or borders may intrude. The clearspace must equal 2 times (or more) of the height of the letter “u” in the logo. Never allow any other elements within the clearspace.

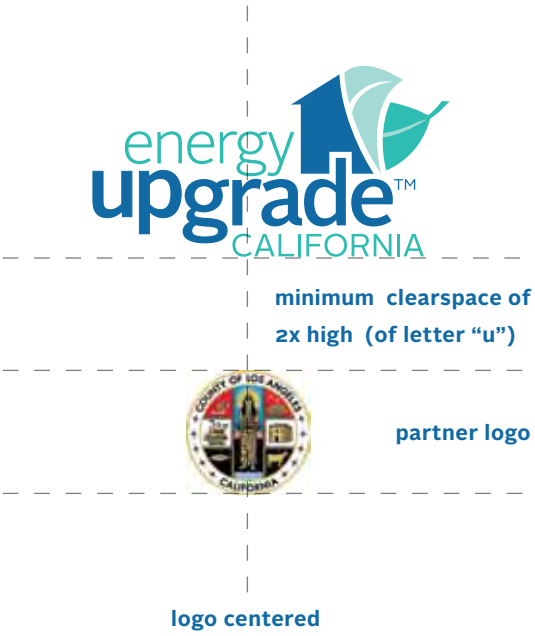


LOGO RELATIONSHIPS

Logo with single partner logo

The Energy Upgrade logo should be placed on the front of materials. It can be centered and stacked above a partner logo, or the partner logo may be placed on the back of materials.

The Energy Upgrade logo is shown approximately 50% larger than the partner logo in the example below.



Logo with multiple partner logos

The Energy Upgrade logo should be placed on the front of materials. When shown with more than one partner logo, the Energy Upgrade logo can be placed at the top with the partner logos shown side-by-side at the bottom. Or the partner logos may be placed on the back of materials.

The Energy Upgrade logo is shown at approximately the same size as the partner logos in the example below.

BRANDED EXTENSION LOGOS

Variations on the Energy Upgrade logo are divided into three categories: residential, non-residential and partnerships.

How to use the logo for residential programs

Most city and county residential programs are designed for single-family residences. For these programs, cities and counties will use the logo with their city or county name. See Appendix A for examples of logo placement on city and county collateral.

rule underneath logo = width of logo
rule color = 7691

county name: U/lc, approved font
font color = 7691
font size = same height as "CALIFORNIA"

In the case of other residential programs (e.g., Low Income) the program name is placed underneath the Energy Upgrade logo as shown below.

rule underneath logo = width of logo
rule color = 7691

program name: U/lc, approved font
font color = 7691
font size = same height as "CALIFORNIA"

How to use the logo for non-residential programs

The Energy Upgrade program also addresses commercial and industrial buildings, and extends its brand to promote energy-efficiency support programs.

Similar to residential programs, the commercial/industrial or support program name is placed underneath the Energy Upgrade logo as shown in the examples below.

HVAC Industrial

rule underneath logo = width of logo
rule color = 7691

program name: U/lc, approved font
font color = 7691
font size = same height as "CALIFORNIA"

Energy Technology Assistance Program

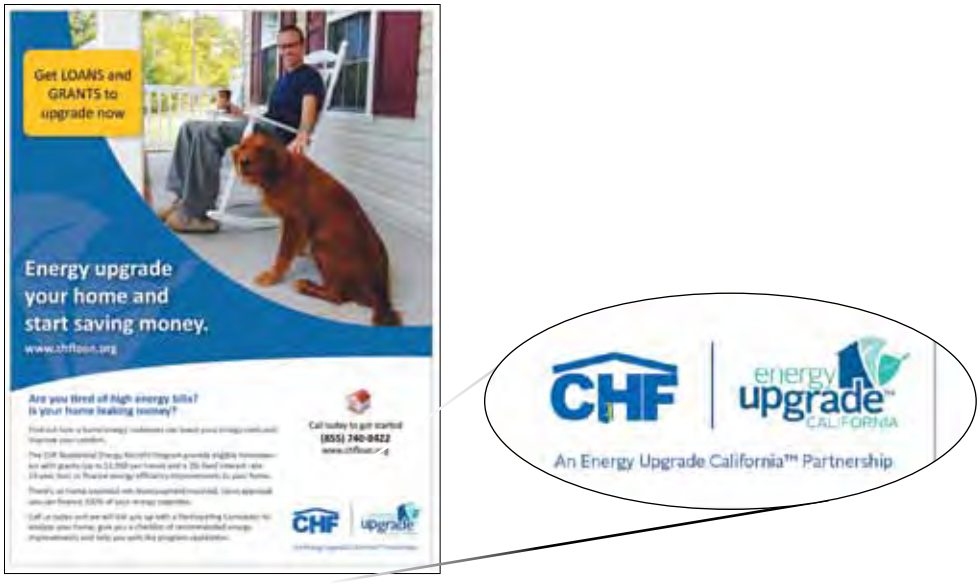
rule underneath logo = width of logo
rule color = 7691

program name: U/lc, approved font
font color = 7691
font size = same height as "CALIFORNIA"

How to use the logo for partnership programs

In some cases, residential programs will co-brand with other public or private entities for external funding, financing, workforce education and training. Energy Upgrade California and partner logos can be treated in one of two ways:

Option 1: Pair the Energy Upgrade logo and the partner logo with a thin line in between, and center the text "An Energy Upgrade California™ Partnership" below the logos.



Option 1: Sample flyer with partnership logo

Option 2: Place the text “An Energy Upgrade California™ Partner” below the partner logo.

Option 2: Sample flyer with partnership text

WORDMARK

The wordmark is the type-only version of the brand. It should only appear in one color: either black, white or blue. It should not appear within a headline, subhead or body text.

Approved logos and wordmarks are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

energy upgrade™ CALIFORNIA

energy upgrade™ CALIFORNIA

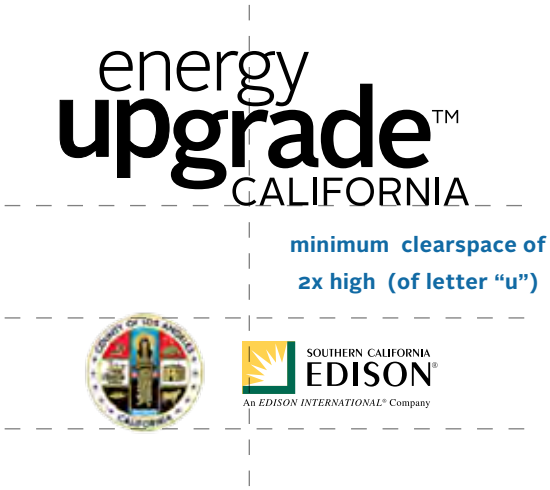
energy upgrade™ CALIFORNIA

WORDMARK RELATIONSHIPS

Wordmark with multiple partner logos

The Energy Upgrade workmark should be placed on the front of materials. It can be centered and stacked above partner logos, or the partner logos may be placed on the back of materials.

The Energy Upgrade wordmark is shown approximately 50% larger than the partner logo in the example below.



Wordmark with single partner logo

The text "in partnership with" may be added above the wordmark.

The Energy Upgrade wordmark is shown at approximately the same size as the partner logo in the example below.

THE NAME IN TEXT

In text within a document, other printed material or on a webpage, the name is to appear as shown (use the "™" on first reference):

Energy Upgrade California™

After first reference, the name may be abbreviated in text as:

Energy Upgrade

Do not use the acronym EUC or EUCA.

THE NAME IN TRANSLATION

The name may be translated once in text, after the offical name in English. For instance, in Spanish it should appear as **Energy Upgrade California™ (Mejoras para ahorrar energía)**. Thereafter the name Energy Upgrade California should be used in English.

For use in radio spots (without visuals) the name should be **Energy Upgrade California** in English, followed by the name translated.

See next page for examples.

The logo should only be used in English in both print and online collateral. The tagline, headlines and all other information may be translated into appropriate languages. See pages 46 and 49 for examples.

spanish **Mejoras para ahorrar energía**

chinese **加州能源更新**

korean 에너지 업그레이드 캘리포니아

tagalog **Pagbubutihan ng Kuriyente sa**

COLOR PALETTE

A Pantone® color palette has been selected to create a distinctive look for all Energy Upgrade materials. The preferred primary color is Pantone® 7691.

Process CMYK color builds of the Pantone colors are acceptable for print. RGB color builds may be used for monitor viewing. CMYK and RGB values are listed below. See Appendix C for a complementary color palette for Multifamily Program materials.

Pantone® 7691

Pantone® 3265

Pantone® 2725

Pantone® 377

Pantone® 1788

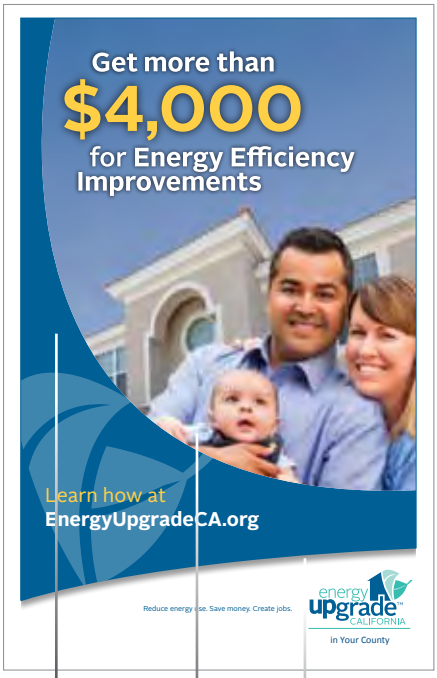
Pantone® 123

Pantone® 555

Black

	C	M	Y	K
7691	91	58	13	0
3265	70	0	37	0
2725	71	71	0	0
377	45	0	100	24
1788	0	83	88	0
123	0	24	94	0
555	85	34	81	24

	R	G	B
7691	18	105	162
3265	39	189	178
2725	98	91	196
377	120	162	47
1788	240	81	52
123	255	195	36
555	34	107	73



the sail

the semi-circle

the lower arc

the leaf

GRAPHIC ELEMENTS

Using these preferred graphic elements in collateral further strengthens Energy Upgrade's brand identity.

Graphic elements, such as the sail and leaf, are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Sail and semi-circle

The "sail" creating a semi-circle is the preferred graphic element that should be displayed on promotional collateral. It must be a solid-colored image, using one of the colors from the palette. This element contains title text. It is sized to touch the top, left and right sides of the collateral piece. The semi-circle may be reduced to allow for a larger "sail" in order to incorporate more text. It is recommended that text place in the sail be kept to a minimum. The "sail" can contain the "leaf" image or remain a solid block of color.

Lower arc

The white space below the "sail" must be kept clear for the Energy Upgrade logo and tagline. No other headlines, logos or art elements should appear in this space.

Leaf

The "leaf" is another graphic element that can be used in a variety of ways. It must be a one-color image, using one of the required colors from the palette, black, white or a percentage of one of these colors. It can be displayed as a solid graphic or a percentage of a color. Sizing can vary from a small bullet, to a large "ghosted back" background image. **This graphic element should never be used in place of the logo, icon or logotype; it is to be used only as a complementary art element.**

Pop-up box

The "pop-up box" is an element that gives prominence to one key message in a promotional piece. The box should be a single color from the palette. The type should be white or a color from the palette that has good contrast; and there should be ample space around the text. The box has rounded corners and a drop shadow.

the pop-up box

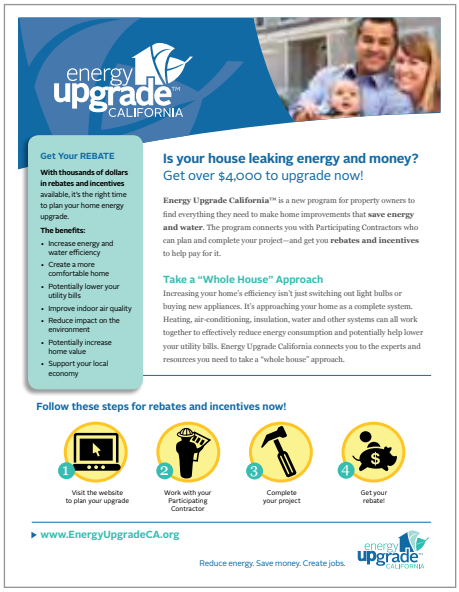
TAGLINE

Taglines are valuable and indispensable. They reflect positioning, brand personality, core values and the brand message of the program. They are short and to the point. A single line communicates the core message of Energy Upgrade, which would have otherwise been difficult to communicate through any other channel or mode of communication.

The tagline is designed to ensure synergy with the Energy Upgrade logo. The statewide brand tagline is:

Reduce energy use. Save money. Create jobs.

Preferred placement of the tagline is to the left of or below the Energy Upgrade logo.



sample fact sheet with pop-up box and tagline

Opportunities for customization

Every program can choose to use the statewide tagline or customize a tagline. Ideally the tagline should be three short "sentences," totaling about six to eight words. However, a short single phrase is also acceptable, as long as it contains a call-to-action and does not exceed eight words. Taglines may be translated as appropriate.

Customized tagline examples

"Improve your home. Use less. Save money."
"Improve your home. Save money. Go green."
"Save money. Get rebates. Improve your home."

TYPOGRAPHY

The Alright Sans font is preferred for most of the typography for Energy Upgrade. This includes taglines, headlines, subheads, etc. The Alright Sans font may also be used for body text.

Alright Sans Light

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Alright Sans Regular

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Alright Sans Medium

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Alright Sans Bold

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

The Georgia font is preferred for body copy in mostly business collateral, documents and letters. Georgia may also be used as body text in promotional material. The Calibri font is preferred for body copy for any material that is to be displayed on the Internet. Calibri may be used on print collateral if the Alright Sans font is unavailable.

Georgia Regular

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Calibri Regular

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Georgia Italic

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Calibri Bold

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

Georgia Bold

abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

PHOTOGRAPHY

Style

The preferred images for Energy Upgrade are photographs. These images offer viewers a glimpse of what they hope to be, how they hope to live and what to strive for. They portray a sense of style, intelligence and energy.

Attributes and characteristics

The images chosen for most Energy Upgrade collateral should be in full color. They should be professionally shot, or can be purchased stock images. They should portray an energetic and active lifestyle, and should connect people with their homes. The images should be dynamic and creatively cropped so that they are visually appealing.

Images of people should be candid, diverse in heritage and look like everyday people, not models. They should be involved in an activity. Overall, they should look happy.

Product images—or images that show what type of upgrades are eligible for the Energy Upgrade program—should be focused on the product with the least amount of background clutter possible. This can be achieved by a close, zoomed-in crop.

Photography libraries and rights

To support your marketing efforts, pre-approved, professional photographs are available for Energy Upgrade partners in the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

The single-family collection of photographs captures aspects of the measures, diagnostic testing and improvements associated with the Energy Upgrade program. See Appendix D.

The multifamily collection of photographs captures the measure and improvements associated with the Multifamily Program. See Appendix E.

Photography style examples

Below are photographs that demonstrate the preferred photography style for Energy Upgrade. See Appendices D and E for actual photographs available for download and use in marketing materials.

Lifestyle

Dynamic, creatively cropped, focus on the feeling of happiness and comfort. People are included, but not the focus of the photo.

People

Diverse, non-typical, everyday people images. Focus on people involved in an activity.

Products

Clean, uncluttered images with interesting angles and close crops. Direct focus on the particular product.

Photography color variations

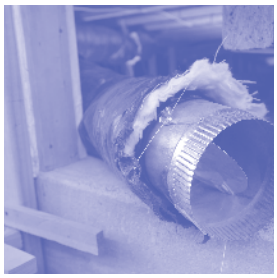
Black and white (grayscale), one-color (from the approved palette) and two-color (palette color and black) photos may appear on Energy Upgrade collateral when necessary. Black and white, one-color and two-color photos should be used in media where full color is not available.

When producing one-color photos, a color from the color palette should be used—with the exception of Pantone® 123 and Pantone® 1788 which may not be legible. When producing two-color photos, 100% black should be used for the image and a 50% tint of one of the colors from the palette should be the background.

one-color photo using Pantone® 7691

one-color photo using Pantone® 3265

one-color photo using Pantone® 555



one-color photo using Pantone® 2725

two-color photo using black for image and 50% tint of Pantone® 7691 for background

two-color photo using black for image and 50% tint of Pantone® 3265 for background

two-color photo using black for image and 50% tint of Pantone® 555 for background

two-color photo using black for image and 50% tint of Pantone® 2725 for background

ILLUSTRATION

Style

Though the main imagery of Energy Upgrade collateral is photography, there are instances where illustrations may be needed. Spot illustrations (small illustrations not contained within a border) may be used to impart a quick visual understanding of a section of text. Illustrated icons, such as the “leaf” graphic element, may be used for web buttons and text bullets.

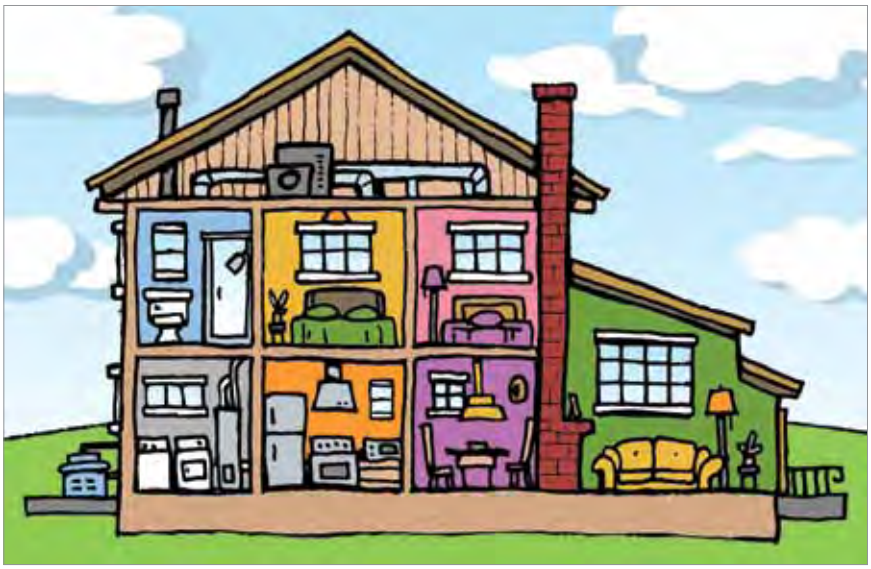
The preferred Energy Upgrade illustration style conveys a positive feeling, is hip and intelligent and has a sense of humor. The style of illustration should be simple, not overdrawn. The modernist or mid-century style of illustration best suits this.

Through illustration, we can portray Energy Upgrade as a friendly, down-to-earth, approachable program.

Attributes and characteristics

Hip, bold, colorful illustrations with a sense of style best represent the program. Illustrations should be hand-drawn or computer-generated using a drawing application such as Adobe Illustrator. The illustrations should be either one- or two-color with no background, and contain colors from the palette.

Sample icon and house illustrations are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.



hand-drawn house illustration

computer-generated illustrated icons

4 | applications

High utility bills?
Get up to $4,500 for energy efficiency improvements!
energy upgrade CALIFORNIA
Improve your home. Get rebates. Save mon

4

brand applications

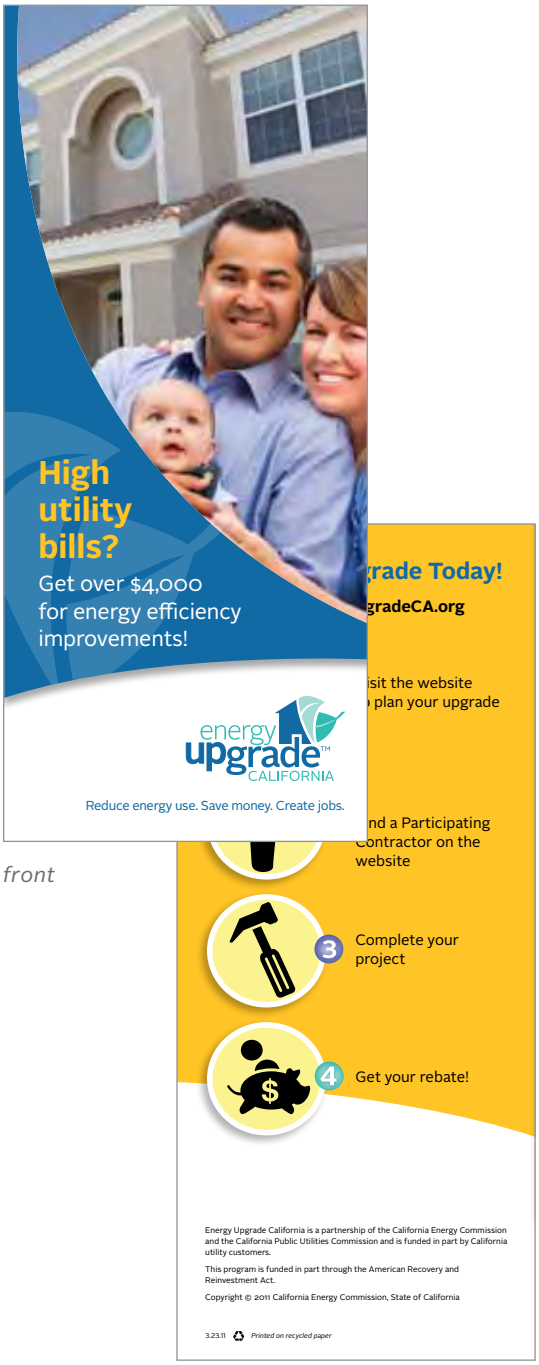
INTRODUCTION

The following pages show the brand applied to sample collateral pieces: brochures, fact sheets, print ads, online ads and more. They all follow the preferences set forth in this guide in regards to logo application, color, typography, and photo and illustration usage.

In creating any piece of collateral it is important to understand what you are trying to achieve:

- **Know your audience.** Who are your viewers and what do you want them to feel or do?
- **Allow for breathing room.** Do not try to fill pages with lots of information, much of which may not be read.
- **Be critical when selecting images.** Photos, illustations and graphics should adhere to the style set forth in this guide.
- **Give a clear "call to action."** Include full contact details, website and email address to connect the customer to more information.

BROCHURE EXAMPLES



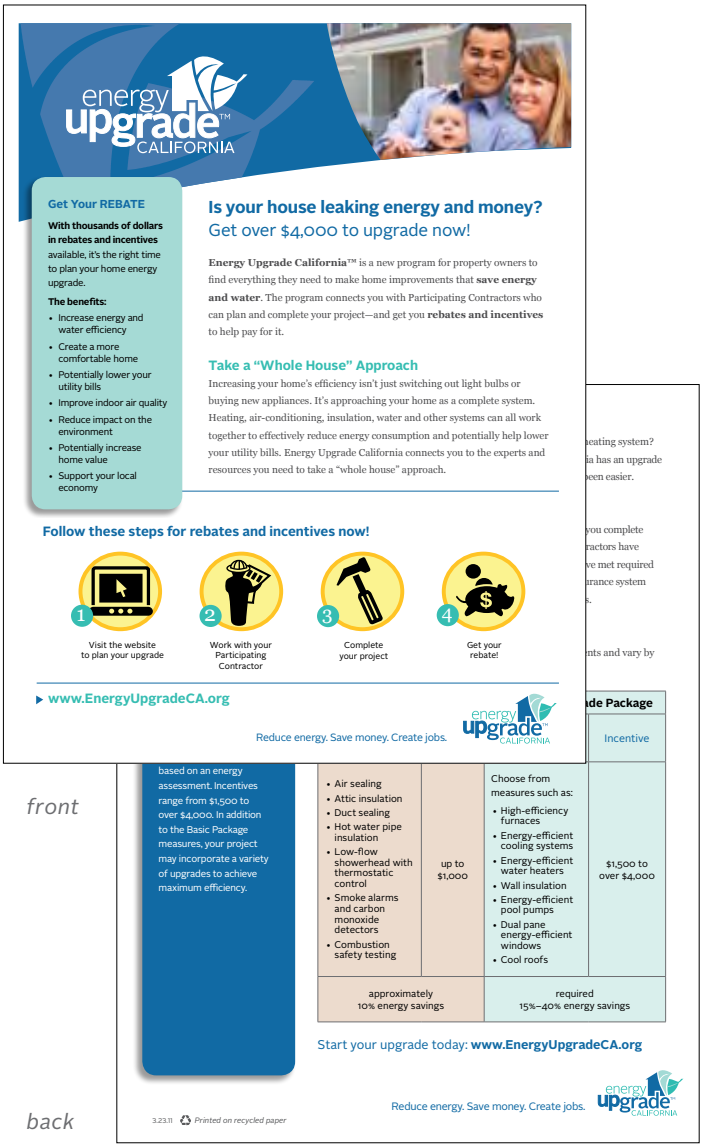
front *back*

tri-fold informational brochure with program partner attribution in footer text

front *back*

spanish language, tri-fold informational brochure with county and utility co-branding

FACT SHEET EXAMPLES



energy upgrade™ CALIFORNIA

Get Your REBATE

With thousands of dollars in rebates and incentives available, it's the right time to plan your home energy upgrade.

The benefits:

- Increase energy and water efficiency
- Create a more comfortable home
- Potentially lower your utility bills
- Improve indoor air quality
- Reduce impact on the environment
- Potentially increase home value
- Support your local economy

Is your house leaking energy and money?
Get over $4,000 to upgrade now!

Energy Upgrade California™ is a new program for property owners to find everything they need to make home improvements that **save energy and water**. The program connects you with Participating Contractors who can plan and complete your project—and get you **rebates and incentives** to help pay for it.

Take a "Whole House" Approach

Increasing your home's efficiency isn't just switching out light bulbs or buying new appliances. It's approaching your home as a complete system. Heating, air-conditioning, insulation, water and other systems can all work together to effectively reduce energy consumption and potentially help lower your utility bills. Energy Upgrade California connects you to the experts and resources you need to take a "whole house" approach.

Follow these steps for rebates and incentives now!

1. Visit the website to plan your upgrade
2. Work with your Participating Contractor
3. Complete your project
4. Get your rebate!

▸ www.EnergyUpgradeCA.org

Reduce energy. Save money. Create jobs.

front

based on an energy assessment. Incentives range from $1,500 to over $4,000. In addition to the Basic Package measures, your project may incorporate a variety of upgrades to achieve maximum efficiency.	• Air sealing • Attic insulation • Duct sealing • Hot water pipe insulation • Low-flow showerhead with thermostatic control • Smoke alarms and carbon monoxide detectors • Combustion safety testing	up to $1,000	Choose from measures such as: • High-efficiency furnaces • Energy-efficient cooling systems • Energy-efficient water heaters • Wall insulation • Energy-efficient pool pumps • Dual pane energy-efficient windows • Cool roofs	$1,500 to over $4,000
	approximately 10% energy savings		required 15%–40% energy savings	

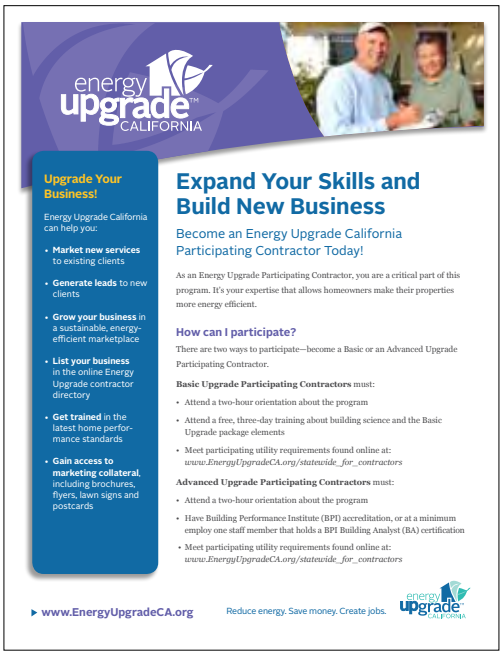
Start your upgrade today: **www.EnergyUpgradeCA.org**

Reduce energy. Save money. Create jobs.

3.23.11 Printed on recycled paper

back

program fact sheet



energy upgrade™ CALIFORNIA

Upgrade Your Business!

Energy Upgrade California can help you:

- **Market new services** to existing clients
- **Generate leads** to new clients
- **Grow your business** in a sustainable, energy-efficient marketplace
- **List your business** in the online Energy Upgrade contractor directory
- **Get trained** in the latest home performance standards
- **Gain access to marketing collateral**, including brochures, flyers, lawn signs and postcards

Expand Your Skills and Build New Business

Become an Energy Upgrade California Participating Contractor Today!

As an Energy Upgrade Participating Contractor, you are a critical part of this program. It's your expertise that allows homeowners make their properties more energy efficient.

How can I participate?

There are two ways to participate—become a Basic or an Advanced Upgrade Participating Contractor.

Basic Upgrade Participating Contractors must:

- Attend a two-hour orientation about the program
- Attend a free, three-day training about building science and the Basic Upgrade package elements
- Meet participating utility requirements found online at: *www.EnergyUpgradeCA.org/statewide_for_contractors*

Advanced Upgrade Participating Contractors must:

- Attend a two-hour orientation about the program
- Have Building Performance Institute (BPI) accreditation, or at a minimum employ one staff member that holds a BPI Building Analyst (BA) certification
- Meet participating utility requirements found online at: *www.EnergyUpgradeCA.org/statewide_for_contractors*

▸ www.EnergyUpgradeCA.org

Reduce energy. Save money. Create jobs.

participating contractor fact sheet

PRINT ADVERTISING EXAMPLES: NEWSPAPER ADS

newspaper ad with county co-branding

chinese language newspaper ad with county co-branding

PRINT ADVERTISING EXAMPLE: BUS EXTERIOR

ONLINE ADVERTISING EXAMPLES: WEBSITE BANNERS

skyscraper, rectangle and leaderboard ads

ONLINE ADVERTISING EXAMPLE: PANDORA ADS

pandora ads shown on desktop (above) and mobile screen (right)

PROMOTIONAL ITEM EXAMPLES

The Energy Upgrade logo may be applied to promotional items and leisure wear following the guidelines set forth in this style guide. Note: Special art may have to be created in cases such as embroidery and other unique processes.

The color of the logo cannot be changed to match the color of any garment trim or piping (unless it is one of the approved colors as shown in the color palette of this guide).

notepads

pens

refrigerator magnets

t-shirt

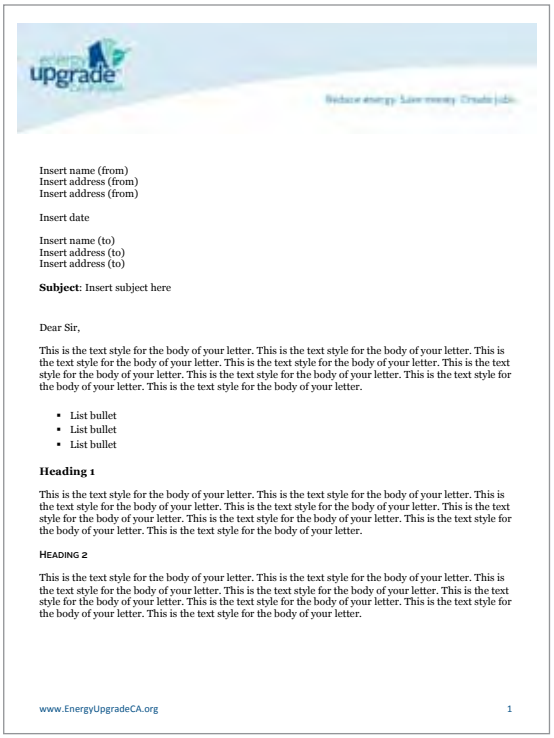
tote bag

EVENT MATERIAL EXAMPLES

banners

event tent with county co-branding

TEMPLATE EXAMPLES: LETTERHEAD AND POSTER



Insert name (from)
Insert address (from)
Insert address (from)

Insert date

Insert name (to)
Insert address (to)
Insert address (to)

Subject: Insert subject here

Dear Sir,

This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter.

- List bullet
- List bullet
- List bullet

Heading 1

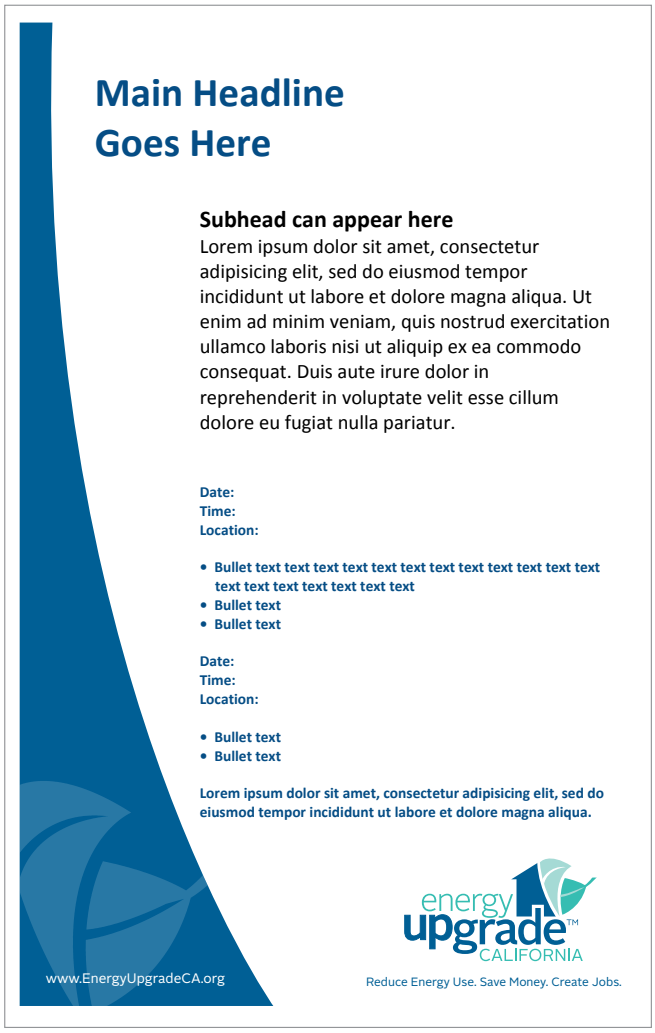
This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter.

Heading 2

This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter. This is the text style for the body of your letter.

www.EnergyUpgradeCA.org 1

letterhead



Main Headline Goes Here

Subhead can appear here
Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

Date:
Time:
Location:

- **Bullet text text text text text text text text text text text text text text text text text text text**
- **Bullet text**
- **Bullet text**

Date:
Time:
Location:

- **Bullet text**
- **Bullet text**

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

www.EnergyUpgradeCA.org

Reduce Energy Use. Save Money. Create Jobs.

poster

TEMPLATE EXAMPLE: POWERPOINT

5 | appendices

APPENDIX A
Cities and Counties
Co-Branding with Energy Upgrade California

As participating cities and counties, you are all valuable program partners and play a vital role in marketing Energy Upgrade California™ (Energy Upgrade) and generating program awareness locally.

Using the Energy Upgrade brand allows cities and counties to benefit from the branded marketing efforts all across the state.

To capitalize on this co-branding opportunity, Energy Upgrade offers two ways for cities and counties to market themselves using the Energy Upgrade brand.

1 Use pre-designed Energy Upgrade marketing materials.

Energy Upgrade has already designed several marketing pieces such as informational brochures, posters and PowerPoint templates.

Use these official program materials to promote the program. Download them as-is from the Resource Library and print them on your printer.

Consider this option if...

- **You want a cost-effective way to produce your marketing materials.** With this option, you do not need to direct resources toward copy-writing and design.
- **You need a quick turnaround time for production.** Print these on your office printer or send to your local printer.

2 Design your own Energy Upgrade marketing materials with authorized use of the Energy Upgrade brand assets.

Customize your message for your local audience while maintaining the Energy Upgrade look and feel.

Download the Brand Usage and Graphic Standards Guide and brand asset package from the Resource Library. With these, your designer will have what he/she needs to create branded Energy Upgrade marketing materials for your city or county.

Consider this option if...

- **You have city- or county-specific incentives** or simply want to customize your marketing message. This option allows you to write your own copy.
- **You have the resources to design your own Energy Upgrade-branded materials** while adhering to the established brand guidelines.

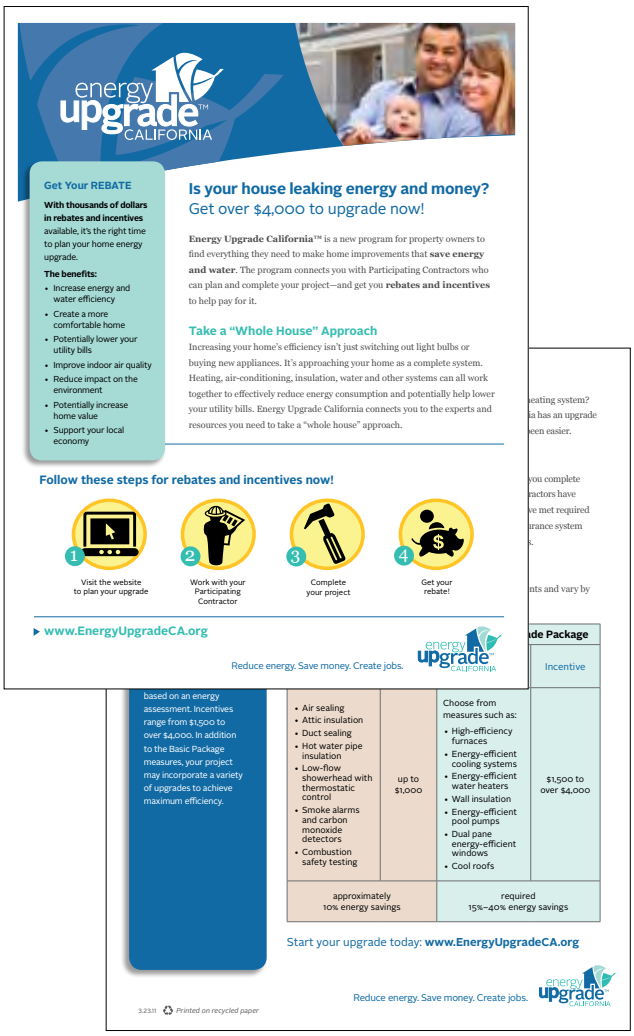
1 **Use pre-designed Energy Upgrade marketing materials.**

Where to access Energy Upgrade designs

As a participating city or county, you have access (with your assigned username and password) to the Energy Upgrade Resource Library—**www.EnergyUpgradeCA.org/Resources**.

From the Resource Library, you can download original Energy Upgrade marketing materials and print them on your printer. Designs include an informational brochure and fact sheet. See Resource Library for complete list.

tri-fold informational brochure, front and back



fact sheet, front and back

2 **Design your own Energy Upgrade marketing materials with authorized use of the Energy Upgrade brand assets.**

Examples of Energy Upgrade designed marketing materials

The preferred placement of your city or county logo is always on the back page of any collateral, with the city or county name underneath the Energy Upgrade logo on the front (see page 24 of the brand guidelines).

door hanger, front and back

email blast

flyer/poster

Where to access the Energy Upgrade brand guidelines and branding assets

As a participating city or county, you have access (with your assigned username and password) to the Energy Upgrade brand guidelines and brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Co-branding for existing county programs

In some cases, counties created their own home energy efficiency programs and associated brands before the Energy Upgrade brand was established.

These pre-Energy Upgrade programs have invested brand equity and program recognition in their existing brands—and now will find it advantageous to connect with and leverage marketing activities of the statewide Energy Upgrade brand.

The guidelines below specifically apply to program brands that were established before the Energy Upgrade brand was launched. In all other cases, county programs are directed to solely use the Energy Upgrade brand to promote their programs. This will limit multi-program confusion for customers and provide an opportunity to share in coordinated Energy Upgrade marketing efforts across the state.

The preferred placement of the Energy Upgrade logo is bottom right corner. In the rare instance that the Energy Upgrade logo is to be placed with multiple partner logos, placement position preference still applies, and clearspace requirements must be adhered to as well. Size of the logo is never to be smaller than logos that appear next to it.

APPENDIX B
Participating Contractors
Co-Branding with Energy Upgrade California

As an Energy Upgrade California™ Participating Contractor, you provide energy upgrade services to property owners and play a vital role in marketing this program and recruiting participants.

To encourage and facilitate marketing partnerships with contractors across the state, Energy Upgrade California (Energy Upgrade) offers two ways for Participating Contractors to market themselves using the Energy Upgrade brand.*

1 Use your own brand and get authorized use of the Energy Upgrade logo

Write your own copy. Design your marketing materials with your own look and feel.

Identify yourself as a Participating Contractor by **placing the Energy Upgrade Participating Contractor logo** on your marketing materials.

Consider this option if...

- **You want to create and control** how your company is described and promoted. This option allows you to write your own copy to promote your business.
- **You already have a consistent look and feel** for your marketing materials. This option allows you to maintain your own visual design and leverage the brand recognition and awareness you already have.
- **You have the resources to write and design** your own marketing materials.

2 Use Energy Upgrade designs and include your logo

Use the Energy Upgrade program descriptions and visual design to generate leads. Select from a library of Energy Upgrade-branded marketing materials.

Identify yourself as a Participating Contractor by **placing your logo** on these official Energy Upgrade marketing materials.

Consider this option if...

- **You want a cost-effective way to produce your marketing materials**. With this option, you do not need to direct resources to copywriting and design. Print these on your office printer or send to your local printer.
- **You want to capitalize on the prominence of the Energy Upgrade brand** by connecting your company more closely with the program and leveraging its statewide marketing effort and advertising campaigns.

** Note: The Energy Upgrade visual identity consists of several brand elements—including the logo, sail and leaf graphics, specified colors and fonts. Any use of elements other than the logos shown in this document needs to be authorized in writing by the Energy Upgrade program.*

1 Use your own brand and get authorized use of the Energy Upgrade logo

Writing and designing your own marketing materials is a great opportunity to promote your business and your "Participating Contractor" status, and to secure energy-efficiency improvement projects through Energy Upgrade. With this option, keep your established look and feel or develop something new and proprietary to attract potential customers—while getting the added recognition and credibility that comes from authorized use of the official Energy Upgrade Participating Contractor logo.

There are four Energy Upgrade Participating Contractor logos available:

horizontal option, full color logo on a white background

wordmark in blue

horizontal option, black and white logo on a white background

wordmark in black

In cases where the marketing piece being produced is landscape or horizontal in orientation, it is advisable to choose the horizontal logo option—either in full-color or black and white, depending on the type of printing. In cases where the marketing piece is portrait or vertical in orientation or when the Energy Upgrade Participating Contractor logo will be used at a small size, the wordmark in either solid blue or black is preferred. Please note: The wordmark logo should be no smaller than one inch in width.

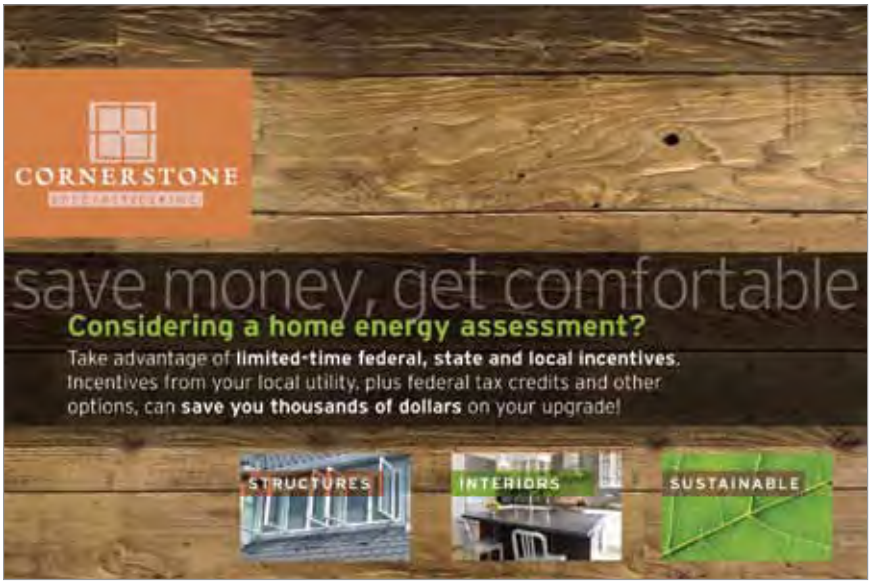
Where to access Energy Upgrade logos

As a Participating Contractor, you have access (with username and password) to these logos, available for download from the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Co-branded marketing material examples

The following marketing material examples show how you can co-brand with Energy Upgrade California while maintaining your established look and feel. Please use these examples as a guide for logo placement and use.

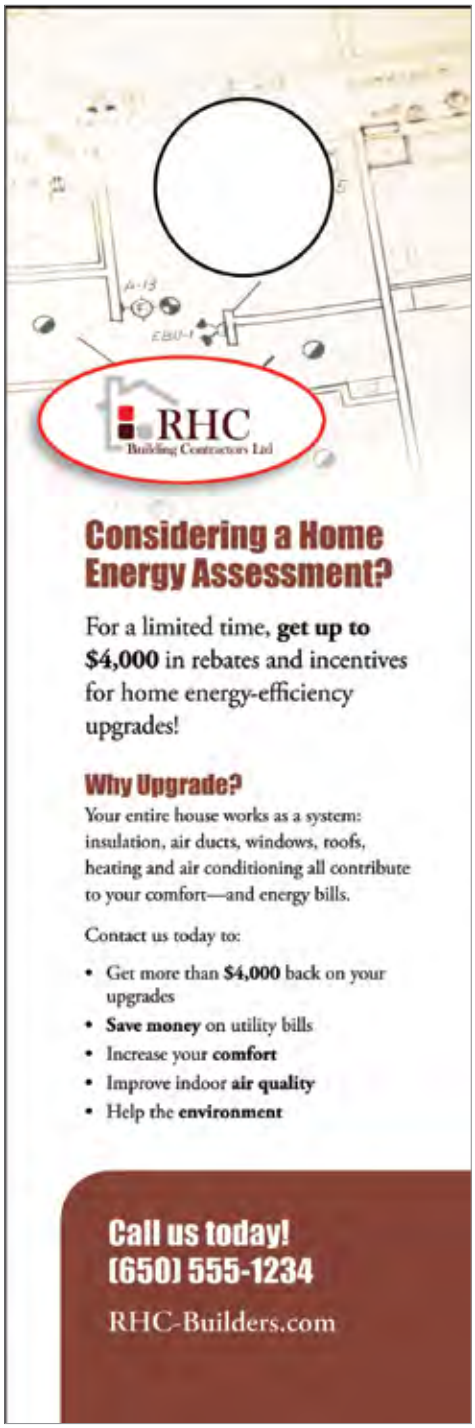
Postcard



front

back

Door hanger



front

back

Newspaper ad

2 Use Energy Upgrade California designs and include your logo

You don't need a big budget to market your business as an Energy Upgrade Participating Contractor. Energy Upgrade has made a number of its branded marketing materials available for use by Participating Contractors. Place your logo and contact information on these pre-designed materials and distribute them widely in your service area and to your clientele. Not only is this option cost-effective and easy to turnaround, but you'll be associated with all the Energy Upgrade promotional efforts across the state, including advertising.

Where to access Energy Upgrade designs

As a Participating Contractor, you have access (with username and password) to materials in the Energy Upgrade Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Example of Energy Upgrade designed brochure

front

back

APPENDIX C
Multifamily Program
Branding with Energy Upgrade California

The Energy Upgrade California™ Multifamily Program offers technical assistance and incentives to encourage multifamily property owners, operators and managers to make energy upgrades to their properties.

To appeal to this audience and promote positive awareness of the Multifamily Program, Energy Upgrade California (Energy Upgrade) implemented a consistent and identifiable extension of the existing Energy Upgrade brand—distinct from the single-family (residential) program.

Multifamily Program branding distinguishes itself through use of a unique bright gold color applied to the sail element, buffered by a secondary arcing sail in blue. Additional colors have been added to the palette to accent collateral materials.

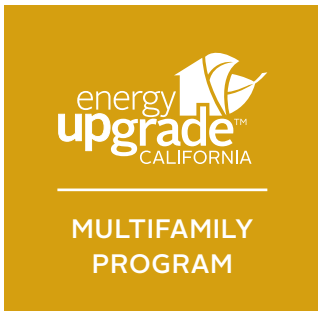
This appendix highlights key elements of the identity developed specifically for the Multifamily Program including required logos, color palette, illustration style and photography resources. These elements complement the Energy Upgrade graphic standards; they do not replace them.

LOGO VARIATIONS

These logo variations are designed for multifamily properties. The program name is placed underneath the Energy Upgrade logo as shown below. See page 20 for Energy Upgrade logo guidelines.

Multifamily logos are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

Preferred: White against Pantone® 1245 background



Acceptable: One-color against white background

Acceptable: White against Pantone® 7691

ALTERNATE COLOR PALETTE

An alternate Pantone® color palette creates a distinctive look for Multifamily Program materials as part of the Energy Upgrade brand. These colors complement the primary color palette preferred for use in Energy Upgrade collateral (see page 33).

Process CMYK color builds of the Pantone colors are acceptable for print. RGB color builds may be used for monitor viewing. CMYK and RGB values are listed below.

Existing Energy Upgrade palette colors for use in Multifamily materials

Pantone® 7691 *Pantone® 1788* *Pantone® 3265*

Additional palette colors for use in Multifamily materials

Pantone® 1245 *Pantone® 525* *Pantone® 336* *Cool Gray 10*

	C	M	Y	K
7691	91	58	13	0
1788	0	83	88	0
3265	70	0	37	0
1245	0	28	100	18
525	84	100	45	5
336	100	0	67	47
10	0	2	0	60

	R	G	B
7691	18	105	162
1788	240	81	52
3265	39	189	178
1245	213	159	15
525	83	46	99
336	0	106	81
10	128	127	131

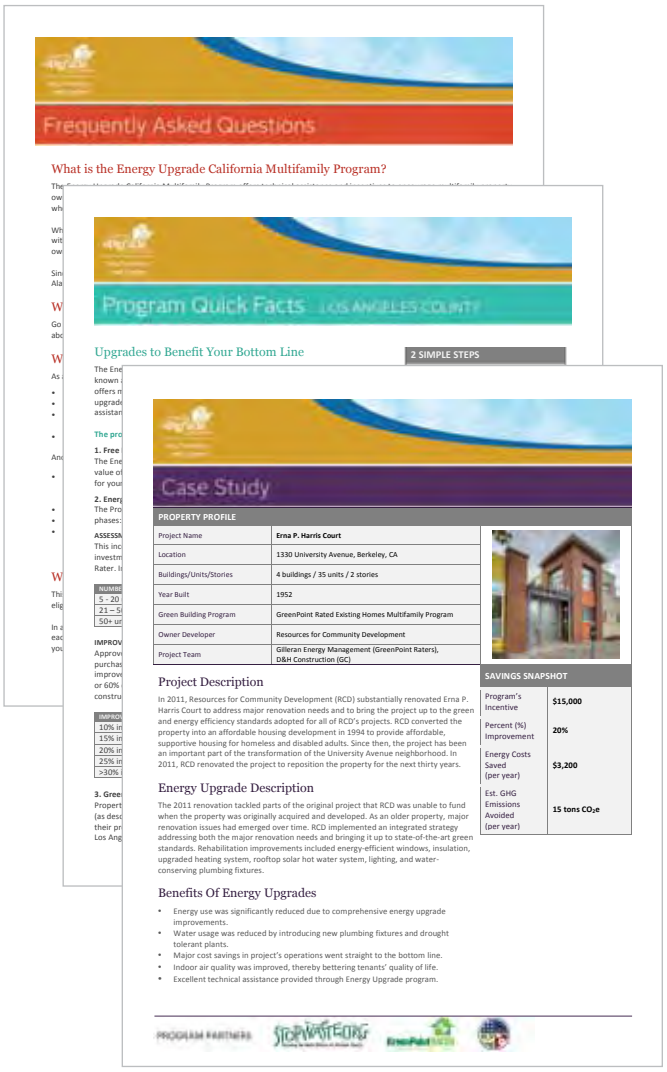
ILLUSTRATION

Sample icon illustrations are included in the Energy Upgrade brand assets package available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**.

sample icon illustrations

APPLICATIONS

brochure



case study, fact sheet and frequently asked questions

APPENDIX D
Single-Family Photography Library
Usage and Standards

As Participating Contractors and Raters, city and county staff, and program partners and affiliates, you play a vital role in promoting the Energy Upgrade California™ (Energy Upgrade) program and generating homeowner awareness. To support your marketing efforts, pre-approved, professional photographs are available for Energy Upgrade partners.

Using a consistent photography style that meets Energy Upgrade's guidelines builds a recognizable brand identity and supports the overall marketing message. It can also increase homeowner awareness of the brand and their confidence in the program.

This collection of photographs captures the technical aspects of the measures, diagnostic testing and improvements associated with the Energy Upgrade program. Images include ducts and insulation, blower door and combustion safety testing, homeowner-contractor consultations and more.

Access

Photographs are available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**. To access the library, use your assigned user name and password. (If you are an eligible user and have not received access to the library, please email library@energyupgradeca.org.) The collection is located in the "Photography" folder. For a quick thumbnail reference of the images, see "Single-family photography at-a-glance" on the following pages.

Non-stock-sourced photographs (most of those in this library) are available as 300 dpi JPEG files. This resolution is ideal for printed materials, such as advertisements, brochures and banners. For digital pieces, such as online advertisements and e-newsletters, down-size the files to 72 dpi.

Usage and rights

Images in the Energy Upgrade photography library may be used by any Participating Contractor or Rater, state agency, city or county, or independent- or municipal-owned utility for the promotion of Energy Upgrade. Images can be reproduced in any medium for purposes of advertising, trade, display, exhibition or editorial use. Any use of this photography for purposes other than promotion of the Energy Upgrade program must be authorized in writing by Energy Upgrade California.

Some images in this collection are sourced from professional stock photography libraries. Thumbnail-sized images (with accompanying stock company watermark) are available for comping in the "Photography" folder. To legally use these images in any printed materials, they must be purchased from the stock company. If an image is stock-sourced, its website address and corresponding image numbers are provided in its catalog description.

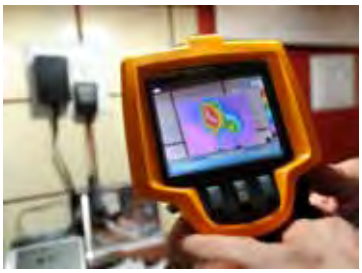
Single-Family photography at-a-glance

	Image Number	Description
COMBUSTION SAFETY TESTING		
	001_ XL_168	Combustion safety test. Contractor using a monoxor to conduct combustion safety test on water heater.
	002_ XL_140a	Combustion safety test. Close-up of diagnostic smoke pencil test on a water heater diverter.
	003_ XO_277a	Combustion safety test. Contractor performing combustion safety test with monoxor on furnace.
	004_ XO_253a	Combustion safety test. Furnace with burners exposed.
	005_ XO_303a	Combustion safety test. Contractor performing combustion safety test on gas stove/oven.

Single-Family photography at-a-glance

	Image Number	Description
COMBUSTION SAFETY TESTING (cont'd)		
	006_ XO_282a	Combustion safety test. Close-up of combustion safety test performed on gas stove/oven exhaust. High carbon monoxide reading is shown.
	007_ XO_283a	Combustion safety test. Close-up of monoxor during combustion safety test on stove. Carbon monoxide reading is dropping as oven approaches steady state.
BLOWER DOOR TESTING		
	008_ XO_113a	Blower door test. Contractor educating homeowner in front of blower door.
	009_ XO_119a	Blower door test. Contractor educating homeowner in front of blower door.
	010_ XO_121a	Blower door test. Contractor operating blower door, adjusting manometer, fan exposed.

Single-Family photography at-a-glance

	Image Number	Description
BLOWER DOOR TESTING (cont'd)		
	011_ XO_098a	Blower door test. Blower door equipment in place, fan covered, with manometer.
	012_ XO_103a	Blower door test. Close-up of manometer attached to blower door frame with hoses in place.
INFRARED IMAGING		
	013_ XO_190a	Infrared imaging. Infrared camera in homeowner's hands. Contractor points to and explains air leakage and unnecessary energy loss.
	014_ XO_218a	Infrared imaging. Through window, homeowner with thermal imaging camera, contractor pointing out energy inefficiencies around window frame.
	015_ XO_194a	Infrared imaging. Discovering phantom energy use among plugged-in adapters using thermal imaging camera.

Single-Family photography at-a-glance

	Image Number	Description
INFRARED IMAGING (cont'd)		
	016_ XO_138a	Infrared imaging. Image of infrared camera reading of floor vent. Shows cold air coming in from uninsulated duct in background.
	017_ XO_361a	Infrared imaging. Infrared camera showing cold air transmitting through window frame, but not through window.
DUCT INSPECTION		
	018_ XL_187	Duct inspection in attic. Contractor with proper protection equipment positioning an attic duct.
	019_ XL_202a	Duct inspection in attic. Contractor with proper protection equipment stepping up into an uninsulated attic.
	020_ XL_213a	Duct inspection in attic. Contractor stepping up into an uninsulated attic.

Single-Family photography at-a-glance

	Image Number	Description
DUCT INSPECTION (cont'd)		
	021_ XL_231a	Duct inspection in attic. View looking up into attic, contractor with proper protection equipment inspecting uninsulated attic.
	022_ XL_243a	Duct inspection in attic. Venting through ceiling with massive thermal bypass through attic floor. No fireblock in place. No air sealing completed. These are the things you want to fix!
	023_ XL_276a	Duct inspection in crawlspace. Contractor in crawlspace preparing to attach duct support and improve duct insulation.
	024_ XL_282a	Duct inspection in crawlspace. Contractor in crawlspace with flashlight to inspect duct strapping.
	025_ XL_002a	Duct inspection in crawlspace. Close-up of insulated flex duct in crawlspace.

Single-Family photography at-a-glance

	Image Number	Description
DUCT BLASTER TESTING		
	026_ XL_091a	Duct blaster test. Close-up of manometer with duct blaster and testing fog in background.
	027_ XL_096a	Duct blaster test. Manometer with duct blaster and testing fog in background.
	028_ XO_326a	Duct blaster test. Duct blaster attached to ceiling air return, contractor holding manometer in foreground.
	029_ XO_332	Duct blaster test. Duct blaster attached to ceiling air return, contractor holding manometer in foreground.
INSULATION		
	030_NB_ATTIC	Insulated attic with duct.

Single-Family photography at-a-glance

	Image Number	Description
INSULATION (cont'd)		
	031_ IS_12437193	Contractor spraying insulation into wall. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **iStock.com**, image number **12437193**.
	032_PC_93125249	Contractor insulating walls with batted insulation. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **93125249**.
	033_PC_E000349	Contractor insulating walls with batted insulation. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **E000349**.
	034_PC104102877	Duct inspection in crawlspace. Contractor Contractor insulating hot water pipes. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **104102877**.
EXTERIORS		
	035_PC_98703180	Exterior of second-story of California home. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **98703180**.

Single-Family photography at-a-glance

	Image Number	Description
EXTERIORS (cont'd)		
	036_PC_87770178	Exterior of second-story window of California home. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **87770178**.
	037_SS_6094540	Exterior of two-story California home. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Shutterstock.com**, image number **6094540**.
OTHER		
	038_XO_003a	Product shot of exterior installation of tankless water heater.
	039_IS_11803266	Programmable thermostat. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **iStock.com**, image number **11803266**.
	040_PC_105756352	Home with solar panels on roof. Note: This image is sourced from a professional stock photography library. A thumbnail-sized image is available for comp-ing only. To legally use this image in publication, it must be purchased from **Photos.com**, image number **105756352**.

APPENDIX E

Multifamily Photography Library

Usage and Standards

As Participating Contractors and Raters, city and county staff, and program partners and affiliates, you play a vital role in promoting the Energy Upgrade California™ Multifamily Program and generating awareness among property owners. To support your marketing efforts, pre-approved, professional photographs are available for Energy Upgrade partners.

Using a consistent photography style that meets the Energy Upgrade California (Energy Upgrade) guidelines, builds a recognizable brand identity and supports the overall marketing message. It can also increase property owner awareness of the brand and their confidence in the program.

This collection of photographs captures the measures and improvements associated with the Multifamily Program. Images include exteriors, HVAC, plumbing fixtures, solar panels, landscaping and more.

Access

Photographs are available on the Resource Library—**www.EnergyUpgradeCA.org/Resources**. To access the library, use your assigned user name and password. (If you are an eligible user and have not received access to the library, please email library@energyupgradeca.org.) The collection is located in the "Multifamily/Photography" folder. For a quick thumbnail reference of the images, see "Multifamily photography at-a-glance" on the following pages.

Photographs are available as 300 dpi JPEG files. This resolution is ideal for printed materials, such as advertisements, brochures and banners. For digital pieces, such as online advertisements and e-newsletters, down-size the files to 72 dpi.

Usage and rights

Images in the Energy Upgrade photography library may be used by any Participating Contractor or Rater, state agency, city or county, or independent- or municipal-owned utility for the promotion of Energy Upgrade. Images can be reproduced in any medium for purposes of advertising, trade, display, exhibition or editorial use. Any use of this photography for purposes other than the Energy Upgrade promotion of the program must be authorized in writing by Energy Upgrade California.

Multifamily photography at-a-glance

	Image Number	Description
EXTERIORS		
	MF001_ TL_123a	Exterior of multi-building multifamily property.
	MF002_ TL_137a	Exterior of multi-building multifamily property, angled view.
	MF003_ YD_280_rt	Exterior of modern, single building, multi-story multifamily property, street view.
	MF004_ YD_172	Exterior of modern, single building, multi-story multifamily property, courtyard view.
	MF005_ YD_350	Exterior of single building, multi-story multifamily property.

Multifamily photography at-a-glance

	Image Number	Description
EXTERIORS (cont'd)		
	MF006_ YD_348a	Exterior of single building, multi-story multifamily property, street view.
HVAC		
	MF007_ TL_022a	Energy-efficient air conditioning wall unit installed in apartment.
	MF008_ TL_039a	Energy-efficient air conditioning wall unit installed in apartment. Shown below large window.
	MF009_ TL_046	Control panel on energy-efficient air conditioning wall unit installed in apartment. Set to an energy-saving 70 degrees fahrenheit.
	MF010_ YD_119a_rt	Energy-efficient wall-mounted heater with window.

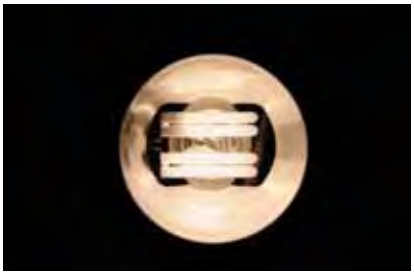
Multifamily photography at-a-glance

	Image Number	Description
HVAC (cont'd)		
	MF011_ YD_130	Side view of energy-efficient wall-mounted heater with dial control.
	MF012_ YD_450	Energy-efficient heating units in multifamily building boiler room.
	MF013_ YD_263a	High-efficiency water heaters with insulated hot water pipes.
	MF014_ YD_255	View inside boiler room of high-efficiency water heaters with insulated hot water pipes.
	MF015_ YD_200a	Close-up of high-efficiency water heater.

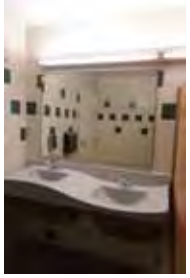
Multifamily photography at-a-glance

	Image Number	Description
HVAC (cont'd)		
	MF016_YD_232	View of insulated hot water pipes in multifamily building boiler room.
	MF017_ YD_223a	Close-up of insulated hot water pipes.
	MF018_ YD_372	An energy-efficient air conditioning unit for multifamily building.
LIGHTING AND WINDOWS		
	MF019_ YD_141a	Energy-efficient lighting, ceiling fixture.
	MF020_ YD_304	Energy-efficient lighting, ceiling fixtures in common space.

Multifamily photography at-a-glance

	Image Number	Description
LIGHTING AND WINDOWS (cont'd)		
	MF021_ YD_293	Close-up on canned light fixture with energy-efficient bulb.
	MF022_ YD_166a	Energy-efficient double-paned windows, hinged.
	MF023_ TL_094a	Energy-efficient double-paned windows, sliding.
	MF024_ TL_054	Close-up of energy-efficient double-paned windows.
PLUMBING FIXTURES AND APPLIANCES		
	MF025_ TL_068a	Water-efficient toilet.

Multifamily photography at-a-glance

	Image Number	Description
PLUMBING FIXTURES AND APPLIANCES (cont'd)		
	MF026_ TL_074a	Close-up of water-efficient toilet.
	MF027_ YD_410	Close-up of water-efficient dual-flush toilet.
	MF028_ YD_391	Water-efficient, sensor-controlled faucets and recycled-material countertop-sink. Installation is ADA-compliant, universal design.
	MF029_YD_404a	Water-efficient, sensor-controlled faucet in use.
	MF030_ YD_092a_rt	Water-efficient shower fixture.

Multifamily photography at-a-glance

	Image Number	Description
PLUMBING FIXTURES AND APPLIANCES (cont'd)		
	MF031_ YD_081a	Close-up of water-efficient, low-flow showerhead.
	MF032_ YD_181a	Energy-efficient common-use laundry machines.
COOL ROOF AND SOLAR PANELS		
	MF033_ YD_041a	Cool roof application.
	MF034_ YD_056a	Close-up of cool roof tiles.
	MF035_ YD_003	Wide angle shot of cool roof with solar panels.

Multifamily photography at-a-glance

	Image Number	Description
COOL ROOF AND SOLAR PANELS (cont'd)		
	MF036_ YD_005	Solar panels.
	MF037_ YD_330a	Solar panels on roof at sunset.
LANDSCAPING		
	MF038_TL_234a	Close-up of drought-tolerant plant (wispy).
	MF039_ TL_195	Close-up of drought-tolerant plant (stiff leaves).
	MF040_ TL_225	Wide angle shot of drought-tolerant, bay-friendly landscaping.

PROG
MAN
PROG/MAN
SET

PREPARED BY MIG, INC.

MARCH 2012

WWW.MIGCOM.COM

energy upgrade™ CALIFORNIA

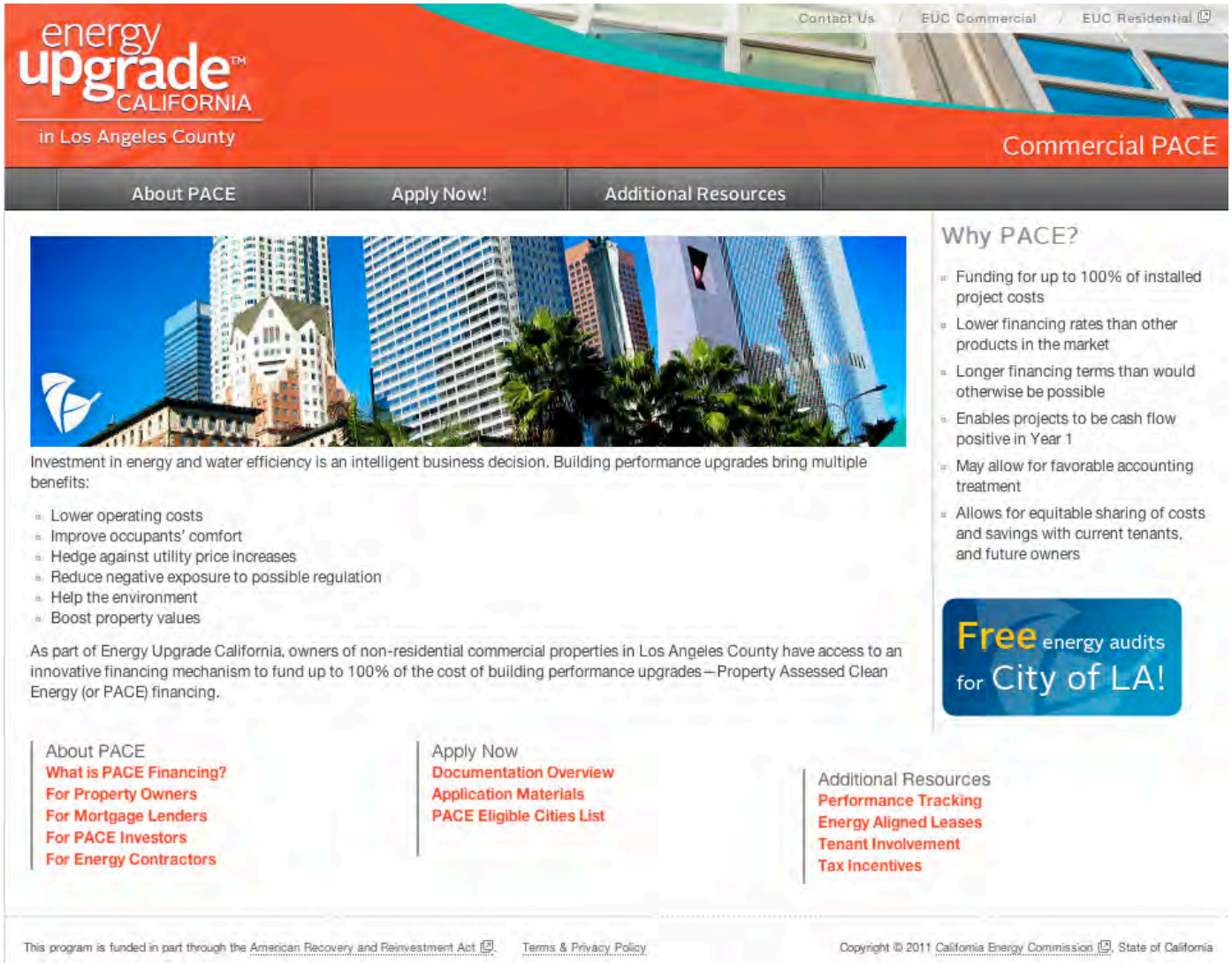
Contract # 400-10-004
Local Government Commission

Brand Usage Guidelines

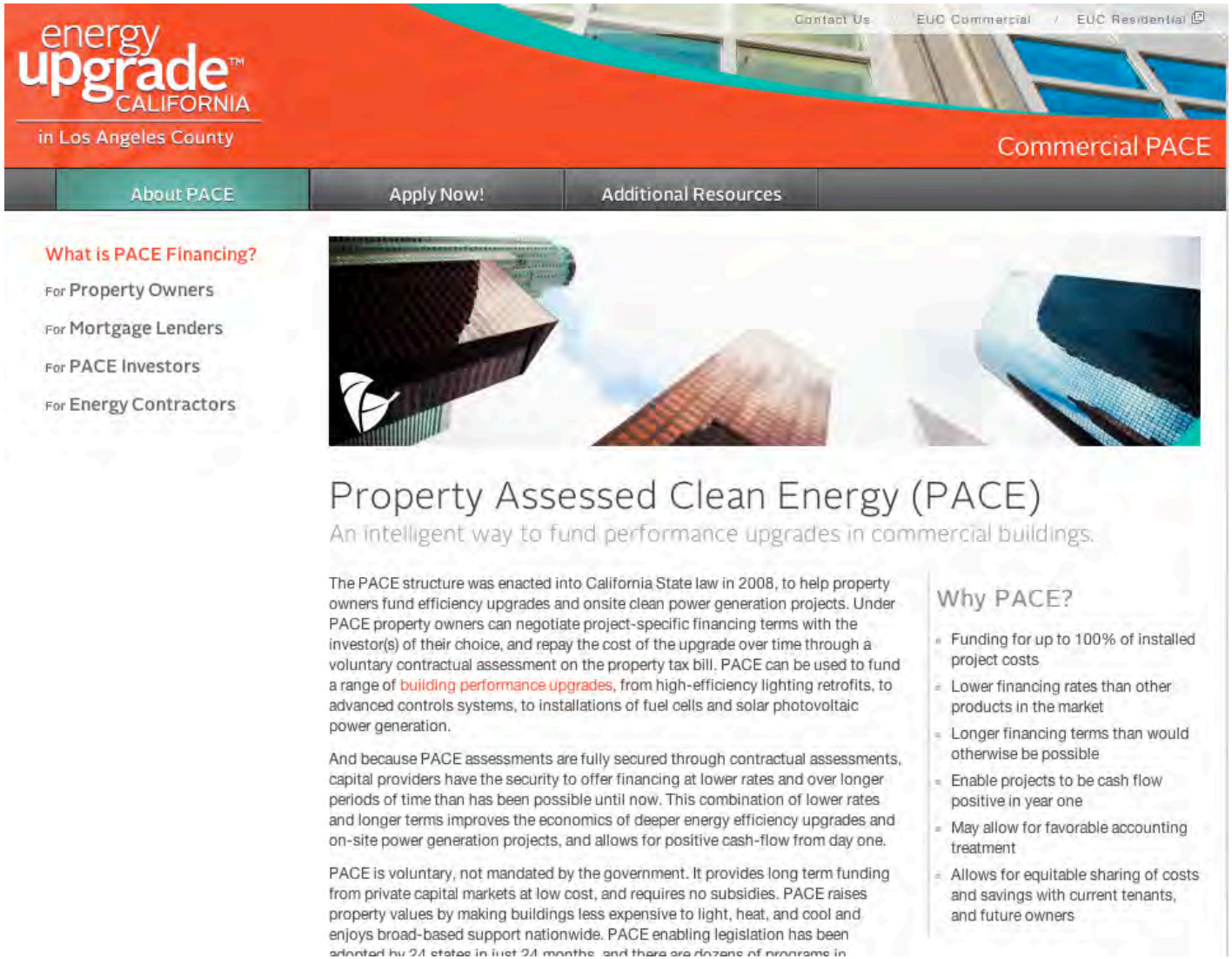
Commercial PACE

https://commercial-pace.energyupgradeca.org/

https://commercial-pace.energyupgradeca.org/county/los_angeles/overview



https://commercial-pace.energyupgradeca.org/county/los_angeles/commercial_about



https://commercial-pace.energyupgradeca.org/county/los_angeles/application_overview

energy upgrade™ CALIFORNIA
in Los Angeles County

Contact Us / EUC Commercial / EUC Residential

Commercial PACE

About PACE | Apply Now! | Additional Resources

Documentation Overview

Application Materials

Take the Next Step

Future-proof your portfolio—use PACE to take building performance to the next level.

PACE works much the same way as other project financing options.

Step 1: Review what types of upgrades are financeable through PACE. What projects would you like to do, but have not been able to find funding for? How can you take it to the next level?

Step 2: Review the eligibility criteria to make sure your property is eligible for PACE. Most non-residential properties in LA County that are current on property taxes will qualify. Review the application materials to see what is involved. Feel free to contact us with any questions.

Step 3: Work with a qualified engineer to define a Scope of Work, and build the business case for the project. You can work with your own in-house engineers, or with an independent firm.

Step 4: Contact your mortgage lender to discuss the project. Show them the business case, and ask for their consent to fund the project using PACE. The Clinton Climate Initiative is available as a pro bono advisor in this process—feel free to reach out to them.

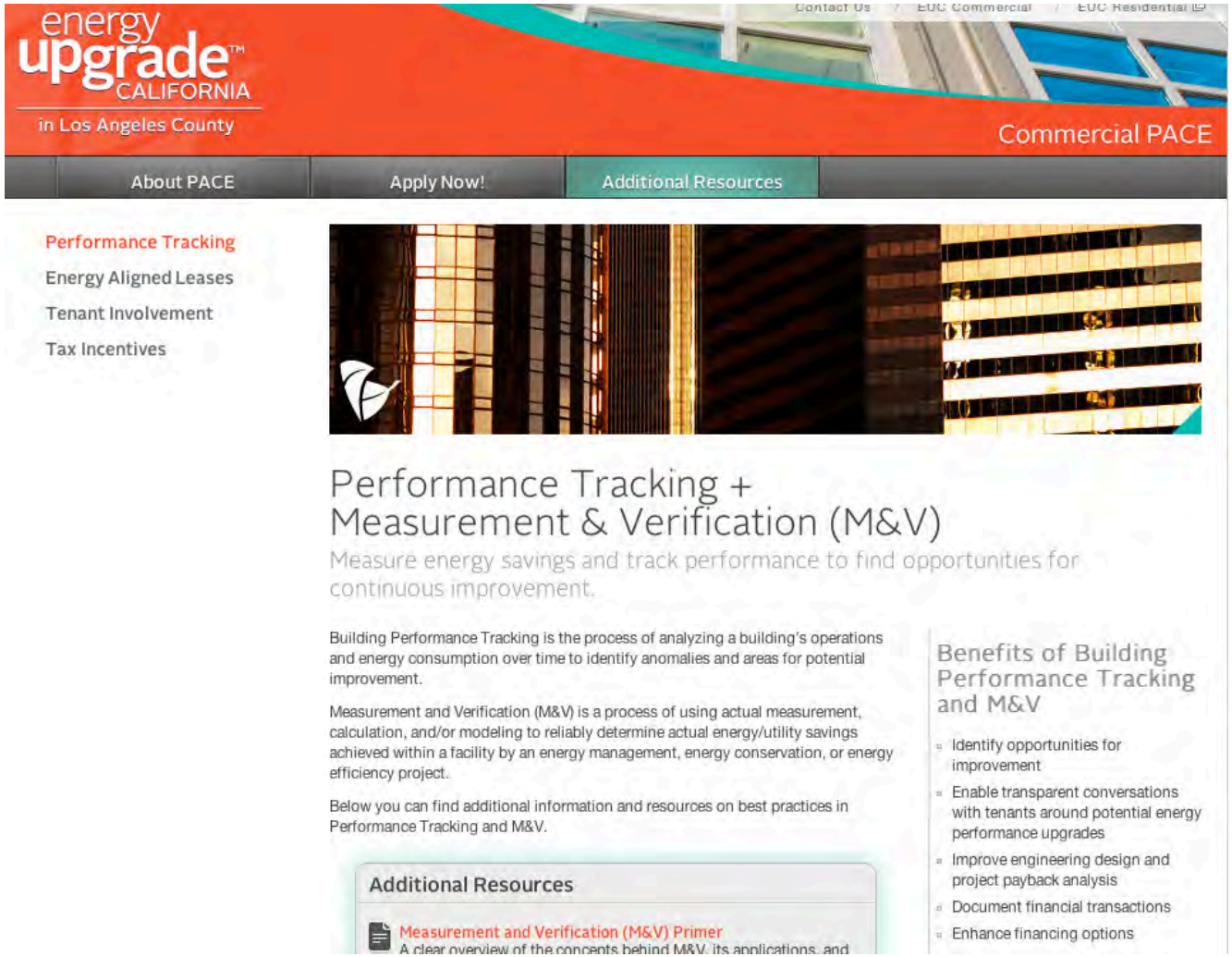
Step 5: Reach out to interested PACE investors to negotiate terms that make sense for your project. Your mortgage lender may well want to do the deal itself. LA County is not involved in these negotiations—LA County's role is to secure repayment with the PACE assessment.

Step 6: Complete the application materials and submit through this website. You will receive an email confirming that the Application is complete, and laying out next steps.

Step 7: Once approved, work with LA County to execute the necessary documents.

Step 8: Close financing and implement your performance upgrade!

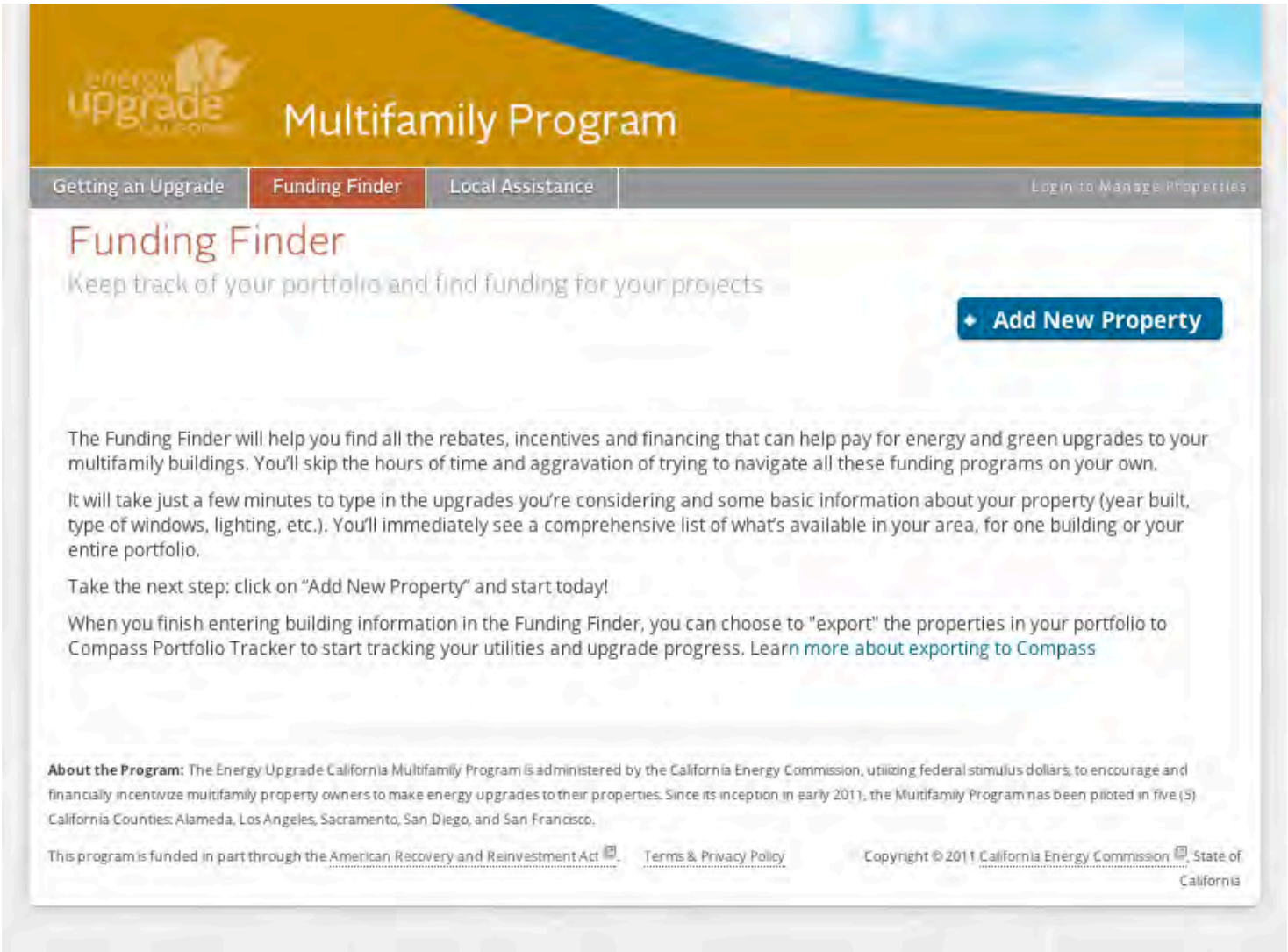
https://commercial-pace.energyupgradeca.org/county/los_angeles/performance



Multifamily Portal

https://multifamily.energyupgradeca.org/

https://multifamily.energyupgradeca.org/properties



Multifamily Program

Getting an Upgrade | Funding Finder | Local Assistance | Login to Manage Properties

Funding Finder

Keep track of your portfolio and find funding for your projects

Add New Property

The Funding Finder will help you find all the rebates, incentives and financing that can help pay for energy and green upgrades to your multifamily buildings. You'll skip the hours of time and aggravation of trying to navigate all these funding programs on your own.

It will take just a few minutes to type in the upgrades you're considering and some basic information about your property (year built, type of windows, lighting, etc.). You'll immediately see a comprehensive list of what's available in your area, for one building or your entire portfolio.

Take the next step: click on "Add New Property" and start today!

When you finish entering building information in the Funding Finder, you can choose to "export" the properties in your portfolio to Compass Portfolio Tracker to start tracking your utilities and upgrade progress. Learn more about exporting to Compass

About the Program: The Energy Upgrade California Multifamily Program is administered by the California Energy Commission, utilizing federal stimulus dollars, to encourage and financially incentivize multifamily property owners to make energy upgrades to their properties. Since its inception in early 2011, the Multifamily Program has been piloted in five (5) California Counties: Alameda, Los Angeles, Sacramento, San Diego, and San Francisco.

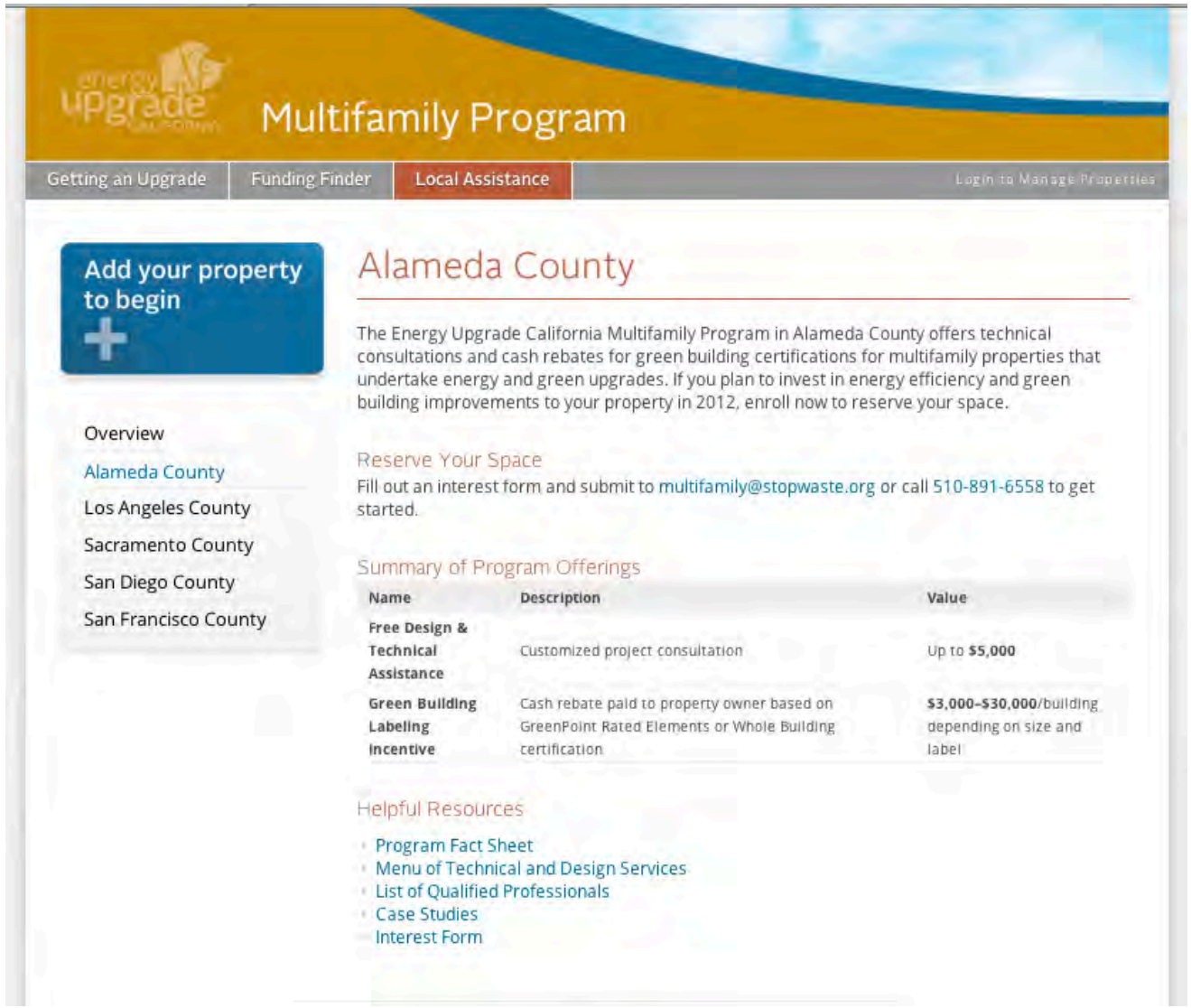
This program is funded in part through the American Recovery and Reinvestment Act. Terms & Privacy Policy

Copyright © 2011 California Energy Commission, State of California

https://multifamily.energyupgradeca.org/properties/100/incentives

https://multifamily.energyupgradeca.org/local

https://multifamily.energyupgradeca.org/local#alameda



energy upgrade CALIFORNIA

Multifamily Program

Getting an Upgrade | Funding Finder | Local Assistance | Login to Manage Properties

Add your property to begin +

Overview
Alameda County
Los Angeles County
Sacramento County
San Diego County
San Francisco County

Alameda County

The Energy Upgrade California Multifamily Program in Alameda County offers technical consultations and cash rebates for green building certifications for multifamily properties that undertake energy and green upgrades. If you plan to invest in energy efficiency and green building improvements to your property in 2012, enroll now to reserve your space.

Reserve Your Space

Fill out an interest form and submit to multifamily@stopwaste.org or call 510-891-6558 to get started.

Summary of Program Offerings

Name	Description	Value
Free Design & Technical Assistance	Customized project consultation	Up to $5,000
Green Building Labeling Incentive	Cash rebate paid to property owner based on GreenPoint Rated Elements or Whole Building certification	$3,000–$30,000/building depending on size and label

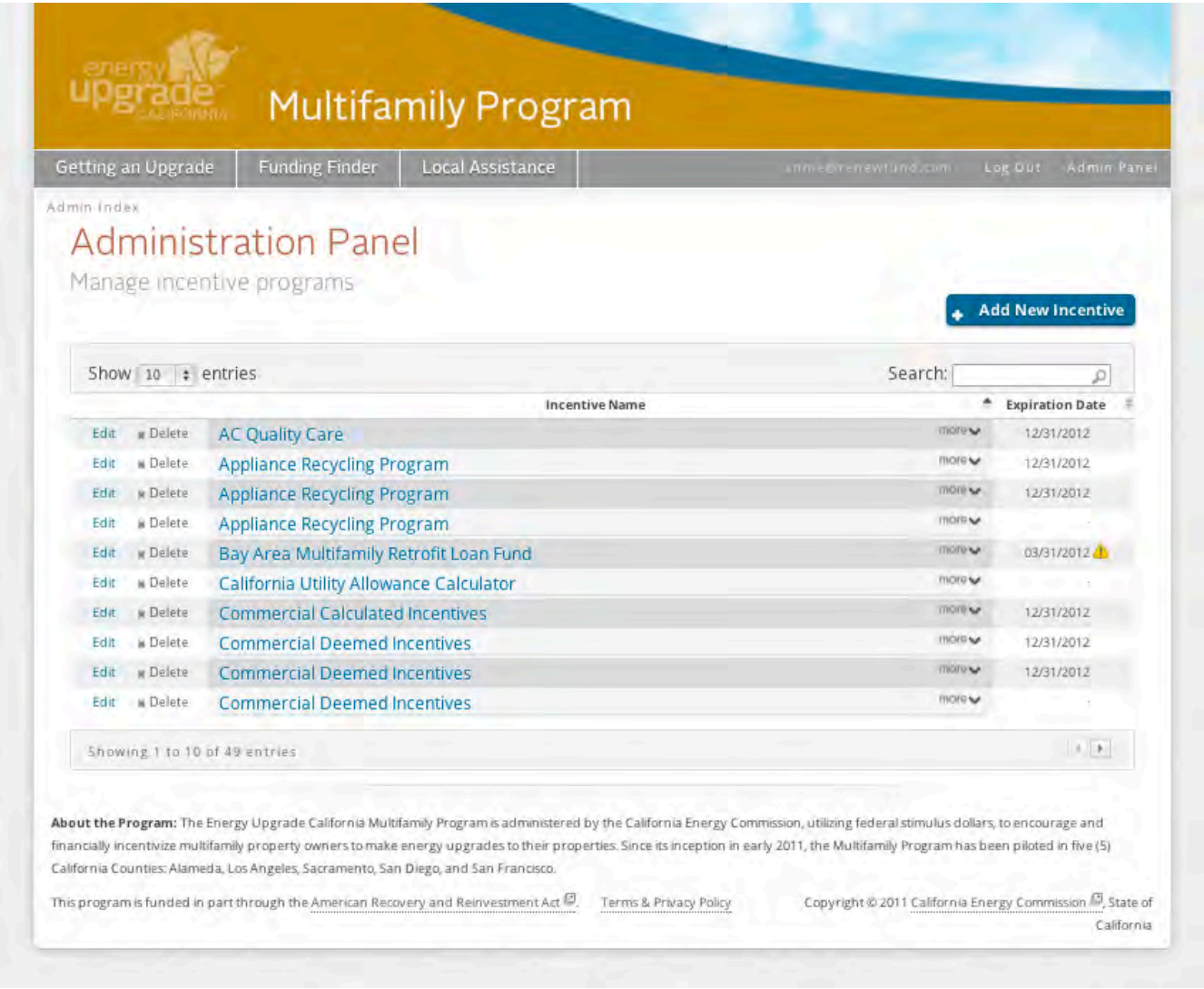
Helpful Resources

- Program Fact Sheet
- Menu of Technical and Design Services
- List of Qualified Professionals
- Case Studies
- Interest Form

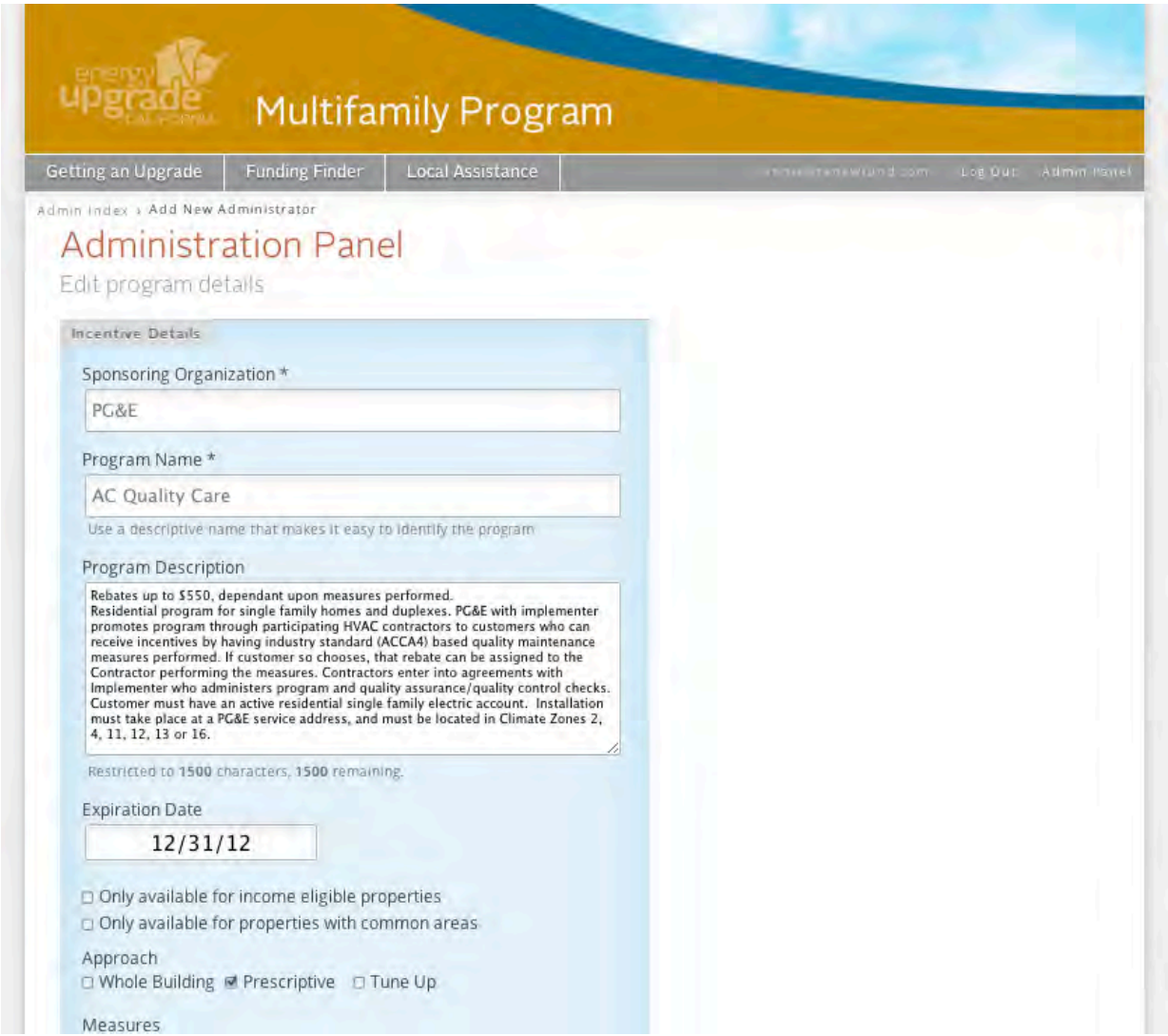
Funding Finder Admin Site

https://multifamily.energyupgradeca.org/sign_in

https://multifamily.energyupgradeca.org/admin/incentives



https://multifamily.energyupgradeca.org/admin/incentives/48/edit



EUC Reporting Application
Example Reports

https://analytics.energyupgradeca.org/reports

energy upgrade CALIFORNIA

Analytics

Reports

Web Portal Analytics

Welcome the Analytics Portal for Energy Upgrade California! Here you will find various reports that you can use to analyze activity on the Energy Upgrade California website for your county. Please note that there is a 3-day lag time between when a visitor uses the Energy Upgrade California website and when it is reported in the Analytics Portal.

Submit any feedback about this web portal to reporting@energyupgradeca.org.

Visitor Activity

- **User Accounts Created**
  This report shows the number of web portal user accounts created statewide or in a given county.
- **Top Pages**
  This report provides data for the top web pages viewed at the statewide level or at an individual county level.
- **Top Traffic Sources**
  This report provides data about the ways visitors are referred to the portal.
- **Top Counties by Visitor Activity**
  This report compares visitor activities across all county web pages in the portal within a given time period.
- **Visitor Activity by County**
  This report provides a dashboard of activities in a given county.
- **Top Search Keywords**
  This report shows trends in what keywords visitors used in search engines before they clicked through to the Energy Upgrade California site.

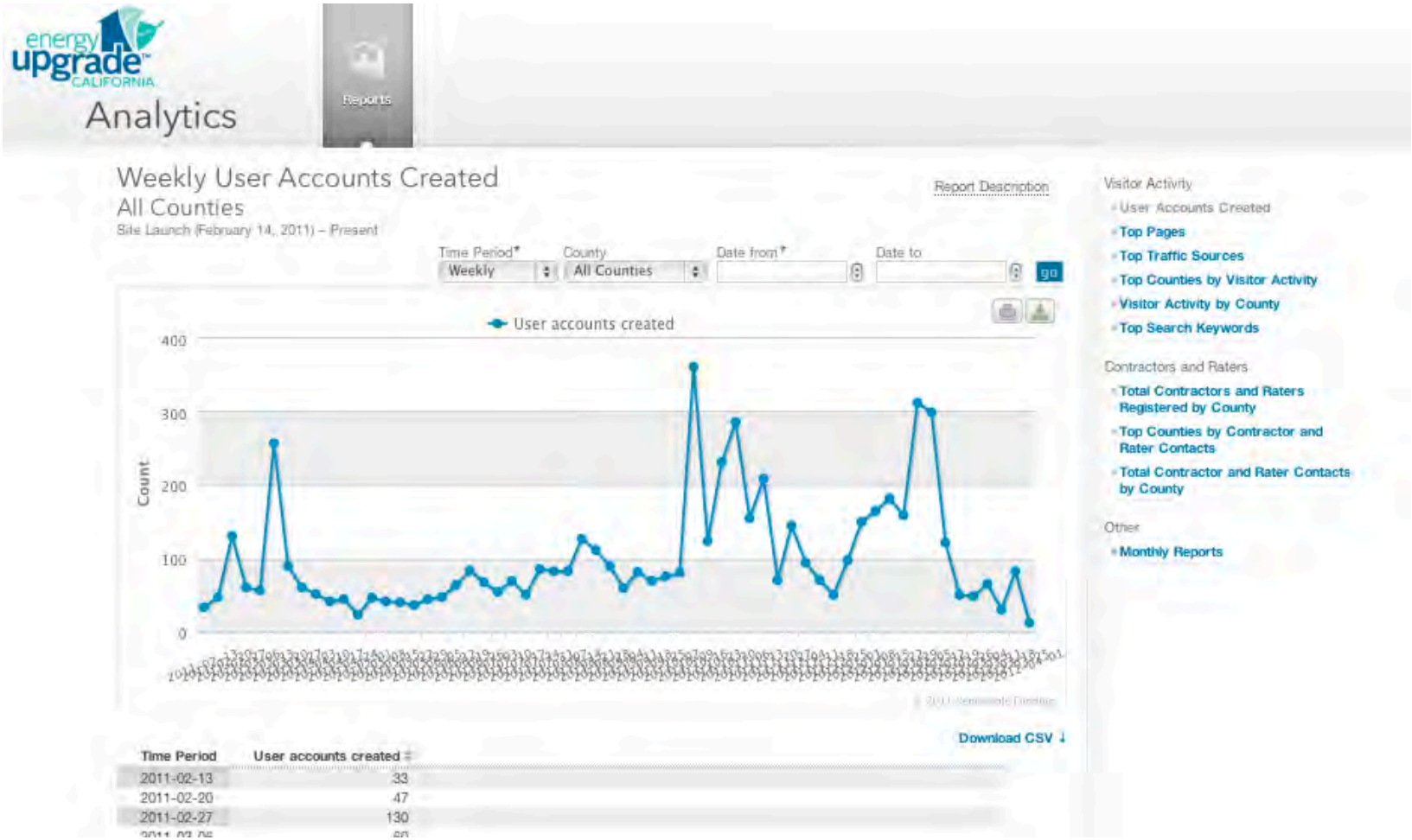
Contractors and Raters

- **Total Contractors and Raters Registered by County**
  This report highlights the number of contractors and raters who registered with the Energy Upgrade California web portal.
- **Top Counties by Contractor and Rater Contacts**
  This report shows the top counties where contractors and raters have been contacted via the Energy Upgrade California email system.
- **Total Contractor and Rater Contacts by County**
  This report shows the number of emails sent to contractors and raters via the Energy Upgrade California email system in a given county. Results are displayed by the areas of expertise: Whole Home, HERS II, or Solar.

Other

- **Monthly Reports**
  Archived monthly reports can be downloaded from this section.

https://analytics.energyupgradeca.org/reports/activity_log



https://analytics.energyupgradeca.org/reports/site_usage_by_region

Time Period	Entrances	Exits	Pageviews	Unique Pageviews	Single-page Visits
2011-02-13	7	30	152	117	3
2011-02-20	12	36	228	169	4
2011-02-27	33	164	741	554	14
2011-03-06	20	66	255	197	16
2011-03-13	27	71	308	229	13
2011-03-20	31	79	286	210	23

https://analytics.energyupgradeca.org/reports/monthly_reports

energy upgrade CALIFORNIA

Analytics

Reports

Return to list of reports »

Monthly Report Archive

Below are archived versions of summary reports for key analytics and site activity.

Statewide

- February 2012 (download pdf)
- January 2012 (download pdf)
- December 2011 (download pdf)
- November 2011(download pdf)
- October 2011 (download pdf)
- September 2011 (download pdf)
- August 2011 (download pdf)
- July 2011 (download pdf)
- June 2011 (download pdf)
- May 2011 (download pdf)

Los Angeles County

- August 2011 (download pdf)
- July 2011 (download pdf)
- June 2011 (download pdf)
- May 2011 (download pdf)

Conservation Services Group

Figure 1. Roseville, CA Field Training 11/07/11

ENERGY UPGRADE CALIFORNIA
SUBSIDIZED CONTRACTOR TRAINING PROGRAM

FINAL REPORT

Submitted to Ecology Action
March 1, 2012

Contract # 400-10-004
Local Government Commission

TABLE OF CONTENTS

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Summary

The Subsidized Contractor Training Program began ramp-up activities and train-the-trainer meetings in July 2011, training its first class on August 1, 2011 in San Diego, CA. The program launched officially on August 22, 2011 in Santa Cruz, CA. A central program goal is to train contractors and workers to build audit and installation contractor capacity in the Energy Upgrade California Program Plus areas. This report summarizes program activities and outcomes during the length of the program which concludes on March 15, 2012.

Budget

The program budget is $1,145,000 and all funds have been spent. The final invoice will be submitted March 15, 2012. Several program components proved more labor-intensive than initially budgeted, including program start-up costs, management, outreach and coordination. Delays in the program launch and marketing materials led to fewer classes and smaller class sizes in the first few months. The ripple effects of early delays included the need to offer more classes, increase class sizes and add personnel and equipment to support increased activity in the latter months of the program. Revisions to the program and scope of work were executed in a contract amendment effective October 26, 2011. These revisions included a reduction in program goals and training content, increased training days per class, increased in-kind contributions from Conservation Services Group, proctoring assistance from Ecology Action and increased student fees effective January 1, 2012.

Outreach & Recruitment

Thanks to diligent outreach efforts by Ecology Action field representatives and coordinated recruitment by host facilities, on-line applications swelled to 1,460 in the six months since the website launched August 30, 2012. The areas of greatest demand were Sacramento County (184) and San Diego (156), with the strongest regional demand in the San Francisco Bay Area. Bay Area applications totalled 346, including Santa Clara (76), Alameda (81), Contra Costa (49), San Francisco (42), San Mateo (53), Marin (30) and Napa (15). Regional trainings conducted in Sonoma and Shasta Counties also met with strong demand, with 79 students selecting Sonoma as their top preference, and 34 selecting Redding (Shasta County). Demand was notably weak in several counties including Del Norte (2), San Benito (3), Trinity (2), Yolo (5), San Joaquin (10), Mendocino (11), Siskiyou (11), Solano (13), and San Luis Obispo (19).

Courses

A total of 96 Building Analyst classes have been completed in 28 counties, with a total of 800 students trained. Of these students, 787 students completed 4-5 day coursework and 13 completed 2-day courses leading to the BPI Written and Field Examinations. Point-of-purchase incentives were offered to 122 HERS Raters through CalCERTS for coursework leading to HERS II and BPC certifications. Through March 1, 2012, a total of 122 incentives have been provided to students completing courses in Sacramento and Long Beach. These incentives include 70 HERS II course discounts and 49 field exam incentives, each at $200, and 39 BPC incentives at $400 each. Total students completing the SCTP program are 922, or 101% of goal.

Budget

The program is budgeted at $1,145,000, including administrative activities, training, testing, outreach and coordination, course materials and expenses. The budget includes in-kind contributions totaling $111,216 from Conservation Services Group and an estimated $281,925 in facility provision by participating organizations. All planned expenditures have been spent, and the final invoice will be submitted March 15, 2012.

Administrative Activities

Administrative activities represent 11% of the budget after in-kind contributions of $27,836 for office and equipment expenses and $10,035 for additional administrative support. In-kind contributions included office, phones, cell phones, computers, office supplies and uniforms, website and enrollment and laptops, drives, software and projectors for conducting classroom training activities. Administrative functions include program oversight and start-up activities, website programming, and DVBE and contact center activities to confirm appointments and update student records.

1. Administrative Activities			
Item	Units	Rate	Extended
a. Program Oversight (hourly)	540.00	$80	$43,200
b. Administrative Support (hourly)	783.00	$45	$35,235
c. GC Green Administrative Tasks (hourly) DVBE	450.00	$45	$20,250
d. Shasta Builders' Exchange Administrative Tasks (hourly)	65.00	$45	$2,925
e. Expenses and website programming			$29,831
f. Start-up Support (hourly)	468.25	$80	$37,460
In-Kind Contribution - Administrative Support			($10,035)
In-Kind Contribution - Office and Equipment			($27,836)
Subtotal			**$131,030**

Outreach and Coordination

Outreach and Coordination comprise less than 5% of the budget, and includes facility outreach, contractor recruitment, eligibility screening, facility procurement and scheduling. Supplemental outreach assistance was provided by Ecology Action in the form of direct student recruitment, facility introductions and active engagement of contractors.

Subtotal			**$131,030**
2. Outreach and Coordination			
a. Training Coordinator (hourly)	1210.00	$45	$54,450
b. GC Green Outreach and Coordination (hourly)	350.00	$60	$21,000
In-Kind Contribution - Coordination			($22,500)
c. Facilities and Field House Waivers			$281,925
In-Kind Contribution (host organizations)			($281,925)
Subtotal			**$52,950**

Trainer Training

Conservation Services Group provided one week of train-the-trainer meetings July 18th-22nd and conducted ride-alongs and additional training to support quality assurance. One additional trainer was brought on board in

October and six relief proctors (including two Ecology Action proctors) were secured to reduce travel costs and increase course delivery capacity. Additional classes were added to the schedule to compensate for low enrollment in the first three months of the program.

3. Trainer Training (includes travel and trainee compensation)			**$24,000**
Included in Trainer hourly rates			**($24,000)**
Subtotal			**$0**

Course Delivery

Course delivery comprised 60% of the budget and includes 96 classes. Class formats included a combination of 4-day, 5-day and 2-day classes geared to minimize classroom time for highly qualified students and leverage eLearning instruction for home performance basics, drills and exercises. A two-day class experiment with the 3/2 day format yielded mixed results. All students enrolled in the three-day class opted to stay for two additional review days, and only 13 students in the group were identified as professional students eligible for the two-day training format. Students and trainers alike reported that the extra field training day was extremely useful in providing students with supervised mentoring with the field equipment. In November, the program began offering a 5-day training model with two days instruction and three days field training to accommodate the diversity of experience found in classes. To accommodate a lengthened training period within budget, the program increased class size to 16 students (classroom), eliminated 1-day and 2-day classes, and offered students 1.5 to 2 days of small-group field instruction spread over three field training days. However, average class sizes remained at 8 to 12 students even after opening enrollment to 16 students.

The number of courses provided was increased by 44% and the days of class instruction were increased by 25%. Student fees were increased to $130 per seat January 1 and in-kind contributions by CSG and Ecology Action eased the budgetary impact of increased course delivery costs.

4. Course Delivery			
a. BPI BA Training and Proctoring (hourly)	7428.00	$80	$594,240
b. HERS Training (average discount per student = $250)	174.00	$250	$43,440
c. Tools and Equipment			$30,684
d. E learning Licensing Fees (per student)	841.00	$50	$42,050
In-Kind Contribution			($26,845)
Subtotal			**$683,569**

Estimated Pass-Through Expenses

Expenses for travel, training materials, test fees and facilities rental comprise 36% of the budget. BPI Examination fees increased by $100 per student ($50 per exam) January 1, but CSG pre-purchased exams at the 2011 rate to take advantage of available discounts.

5. Estimated Pass-Through Expenses			
a. Travel and Facilities Rental			$192,000
b. Training Materials			$35,000
c. Examination Fees			$224,800
Credit for prepayment of exam fees by CSG			($44,800)
Subtotal			**$407,000**

Student Fees and Ecology Action Proctor Credit

Student fees covered field house incentives and were used to offset program costs not billed to Ecology Action. Ecology Action provided proctoring services to stretch the budget even further. Savings achieved through EA proctoring were used to extend courses and offer students individualized field mentoring at no cost.

Student Fees after field house incentives			**$86,829**
EA Proctor Credit			**$42,720**

DVBE Commitment

The program increased its DBVE commitment in October by 10%, bringing the total DBVE commitment to 20%. CSG paid $245,672.26 to Disabled Veteran Business Enterprise (DVBE) Contractor, GC Green for training, administrative and outreach and coordination tasks, exceeding the revised DBVE commitment by 6.8%. The total DVBE expenditure was 21.4% of contract value.

Initial DVBE Commitment: 18%

Summary	**Units**	**Rate**	Extended
Administrative Tasks (per hour)	189.00	$45	$8,505
Outreach and Coordination (per site scheduled and completed)	50.00	$120	$6,000
Training Services (per day)	267.00	$640	$170,880
Estimated Travel Expenses			$22,295
Total			**$207,680**

Revised DVBE Commitment: 20%

Summary	**Units**	**Rate**	Extended
Administrative Tasks (per hour)	450.00	$45	$20,250
Outreach and Coordination (per hour)	350.00	$60	$21,000
Training Services (per day)	240.00	$640	$153,600
Estimated Travel Expenses			$35,000
Total			**$229,850**

Final DVBE Expenditure: 21.4%

Administrative Tasks	$20,115.00
Outreach & Coordination	$20,520.00
Training Services (per hour)	$165,760.00
DVBE Travel and Expenses	$39,277.26
Total	**$245,672.26**

Goals & Eligibility

Program goals, initially set at 1250 trained contractors, including 1050 BPI Building Analyst students trained, were revised downward in October to address challenges encountered in the first few months of the program. These challenges included difficulties enrolling highly qualified students and the subsequent need to increase field training days from one to three. Other cost factors (such as increased BPI test rates noted earlier) led to higher costs per student. Training goals were reduced to accommodate increased costs within the fixed program budget.

Revised goals include training 910 participants in the 30 Program Plus Counties, including a minimum of 775 students participating in exam preparation for the BPI Building Analyst certification. Training courses include BPI Building Analyst classes, and HERS II and BPC training through CalCERTS, Inc. Training is open to any participant ("Contractor") with sufficient construction background to successfully navigate Basic Building Performance course content and/or eLearning curriculum. Goals include a minimum of 85 BPI Building Analyst, Basic or Review courses held, with at least one course offered in each Program Plus County. HERS II and BPC goals include 100-200 students trained. These courses require significant investment by students, and are limited to students who meet stringent prerequisites. If enrollment targets are deemed unattainable by the Ecology Action Training Manager, the HERS II and BPC training goal may be reduced and additional BPI Building Analyst training will be provided to meet the 910 target.

Pass rate goals, initially set at 90%, were revised to 65% (certified) in October. Although more realistic than the original goal, even the 65% certification rates proved difficult to achieve. Because these rates are a function of the caliber of students recruited and enrolled and the training curriculum and delivery, the program endeavored to engage highly qualified students through outreach to HVAC contractors, home inspectors and energy audit professionals. However, in order to meet the dual goals of offering classes in each of 30 counties and meeting total students trained goals, many students enrolled in the classes lacked basic skills needed to successfully assimilate the course content.

Students Completed

A total of 1,036 students were enrolled in BPI Building Analyst classes, but only 77% completed classes. In total 800 students have completed BPI Building Analyst training and 122 students have completed BPC or HERS II classes. Total students completing the SCTP program is 922. Perhaps the greatest challenge was attrition due to the time and expense of taking these classes. Although Building Analyst classes were initially offered for $65, a 96% subsidy compared to retail rates of $1600, contractors had to take five full days of leave from their businesses to complete the class, and plan on additional homework, eLearning and reading assignments to be successful. With little "skin in the game," contractors regularly found that work commitments took precedence. HERS II classes required only three days leave, but came with a much higher initial investment ($600 plus $300 - $500 in software and prerequisite classes or additional exams). The program experimented with three-day and two-day classes to alleviate the barriers to participation, but found that very few candidates possessed the requisite background to navigate more intensive study.

CSG and Ecology Action instituted several measures to improve attendance rates. These included:

a) Scheduling classes out further in advance where possible (allowing one month notice in most cases for employees to take leave or business owners to schedule the time off);
b) Conducting 1-2 follow-up telephone calls to all candidates who did not confirmed by e-mail;
c) Sending "crash letters" 3-5 days prior to class to waitlisted students to encourage last minute adds.

These measures assisted with increasing average class sizes from 7.5 in August through October to 8.4 from November through January. February class sizes averaged 12.7 students.

Classes Taught

A total of 96 BPI Building Analyst classes were delivered in 28 counties. The program initially required that 12 trainings be conducted in each of the six Energy Upgrade California regions, with a minimum of one training meeting in each of 30 Program Plus Counties. At least one class was conducted in each of 25 Program Plus Counties. Some of these training meetings were sparsely attended; courses were then scheduled in areas with the greatest demand. The Counties that were not served include Del Norte, San Benito, Trinity, Siskiyou and Yolo. For these counties, classes were offered in regional training locations (Santa Cruz/Monterey, Shasta and Sacramento/Solano) to leverage regional facilities where demand was supplemented with candidates in adjacent counties. Classes offered in Shasta County, Orange County, and Sonoma County were outside the Program Plus Counties but served regional demand.

Pass Rate

Pass rate goals were initially set at 90%, which allowed for only one student per class to fail the rigorous written or field exams administered at the end of each course. This key performance metric required that outreach and recruitment activities narrowly target students who possessed the preparation and experience to succeed in the Building Analyst course. Despite targeted direct outreach and a focus on residential contractors who were most likely to participate in Energy Upgrade California, pass rates slipped well below the targeted goals by Mid-Term Reporting. Written exam pass rates were estimated at 85%, but overall certification rates at that time were at 55%. Of 239 students who completed courses through October, 203 students passed the written exams. Of those who passed the written exams, 123 earned BPI BA certification (63.5%). To improve these pass rates, CSG proposed to increase training days to five days, including two days classroom and 1.5 to 2 days field per student, spread over a five-day training week plus ½ day review and exam the following Monday. This schedule change facilitated weekend study time, and provided students with supervised mentoring while conducting combustion and blower door tests. CSG had initially planned to charge students for individualized mentoring at a rate of $1,000 for four students for a full day. However, one full day of mentoring was added to each class at no additional cost to students to support improved pass rates.

These changes were implemented in November 2011. Although final certification rates are still pending completion of classes offered at the end of February, and BPI confirmation, the program expects that the final rates will fall short of the 65% target. Final pass rates will be provided with the final invoice on March 15, 2012.

Host Organizations

Sixty-three facilities hosted classes (see Table 1 for complete list). Most facilities host the training by providing classroom and Wi-Fi access at no charge to the program. Educational facilities often provide computer labs, and several organizations have procured field houses for training and testing.

Table 1. Facilities by County

County	Host Organization	City	Type
Alameda	Hayward Day Labor Center	Hayward	EDD
Alameda	RHA, Inc	Alameda	profit
Contra Costa	Richmond Build	Richmond	government
Contra Costa	Courtyard Marriott - Richmond	Richmond	profit
Fresno	Ferguson (HVAC Supplier)	Fresno	HVAC
Humboldt	RCEA (Redwood Coast Energy Authority)	Eureka	non-profit
Kern	KCCD Weill Institute (Kern Community College)	Bakersfield	educational
Kern	Career Services Center (WIB)	Bakersfield	EDD
Lake	Lake One Stop	Lakeport	EDD
Los Angeles	RNLA (Restore Neighborhoods Los Angeles)	Los Angeles	non-profit
Orange	Bosch	Irvine	HVAC
Marin	Marin Builder's Association	San Rafael	non-profit
Mendocino	Redi-Haus	Willits	non-profit
Monterey	Sustainability Academy	Monterey	non-profit
Monterey	CET (Center for Employment Training) - Salinas	Salinas	non-profit
Napa	Sustainable Napa County	Napa	non-profit
Placer	Sierra College/Roseville Gateway Campus	Roseville	educational
Riverside	Riverside Chamber of Commerce	Riverside	non-profit
Riverside	Riverside Public Utilities	Riverside	utility/government
Riverside	HD Supply	Riverside	profit
Sacramento	SETA (Jupiter Training Center)	Sacramento	non-profit
Sacramento	CFM Equipment	Sacramento	profit
Sacramento	Bell Bros HVAC	Sacramento	profit
San Benito	One Stop Career Center	Hollister	EDD
San Benito	Veterans Memorial	Hollister	non-profit

County	Host Organization	City	Type
San Bernardino	Laborer Training Center	Azusa	EDD
San Bernardino	WIB(Workforce Investment Board)	Rancho Cucamonga	EDD
San Diego	Conservation Services Group	San Diego	non-profit
San Diego	Troops 2 Energy	Oceanside	non-profit
San Diego	Eco Building Products	Vista	retail
San Diego	Pangea	San Diego	retail
San Diego	San Diego South Metro Career Center	San Diego	EDD
San Diego	San Diego Housing Commission (SDHC)	San Diego	government
San Diego	Resource Conservation District	Lakeside	non-profit
San Diego	GC Green	San Diego	profit
San Diego	Action Air	San Marcos	HVAC
San Diego	San Diego Energy Resource Center (SDERC)	San Diego	utility
San Diego	RHA, Inc	San Diego	profit
San Francisco	HD Supply	San Francisco	profit
San Francisco	White Cap Construction	San Francisco	profit
San Francisco	San Francisco State University (Downtown Campus)	San Francisco	educational
San Francisco	San Francisco Builder's Exchange	San Francisco	non-profit
San Francisco	City College of San Francisco	San Francisco	educational
San Joaquin	SJC Worknet (San Joaquin County Worknet)	Stockton	EDD
San Luis Obispo	Cuesta College (North Valley Campus)	Paso Robles	educational
San Mateo	Skyline College	San Bruno	educational
San Mateo	Ted Adcock Community Center	Half Moon Bay	government
Santa Barbara	Santa Barbara Contractors Assn.	Santa Barbara	non-profit
Santa Barbara	Halsell Builders	Orcutt	profit
Santa Barbara	Santa Barbara City College	Santa Barbara	educational
Santa Barbara	Santa Ynez Chumash Organization	Buellton	non-profit
Santa Clara	Owens Corning	Santa Clara	profit
Santa Clara	Santa Clara Builder's Exchange	Santa Clara	non-profit
Santa Clara	San Jose City College Workforce Institute	Santa Clara	educational
Santa Cruz	Cabrillo College	Aptos	educational
Santa Cruz	Ecology Action Network	Santa Cruz	non-profit
Santa Cruz	Best Western - All Suites	Santa Cruz	profit
Shasta*	Shasta Builder's Exchange	Redding	educational

County	Host Organization	City	Type
Solano	Joseph A Nelson Community Center	Suisun City	community center
Sonoma	Sonoma Co. Energy Independence Program	Santa Rosa	community center
Tulare	SCE Energy Center (SoCal Edison)	Tulare	utility
Tulare	CSET	Visalia	EDD
Ventura	Criterion Environmental	Ventura	profit
**providing training for surrounding counties inc. Siskiyou, Trinity and Del Norte*			

Many of these host organizations actively enrolled qualified students, and created local buzz about the availability of upcoming classes. Most of the program's enrollment has come from word-of-mouth from host organizations and Ecology Action representatives through employers, friends and e-mail. Of 992 Building Analyst applicants, 904 (91.1%) selected one of these categories as illustrated in Figure 4.

How did you hear about this program?

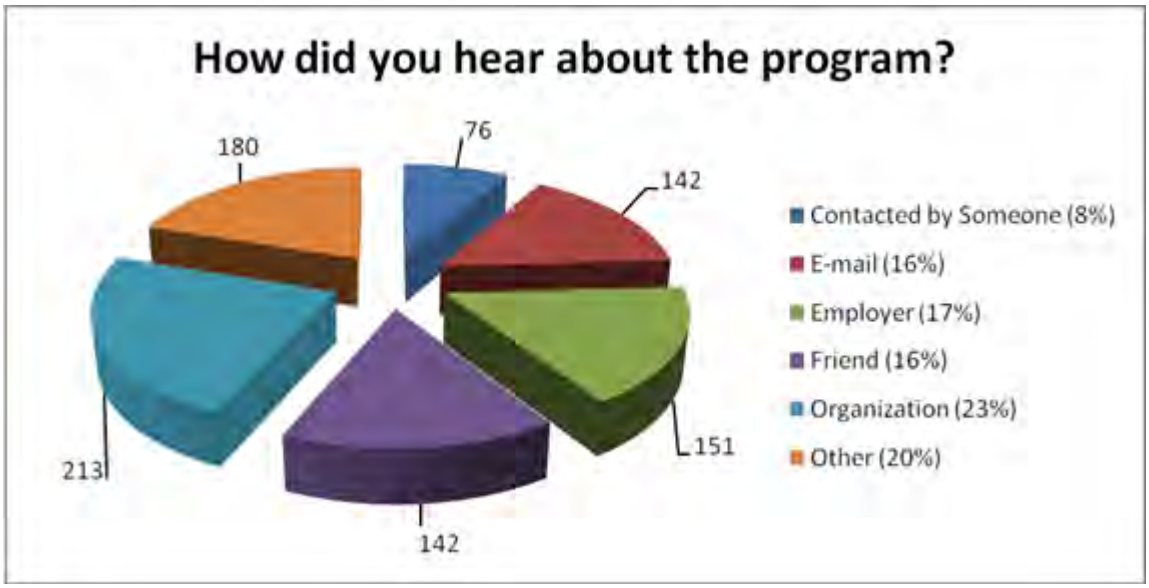


Figure 4. Word-of-Mouth Referrals, N = 904

CONTRACTOR FEEDBACK

Figure 5. Contractor e-mail

Hey Wayne,

I wanted to send you a quick note to let you know how much I appreciate all you offered our class at last week's BPI training. You were an excellent teacher (with a very difficult task due to the large range of backgrounds of the participants in the class). You offered real world examples as well as a clear grasp of the class content.

I hope to let you know when I have done my first inspection. For now, I am sure it will warm your heart to hear that I made my first decision today to seal some rafter blocking (something I would have never done prior to the class). I could just see all that air whipping through the insulation, though the cracks in the blocks and our of the pressure barrier of the home.

Thanks again
Sincerely,
David Richardson

Student Evaluations

Students were asked to provide feedback on the course and instructor at the end of each training session. Students rated the instructor's knowledgeability and delivery, and the course content on a scale of 1 to 5, where 5 is excellent and 1 is unsatisfactory. Although numerous students expressed that the course material is difficult, overall course ratings are 4.4. Average instructor ratings are 4.7. Student testimonials and comments are summarized below.

Responses to Course/Trainer Evaluation Questions:

What did you consider the most important and worthwhile about this training class?

"The quality of information was very worthwhile; energy audit information was also quite helpful."

"I believed it was very, very important to learn the importance of the whole home and how it works together. I believe EVERY contractor no matter the type should be required to take this class."

"Provided detailed training and methods to begin utilizing what was as taught immediately."

"I thought the slides explaining building science were the most important and worthwhile."

"Getting a better understanding of the building as a system."

"Hands on training in the field and in depth examples of building science concepts-way more in depth than Build it Green's CGBP program."

"Field Practice."

"Learning how to perform tests that are critical to safety."

"The in-depth, fully articulated, concise approach of material discussed and reviewed."

What constructive changes would you suggest to make the class more effective?

"Provide reading material in advance with schedule of required reading to be completed before start of course."

"Having simulated field tests. And more equipment per student."

"I feel it was about as good as it could be given the time frame."

"Would've loved to get the Krigger book in advance to read & not have to cram reading at night after a full day of class."

"List of acronyms and abbreviations that give definitions of each."

"Change classroom teaching techniques at regular intervals (interactive, break into groups, have students do the calcs."

"More hands-on training…"

Please comment on the trainer (i.e. clarity, effectiveness, etc.)

"I would like to report that I thought the whole course was extremely well run. Aaron was an excellent teacher, and the whole set up from registering, attending and taking the exam and field test were made so easy for us, which helped me to concentrate on the information and studying needed. I sincerely hope that your organization is able to gain further funding and government grants so you may continue your good work."

"Clear, helpful, educated.", "Clarity was good…was a good motivator."

"Trainer was very knowledgeable, adapted training to the ability of the students background."

"I thought our trainer did a good job in presenting the material and trying to explain the concepts. I would only say that time and time spent on topics be spaced more efficiently so that we don't rush on some topics and spend too much time on others."

"Excellent presentation of the course DVD of the course would be great!"

"Excellent trainer-covered all the material in both broad/big picture terms as well as the detail/specifics and practical application. Super knowledgeable, but I was most impressed by how well he was able to assess the overall class."

Are there topics you thought the trainer should have spent more time explaining?

"Thermal Dynamics!"

"Given the time frame of the course he balanced everything exceptionally well."

"I feel I got a general knowledge of everything."
"Again, given the time frame, he balanced everything well."

"More time showing on field day, rather than having students figure it out."

"Would have liked to go through all 106 task items at the end of the packet at one time…we did get through them though."

Additional Comments and Feedback

"Comprehension of the topics he was covering, as well as zero in on specific students challenges and respond to all levels appropriately. He respected all students and found encouraging yet straight forward ways of teaching the information in multiple ways. His genuine concern for our ability to master the information was obvious and he devoted extra time to making sure we had the confidence we needed to face the exam whether students were highly trained HVAC professionals or novice carpenters or other non-trade individuals with little to no experience in the field. I was especially impressed how he handled the math questions, avoiding humiliation of student who struggle w/basic math concepts. Amazing trainer and would love to take another course with him in the future." (on CSG Trainer, Wayne Longdon)

"You should be proud of a job well done! Thanks for your knowledge, almost infinite patience and good humor it made the class a pleasure to take. Now I just need to pass the tests."

"Thank you for the excellent 5-day field exam preparation training. I got a 99 out of 100 score on the field exam score. I felt very well-prepared and trained in the 5-day course taught by you."

MARKETING & WEBSITE TRAFFIC

Marketing

Marketing efforts over the course of the program included press releases, direct outreach by Ecology Action and the following activities by Conservation Services Group and GC Green:

- Coordination with SDG&E and CCSE
- E-mails to Southern California HVAC distributors (Heating and Cooling Supply and Siglers)
- E-mails and direct outreach to HVAC contractors through account managers, distributors and trade allies.
- E-mails and direct outreach to regional building trade associations
- E-mails to existing enrollment asking for referral candidates
- Host Facility cooperation to conduct outreach e-mails to their constituencies
- Class announcements posted with NACHI (National Association of Certified Home Inspectors)
- Direct coordination with the San Diego Housing Authority, Veterans' Associations, Native American tribal councils and green vendors to procure facilities and recruit trainees.
- Draft facilities press release to promote facilities in exchange for hosting training meetings (approved November 23, 2011)
- Booth and Flyer distribution at Institute of Heating and Air Conditioning Industries (IHACI) 32nd Annual HVAC/R/SM Performance Contracting Product & Equipment Trade Show (Pasadena, November 16, 2011, 11am to 8pm
- Secured host facility - Santa Barbara City College/Santa Barbara
- Secured host facility – CET (Center for Employment Training)/Salinas
- Secured host facility – SCE Energy Center/Tulare
- Secured host facility – Lake One Stop/Lakeport
  Additional marketing and outreach conducted by Lake One Stop and REDI
- Secured host facility – Sierra College/Roseville Campus
  Additional marketing and outreach conducted by Sierra College
- Secured host facility – City College of San Francisco
- Secured host facility – Cabrillo College/Aptos
- Secured host facility – Hayward Day Labor Center/Hayward
- Secured host facility- Action Air/San Marcos
- Secured host facility – Ferguson HVAC/Fresno
- Secured host facility – Resource Conservation District/Lakeside
- Secured host facility – Conservation Services Group/San Diego
- Secured host facility – Ted Adcock Community Center/Half Moon Bay
- Secured host facility – SETA (Center for Employment Training)/Sacramento
- Secured host facility – Santa Ynez Chumash Organization

Additional marketing and support from the SYCO

- Secured host facility – WIB (Workforce Investment Board)/Bakersfield
- Secured host facility – WIB (Workforce Investment Board)/Rancho Cucamonga
- Secured host facility – PHCC (Plumbers Heating Cooling Contractors)/San Diego
  Additional marketing and outreach conducted by PHCC
- Secured host facility – CCSE (California Center for Sustainable Energy)/San Diego
- Secured host facility- Habitat for Humanity/Sacramento
- Secured host facility- Riverside Public Utility/Riverside
- Secured host facilities – RHA (Richard Heath & Associates)/San Diego & Alameda
- Secured host facility- CET (Center for Employment Training)/San Diego
- Secured host facility – BOSCH/Irvine
- Secured host facility – San Jose City College/San Jose
- Secured host facility- Bell Bros HVAC/Elk Grove

Website Traffic

The program website launched August 30, 2011. Monthly website statistics revealed a decline in total hits and visits after September through November, 2011. Unique users declined from a peak of 290 in September to 192 in November, 2011 and trended downward to 177 in December, 2011. In January 2012, unique users spiked again to 248 and remained over 200 for the remainder of the program. Table 3 summarizes site activity and is available on the report portal for client reference.

Table 3. Monthly Website Statistics

Monthly Statistics for September 2011	
Total Hits	**1485**
Total Files	**0**
Total Pages	**1090**
Total Visits	**809**
Total KBytes	**807**
Total Unique Sites	**567**
Total Unique URLs	**0**
Total Unique Referrers	**67**
Total Unique User Agents	**290**
Monthly Statistics for October 2011	
Total Hits	**1390**
Total Files	**0**
Total Pages	**893**
Total Visits	**704**
Total KBytes	**758**
Total Unique Sites	**539**

Total Unique URLs	**0**
Total Unique Referrers	**58**
Total Unique User Agents	**232**
Monthly Statistics for November 2011	
Total Hits	**1269**
Total Files	**164**
Total Pages	**707**
Total Visits	**469**
Total KBytes	**8136**
Total Unique Sites	**391**
Total Unique URLs	**15**
Total Unique Referrers	**46**
Total Unique Usernames	**2**
Total Unique User Agents	**192**
Monthly Statistics for December 2011	
Total Hits	**2233**
Total Files	**0**
Total Pages	**1864**
Total Visits	**617**
Total KBytes	**1404**
Total Unique Sites	**489**
Total Unique URLs	**0**
Total Unique Referrers	**41**
Total Unique Usernames	**2**
Total Unique User Agents	**177**
Monthly Statistics for January 2012	
Total Hits	**2195**
Total Files	**1**
Total Pages	**1855**
Total Visits	**1284**
Total KBytes	**1159**
Total Unique Sites	**763**
Total Unique URLs	**1**
Total Unique Referrers	**42**
Total Unique User Agents	**248**
Monthly Statistics for February 2012	

Total Hits	**2436**
Total Files	**1**
Total Pages	**2066**
Total Visits	**1006**
Total KBytes	**1307**
Total Unique Sites	**631**
Total Unique URLs	**1**
Total Unique Referrers	**52**
Total Unique User Agents	**208**

Daily usage spiked toward the end of September, when marketing materials were approved and released for the first time since the program's soft launch August 1. Of 1,485 hits recorded in September, 86.73% originated from direct requests for the website address. The high volume of direct requests prior to the availability of marketing materials reflects marketing and outreach activities via e-mail, networking and meeting announcements primarily by Ecology Action field representatives and through CSG and GC Green contacts.

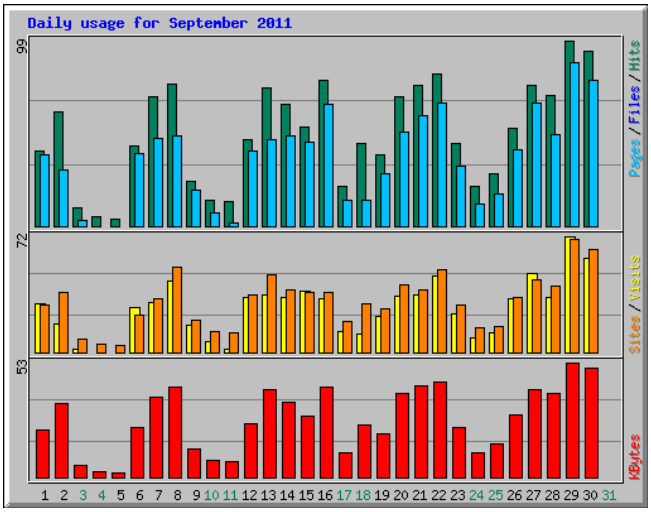


Figure 6. Daily Usage Statistics September, 2011

Daily usage saw an upsurge in December (2,233 hits) over the month of November (1,334 hits) which is most likely attributable to the combination of CSG Call Center efforts combined with continued outreach activities by both Ecology Action, CSG and GC Green.

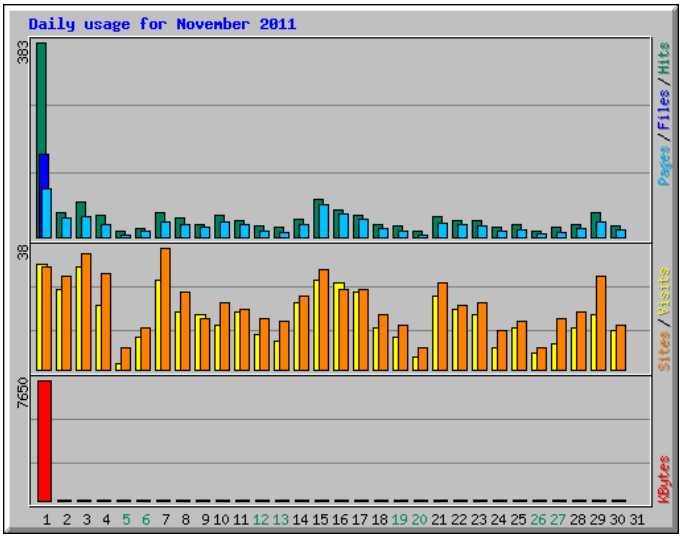


Figure 7. Daily Usage Statistics November, 2011

The lowest activity was reported in November at 496 visits, but December traffic increased by 24% (617 visits) and 67% (2,233 hits). In January, 2012 daily usage remained relatively stable at 2,195 hits.

This momentum could be attributed to the EUC Marketing Postcards which were sent on December 26, 2011 as well as the increase in outreach and marketing overall by Ecology Action, CSG Call Center and additional efforts by host facilities who contributed additional marketing support by reaching out to their constituencies.

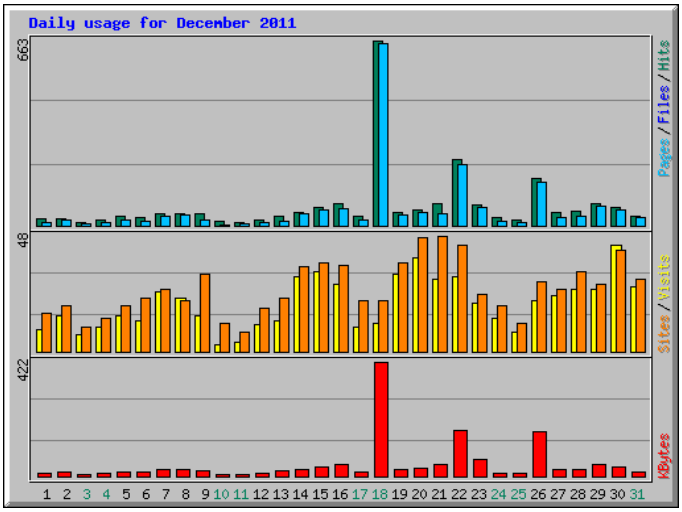


Figure 8. Daily Usage Statistics December, 2011

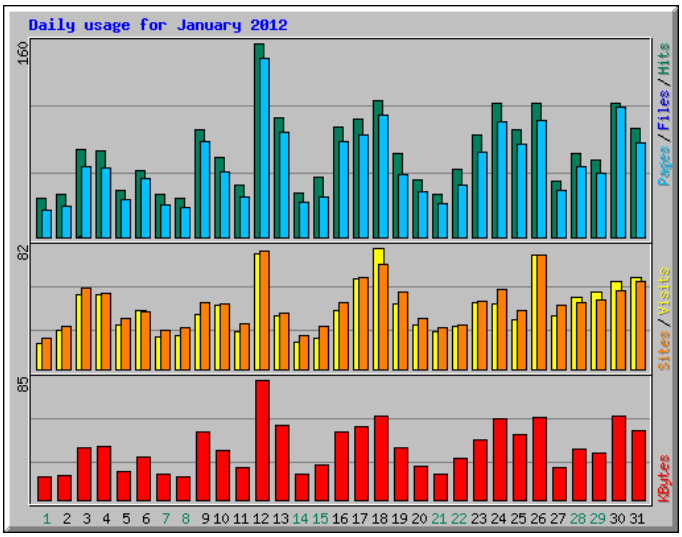


Figure 9. Daily Usage Statistics January, 2012

A final upsurge in activity was noted in February with 2,436 hits (the third highest month in the Program). As the Program end date neared, there was increased interest in SCTP and subsequently more web activity and direct calls regarding class availability.

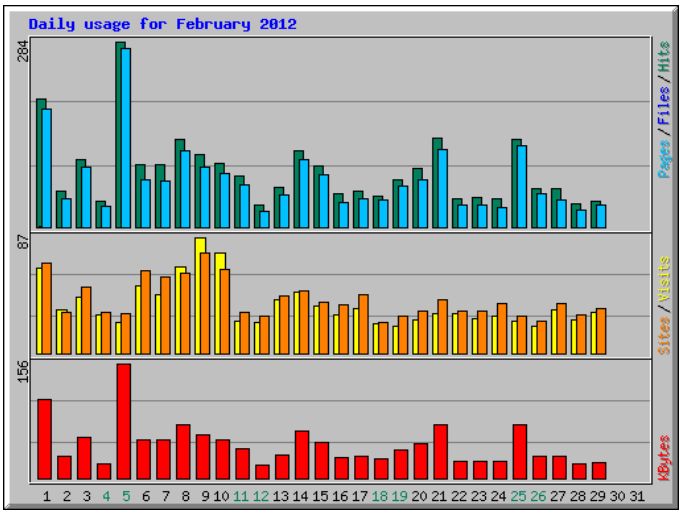


Figure 10 Daily Usage Statistics February, 2012

Marketing Successes

Although most of the traffic on the program website was generated through direct requests from contractors who had received the website address through recruitment activities, thirty referrals (hits) came from an article in the Sacramento Bee on 9/29/2011, and another 12 hits came from postings with the National Association of Certified Home Inspectors. A Santa Cruz Sentinel listing by Paula Miller Maxfield on September 12th generated another four hits. A Press Release on the PR Newswire September 29th and a posting on Green Capital Alliance (Sacramento) each generated four hits.

HITS	%	REFERRERS – SEPTEMBER 2011
1288	86.73 %	Direct Request – Applicant was provided website address through outreach activities.
30	2.02%	http://www.sacbee.com/2011/09/29/3948102/energy-upgrade-california-launches.html
16	1.08%	http://www.google.com/url
10	0.67%	http://36ohk6dgmcd1n.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/5/1.0.35/us/en-US/view.html
10	0.67%	http://us.mc1801.mail.yahoo.com/mc/welcome
8	0.54%	http://www.bing.com/search
8	0.54%	http://www.nachi.org/forum/f25/bpi-business-analyst-training-only-65-including-exams-riverside-ca-64347/
7	0.47%	http://www.google.com/search
6	0.40%	http://search.yahoo.com/search
5	0.34%	http://www.facebook.com/l.php
4	0.27%	http://events.santacruzsentinel.com/santa-cruz-ca/events/show/209496965-energy-upgrade-california-offers-subsidzed-building-per
4	0.27%	http://greencapitalalliance.org/
4	0.27%	http://www.nachi.org/forum/f25/65-bpi-building-analyst-training-bakersfield-ca-sept-19-28-a-64427/
4	0.27%	http://www.prnewswire.com/news-releases/energy-upgrade-california-launches-low-cost-contractor-training-program-130782553.html
2	0.13%	http://bl160w.blu160.mail.live.com/mail/InboxLight.aspx
2	0.13%	http://co103w.col103.mail.live.com/default.aspx
2	0.13%	http://email09.secureserver.net/webmail.php
2	0.13%	http://email16.secureserver.net/webmail.php
2	0.13%	http://finance.yahoo.com/news/Energy-Upgrade-California-prnews-884258035.html
2	0.13%	http://hootsuite.com/hootlet/load
2	0.13%	http://sn123w.snt123.mail.live.com/mail/InboxLight.aspx
2	0.13%	http://us.mc1108.mail.yahoo.com/mc/welcome
2	0.13%	http://us.mc1801.mail.yahoo.com/mc/showFolder
2	0.13%	http://us.mg1.mail.yahoo.com/dc/launch
2	0.13%	http://us.mg1.mail.yahoo.com/neo/launch
2	0.13%	http://us.mg201.mail.yahoo.com/dc/launch
2	0.13%	http://whois.domaintools.com/contractor-training-ca.org
2	0.13%	http://www.google.com/m/search
2	0.13%	http://www.netcraft.com/survey/
2	0.13%	http://www1.imarketwebsitesolutions.com:2095/cpsess8214718096/horde/imp/message.php

October witnessed a 6% decline in total hits, but continued to benefit from the Sacramento Bee article (10 referrals), the PR Newswire release (5) and posts on Green Capital Alliance (6) and NACHI (3). Based on website referrals, it appears that marketing activities such as press releases and postings on clean energy websites were

discontinued or ineffective in October. Direct access continued to be the most common entry point for visitors, with 88% of hits coming from people who had the website URL in hand.

An article posted November 12, 2011 on the Ventura County Star website generated five hits, but other than that, very little promotional activity occurred except targeted direct outreach through off-line networks and contacts. The program continued to receive referrals from the PR Newswire site, the Capital Alliance and NACHI posts. Increased activity the week of November 14th coincided with the Ventura article and the IHACI trade show.

HITS	%	REFERRERS- NOVEMBER 2011
976	73.16%	- (Direct Request)
13	0.97%	http://www.google.com/url
12	0.90%	http://36ohk6dgmcd1n.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/8/1.0.35/us/en-US/view.html
6	0.45%	http://us.mg201.mail.yahoo.com/dc/blank.html
6	0.45%	http://us.mg5.mail.yahoo.com/neo/launch
5	0.37%	http://www.vcstar.com/news/2011/nov/12/new-program-promotes-energy-efficiency/
5	0.37%	http://yandex.ru/yandsearch
4	0.30%	http://www.prnewswire.com/news-releases/energy-upgrade-california-launches-low-cost-contractor-training-program-130782553.html
3	0.22%	http://36ohk6dgmcd1n-c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/8/1.0.35/us/en-US/view.html
3	0.22%	http://36ohk6dgmcd1n.c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/8/1.0.35/us/en-US/view.html
3	0.22%	http://sn138w.snt138.mail.live.com/mail/InboxLight.aspx
3	0.22%	http://us.mc1800.mail.yahoo.com/mc/welcome
3	0.22%	http://us.mg1.mail.yahoo.com/neo/launch
3	0.22%	http://us.mg204.mail.yahoo.com/dc/launch
3	0.22%	http://www.nachi.org/forum/f25/65-bpi-building-analyst-training-bakersfield-ca-sept-19-28-a-64427/
2	0.15%	http://co108w.col108.mail.live.com/default.aspx
2	0.15%	http://email17.secureserver.net/webmail.php
2	0.15%	http://extrabot.com/help/grujagakavyjono.htm
2	0.15%	http://mail.aol.com/34290-311/aol-6/en-us/Suite.aspx
2	0.15%	http://sn106w.snt106.mail.live.com/mail/InboxLight.aspx

2	0.15 %	http://whois.domaintools.com/contractor-training-ca.org
2	0.15 %	http://www.bing.com/search
2	0.15 %	http://www.netcraft.com/survey/
1	0.07 %	http://66.197.132.213:8880/plesk/client@2/domain@250/dashboard/
1	0.07 %	http://by167w.bay167.mail.live.com/mail/InboxLight.aspx
1	0.07 %	http://email14.secureserver.net/webmail.php
1	0.07 %	http://greencapitalalliance.org/
1	0.07 %	http://m.yahoo.com/w/ygo-mail/message.bp
1	0.07 %	http://sn106w.snt106.mail.live.com/default.aspx
1	0.07 %	http://sn131w.snt131.mail.live.com/mail/InboxLight.aspx

An article posted November 22, 2011 in the Lake County News generated numerous inquiries regarding a future class in this county. The host facility, Lake One Stop, committed the facility for a future training in this county and agreed to do outreach and marketing. That second class was held due to increased demand in response to the article and outreach by Lake One Stop and REDI (Renewable Energy Development Institute).

Building Professional Institute conducted a training at the Lake One Stop in Lakeport, Calif., on Monday, Nov. 14, through Friday, November 18, 2011. Courtesy photo.

LAKEPORT, Calif. – Lake One-Stop Inc. recently hosted Lake County's first subsidized Building Professional Institute "building analyst" training workshops last week, Nov. 14-18, at the Lakeport One-Stop.

Twelve local contractors, education instructors, business owners and entrepreneurs learned how to do comprehensive whole-house energy-efficiency assessments as part of the week long training.

Participants included Jonas Heating and Air, Fresh Energy Systems, Rowser Construction, Devalle Construction, John Grunier, Fosco Green Point, Tri County Solar, Habitat for Humanity, Draft Busters and A.C.E.S.

Thanks to a subsidy, cost for this training was only $65, instead of the usual $1,800.

The program was brought to Lake County with assistance from Energy Upgrade California, The Conservation Services Group, Renewable Energy Development Institute (REDI) and instructed by Mark Crumpton (Conservation Services Group).

"This is an amazing opportunity for this group to tap into the Energy Upgrade California program, and put more people to work," said Lake One-Stop Inc. Executive Director Seth DeSimone.

Contractors need this certification to become a participating contractor with the Energy Upgrade California program, which offers homeowners more than $4,000 in rebates for energy-efficient home improvements.

Energy-efficiency upgrades are becoming big business right now in California, with a multitude of substantial rebates, incentives and subsidy programs available to homeowners and to renters, too.

Some of the programs are income or age-qualified available to lower-income or senior residents only and some are available to all income levels.

“We have something for everyone,” said REDI's Terry Phenicie. “It might be just a $200 rebate or it might be $4,000 in incentives; it might be a grant; it could very well be a link to a lender for a highly subsidized solar program.”

Energy Upgrade California offers incentives for air sealing, attic insulation, duct sealing, low-flow showerheads, high-efficiency furnaces, energy-efficient cooling systems and water heaters, dual pane energy-efficient windows and more. Not only are these programs a great deal for residents, they are a form of economic stimulus for the Country, Phenicie said.

“We're bringing monies back to the county through these programs. When residents save money on their utility bills, they can spend it on other goods and services,” Phenicie said. “Upgrading the energy efficiency of homes improves their value. Also, the training is giving local contractors a new skill set.”

Contractors certified to do energy upgrades will be buying equipment and materials from local outlets, also helping with the local economy.

To learn more about these energy-efficiency programs and many others visit www.energyupgradeca.org and www.redinet.org.

Figure 13. Press Coverage, Lake County

Overall increased activity on the website was evident from December 2011 through March 1, 2012. Direct request referrers stayed over 90% in all 3 months; December-95.52%, January-91.89% and February-93%.

The EUC Press Release on PR Newswire (Sept 29, 2011) continued to bring in a few referrals as did a web article on the Empower Santa Barbara County website. There were also referrals from the Green Capital Alliance in Sacramento and the Sonoma County Energy Independence Program. In January, Sierra College featured the program on its website calendar and newsletter to correspond with the training schedule at that host facility in January and February. In February, the Santa Barbara Contractor’s Association featured Facebook posts to announce classes in that area.

HITS	%	REFERRERS – DECEMBER 2012
2133	95.52%	- (Direct Request)
17	0.76%	http://www.google.com/url
10	0.45%	http://www.bing.com/search
8	0.36%	http://mail.aol.com/35138-111/aol-6/en-us/Suite.aspx
5	0.22%	http://36ohk6dgmcd1n-c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/9/1.0.35/us/en-US/view.html
4	0.18%	http://domains.checkparams.com/index.php
4	0.18%	http://whois.domaintools.com/contractor-training-ca.org
3	0.13%	http://search.yahoo.com/search
3	0.13%	http://us.mc1135.mail.yahoo.com/mc/welcome
3	0.13%	http://us.mg201.mail.yahoo.com/dc/blank.html
3	0.13%	http://www.prnewswire.com/news-releases/energy-upgrade-california-launches-low-cost-contractor-training-program-130782553.html
3	0.13%	http://yandex.ru/yandsearch
2	0.09%	http://extrabot.com/help/grujagakavyjono.htm
2	0.09%	http://greencapitalalliance.org/projects/
2	0.09%	http://sonomacountyenergyindependenceprogram.cmail4.com/t/r/l/itkkkiy/qiujjijhl/d/
2	0.09%	http://sz0106.ev.mail.comcast.net/zimbra/mail
2	0.09%	http://www.netcraft.com/survey/
1	0.04%	http://isearch.avg.com/search
1	0.04%	http://mail.aol.com/35112-111/aol-6/en-us/Suite.aspx
1	0.04%	http://mail.aol.com/35138-111/aol-6/en-us/suite.aspx
1	0.04%	http://napavalleyregister.com/news/local/county-update/eye-on-napa-county-watch-for-your-secured-property-tax/article_455ceb4a-
1	0.04%	http://search.daum.net/search
1	0.04%	http://sn138w.snt138.mail.live.com/mail/InboxLight.aspx
1	0.04%	http://sz0168.ev.mail.comcast.net/zimbra/mail
1	0.04%	http://us.mc1102.mail.yahoo.com/mc/welcome
1	0.04%	http://us.mc1612.mail.yahoo.com/mc/welcome
1	0.04%	http://us.mc1621.mail.yahoo.com/mc/showFolder
1	0.04%	http://us.mc1805.mail.yahoo.com/mc/welcome
1	0.04%	http://us.mc659.mail.yahoo.com/mc/welcome
1	0.04%	http://us.mc810.mail.yahoo.com/mc/compose

In January, there were 2,017 direct referrers, showing that website activity remained strong and in February, there was an upswing to 2,341 direct referrers representing over a 16% increase in traffic during the last month of the program.

HITS	%	REFERRERS-JANUARY 2012
2017	91.89%	- (Direct Request)
41	1.87%	http://www.google.com/url
19	0.87%	http://36ohk6dgmcd1n-c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/9/1.0.35/us/en-US/view.html
18	0.82%	http://www.bing.com/search
14	0.64%	http://yandex.ru/yandsearch
12	0.55%	http://search.yahoo.com/search
7	0.32%	http://us.mg1.mail.yahoo.com/neo/launch
6	0.27%	http://www.google.com/search
4	0.18%	http://campaign.r20.constantcontact.com/render
4	0.18%	http://mail.verizon.com/webmail/driver
4	0.18%	http://us.mg203.mail.yahoo.com/dc/blank.html
4	0.18%	http://whois.domaintools.com/contractor-training-ca.org
4	0.18%	http://www.prnewswire.com/news-releases/energy-upgrade-california-launches-low-cost-contractor-training-program-130782553.html
3	0.14%	http://us.mg205.mail.yahoo.com/dc/launch
2	0.09%	http://domains.checkparams.com/index.php
2	0.09%	http://extrabot.com/help/grujagakavyjono.htm
2	0.09%	http://search.aol.com/aol/search
2	0.09%	http://sn141w.snt141.mail.live.com/default.aspx
2	0.09%	http://us.mg204.mail.yahoo.com/dc/launch
2	0.09%	http://www.facebook.com/l.php
2	0.09%	http://www.netcraft.com/survey/
1	0.05%	http://bl157w.blu157.mail.live.com/default.aspx
1	0.05%	http://email01.secureserver.net/webmail.php
1	0.05%	http://email05.secureserver.net/webmail.php
1	0.05%	http://email17.secureserver.net/webmail.php
1	0.05%	http://mail.aol.com/35138-111/aol-6/en-us/Suite.aspx
1	0.05%	http://monitor.redcondor.com:7070/reviewer/F/48601/
1	0.05%	http://reverseget.com/domain/contractor-training-ca.org
1	0.05%	http://search.mywebsearch.com/mywebsearch/GGmain.jhtml
1	0.05%	http://sn121w.snt121.mail.live.com/mail/InboxLight.aspx

Figure 14 Total Usage

HITS	%	REFERRERS – FEBRUARY 2012
2341	93.38%	- (Direct Request)
25	1.00%	http://36ohk6dgmcd1n-c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/9/1.0.35/us/en-US/view.html/0
10	0.40%	http://www.google.com/url
9	0.36%	http://mail.rhainc.com/webmail/main.php
8	0.32%	http://36ohk6dgmcd1n-c.c.yom.mail.yahoo.net/om/api/1.0/openmail.app.invoke/36ohk6dgmcd1n/9/1.0.35/us/en-US/view.html
7	0.28%	http://www.prnewswire.com/news-releases/energy-upgrade-california-launches-low-cost-contractor-training-program-130782553.html
6	0.24%	http://us.mg5.mail.yahoo.com/neo/launch
6	0.24%	http://yandex.ru/yandsearch
5	0.20%	http://mail.aol.com/35412-111/aol-6/en-us/Suite.aspx
5	0.20%	http://www.empowersbc.org/news-events/events/want-grow-your-business-right-here-santa-barbara-county
5	0.20%	http://www.facebook.com/l.php
4	0.16%	http://m.facebook.com/l.php
4	0.16%	http://search.aol.com/aol/search
4	0.16%	http://us.mc1815.mail.yahoo.com/mc/welcome
4	0.16%	http://us.mg1.mail.yahoo.com/neo/launch
3	0.12%	http://co124w.col124.mail.live.com/mail/InboxLight.aspx
3	0.12%	http://mail.rhainc.com/webmail/mailView.php
3	0.12%	http://us.mc1622.mail.yahoo.com/mc/welcome
3	0.12%	http://us.mc1811.mail.yahoo.com/mc/welcome
3	0.12%	http://us.mc1814.mail.yahoo.com/mc/welcome
3	0.12%	http://us.mg201.mail.yahoo.com/dc/launch
2	0.08%	http://co107w.col107.mail.live.com/mail/InboxLight.aspx
2	0.08%	http://co110w.col110.mail.live.com/mail/InboxLight.aspx
2	0.08%	http://empowersbc.org/news-events/events/want-grow-your-business-right-here-santa-barbara-county
2	0.08%	http://search.yahoo.com/search
2	0.08%	http://sz0031.ev.mail.comcast.net/zimbra/mail
2	0.08%	http://sz0095.ev.mail.comcast.net/zimbra/mail
2	0.08%	http://us.mc819.mail.yahoo.com/mc/welcome
2	0.08%	http://whois.domaintools.com/contractor-training-ca.org
2	0.08%	http://www.netcraft.com/survey/

In summary, approximately 25,672 hits were registered on the website with the strongest numbers occurring at the launch of the website and during the last 3 months of the program. Of this total, 9,981 were direct requests.

Course Format

Classes taught between August 1 and October 31 were delivered in a four-day format based on BPI Building Analyst Curriculum developed for home performance contractors. This format included 3 days classroom, 1 day field, and ½ day classroom review. E-Learning was introduced September 30, 2011 to support student engagement and knowledge retention. Supplemental duct blast and EnergyPro training were offered until 10/21/2011, but in the interest of better preparing students to pass the BPI Building Analyst exams, were dropped from the program.[1]

Course materials included comprehensive guides for trainers and students:

1) Two decks of PowerPoint slides, one for the four-day training, and a second that leveraged e-Learning content for the all other courses (1-day, 2-day, 3-day and 5-day).
2) E-Learning content including home performance basics, safety and an introduction to house-as-a-system concepts, thermodynamics, air flow, moisture, mechanical systems and building envelope.
3) Instructor Classroom Guides
4) Instructor Field Guides
5) Student Manuals (include slides plus agenda, practice exercises and BPI handouts)
6) John Krigger and Chris Dorsi, Residential Energy: Cost Savings and Comfort for Existing Buildings (library copies available during course)

To compensate for low class enrollment in the first three months and in an effort to improve BPI BA certification rates, course format changes were made in November. Course delivery was extended to a five-day format, with two days classroom and three days field to support the following objectives:

1) Increase pass rates.
2) Increase field training to 1.5 to 2 days per student, spread over three days to provide more individualized mentoring in smaller group settings.

The new format added a ½ day to full day of supervised field mentoring to the field training component. Course materials were streamlined to better leverage the e-learning content and focus on Building Analyst exam preparation.

[1] These segments were provided regionally through Ecology Action and/or its training network.

Classes were scheduled for five days, with 2-day review students admitted on Fridays (field) and Mondays for one day field mentoring and ½ day review prior to the on-line exam. Two-day students were limited to re-test and highly qualified HERS raters or building performance professionals.

Building Performance Review (5 Day Course)	$130 – Two days classroom and 3-day field training, up to 16 students per course. Recommended for experienced contractors with a basic understanding of building science who seek comprehensive preparation for the BA written and practical exams, this course is geared toward students who have a strong familiarity with field techniques and test equipment but need focused training on applied building science. Classroom training covers how to conduct an energy audit (CO, insulation, BAS, windows, doors, simple load calculations, combustion safety, worst case depressurization, minimal draft), incorporating BPI standards into an audit, and homeowner recommendations. Field training includes demonstration of testing techniques and technical procedures and hands-on experience evaluating combustion safety, HVAC systems, air flow and thermal and pressure boundaries.	40	Written BPI BA Exam Field BA Exam

Energy Audit Reports

Student generated Energy Audit reports were provided to field house volunteers where requested. This was intended to provide homeowners with added value for volunteering their time and home for field training. To date, however, only three residents have requested these reports.

Contact Center

In order to respond to increased calls regarding the Program and to provide administrative/marketing support during the student notification process, additional staff at the CSG/Victorville Contact Center was brought on line on November 9, 2011. Once notification e-mails were sent to assigned students, one month prior to each class, the call center initiated a call process in order to ensure individual class enrollment stayed current and that payments were processed as necessary.

The scripted call sequence provided the extra coverage and communication necessary to confirm class rosters. The first call was made 10-25 days before the date of the class. This call confirmed student receipt of the notification e-mail and recorded seat confirmation. The second call (3-7 days before the class starts) was made to any students who had been invited but not confirmed their seat by responding to previous communications by e-mail or phone. During the first two steps of the process, students who could not attend were moved out of the class roster and others assigned based on eligible, active students enrolled on the website.

After last chance calls were made advising students of 24 hour notice, a “crash letter” was sent to other eligible students advising them there may be seats available in the upcoming course. The number of “crash letters” depended on total confirmed class enrollment.

The addition of Call Center support assisted in providing the necessary coverage to respond to inbound calls for each class and assure that student enrollment numbers were achieved through a proactive communication protocol. The Call Center also assisted in the payment process as needed and referred detailed inquiries regarding the Program to the Program Coordinator for further attention when required.

The total estimated Contact Center hours (Nov. 9, 2011-current) are 266.25 hrs and total estimated outbound calls to date are 991.

A total of $32,535 of in kind contributions were made for Administrative Support, including $10,035 for administration and $22,500 for Outreach.

Program in Review

County	Applicants	Contacted	Completed BPI	Completed HERSII/BPC
Alameda	81	24	50	7
Contra Costa	49	20	26	3
Del Norte	2	2	0	0
Fresno	36	13	20	3
Humboldt	26	12	14	0
Kern	31	18	12	1
Lake	29	12	17	0
Los Angeles	26	12	9	5
Marin	30	14	14	2
Mendocino	13	0	12	1
Monterey	28	4	22	2
Napa	15	7	7	1
Orange	35	9	10	16
Placer	53	13	32	8
Riverside	53	24	19	10
Sacramento	184	59	99	26
San Benito	4	3	1	0
San Bernardino	35	18	13	4
San Diego	156	43	101	12
San Francisco	42	18	24	0
San Joaquin	16	7	2	7
San Luis Obispo	22	8	12	2
San Mateo	53	15	38	0
Santa Barbara	67	28	39	0
Santa Clara	76	32	43	1
Santa Cruz	76	31	44	1
Shasta	34	9	25	0
Siskiyou	10	2	8	0
Solano	15	7	7	1
Sonoma	79	34	40	5
Trinity	1	1	0	0
Tulare	32	12	18	2
Ventura	46	24	20	2
Yolo	5	3	2	0
Total	***1460***	***538***	***800***	***122***

Staffing

Ecology Action, CSG, GC Green and Shasta Builders' Exchange took several steps to increase class enrollments and prepared for heightened demand in the last months of the Program. CSG staff included four California-based trainers, four relief proctors, and two additional trainers on call. GC Green staff included three trainers and Shasta Builders' Exchange included two. This brought the total trainers to ten, plus six part-time proctors (including two provided by Ecology Action). The addition of extra proctors also eased the transition to new BPI rules separating trainer and proctor roles effective February 1st.

Increasing Class Enrollments

CSG and GC Green called enrolled contractors who did not confirm via e-mail to personally confirm their seats in classes. While this personal connection assisted in providing contractors with additional motivation to attend classes, the chief barrier remained the cost of taking five days' leave to complete the course. In order to address this gap in class convenience, CSG worked with host facilities to provide schedule modification; evening and modified courses were conducted to further reduce this barrier. The increased student cost ($130 beginning January 1, 2012) served to create more "skin in the game" for contractors, and reduce no-shows. Also, contributing to improved first-day attendance was the announcement of the program end date and reduced availability of classes resulting thereof.

Curriculum and Course Delivery

Curriculum and course delivery were adjusted to be responsive to student diversity, experience and learning styles. Many students found that CSG's training content was challenging and the four-day format too intense. Although this material has worked well with contractor audiences in other home performance programs, the striking difference is the broad diversity of contractors in the SCT Program, with respect to building knowledge, math and language skills. Simplifying and streamlining the course content to better match student backgrounds and capabilities helped to improve the student experience. Paring down the numerous examples presented in the classroom and focusing on field mentoring practice has helped students with knowledge retention. These changes were made in response to student feedback and the demands of meeting training goals.

Concluding Comments

This program succeeded in significantly increasing the number of trained and certified building professionals serving the Program Plus Counties. Program graduates earned professional certifications that enable them to assist Energy Upgrade California participants in improving the safety, comfort, durability and energy-efficiency of their homes. Much teamwork and coordination contributed to strong outreach, smooth course delivery and positive participant experiences across 28 counties.

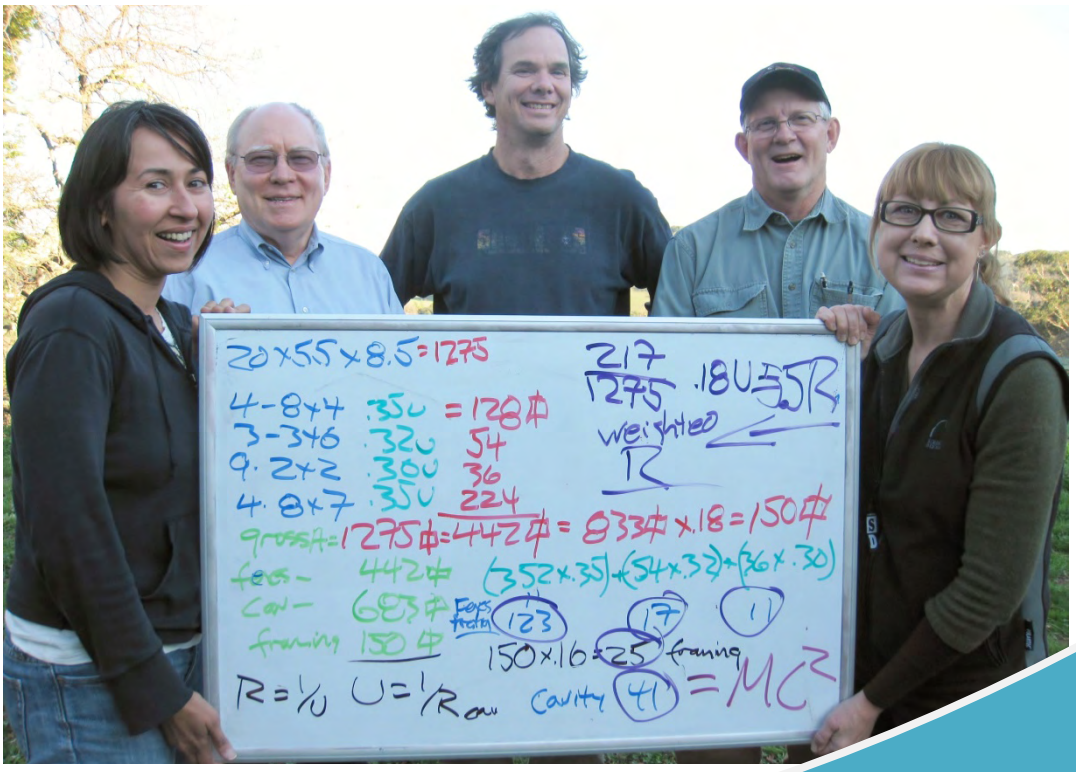
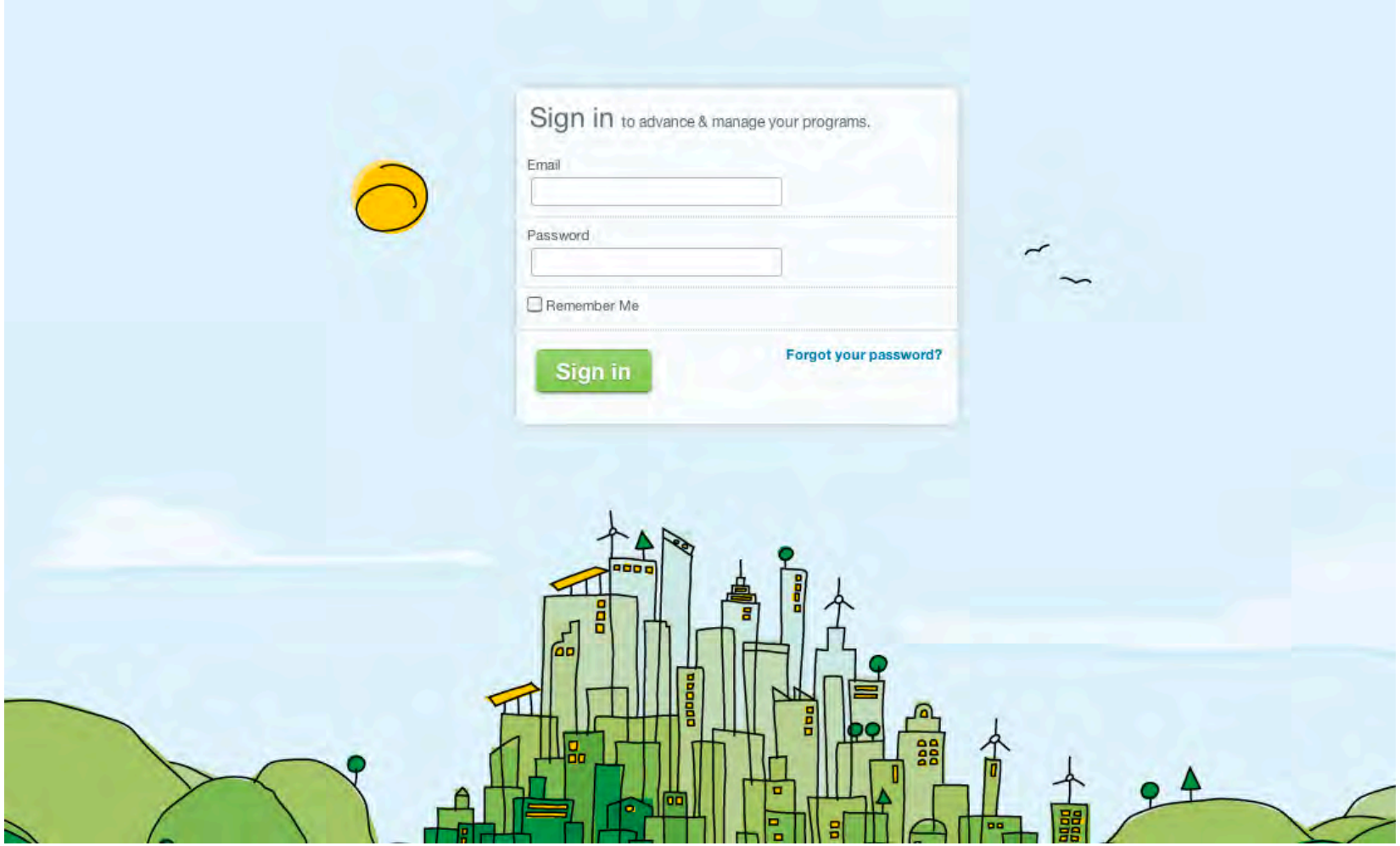


Figure 11. Contra Costa Class Nov 28, 2011

Whole House Home Energy Rating Rebate Application System

Admin Login

https://hers2.energyupgradeca.org/admin/incentive_applications



Admin Access

energy upgrade CALIFORNIA

HERS II

Projects

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00002	Nitin Khanna	(212) 121-2121		121212121212	2011-09-23 09:26 AM
00003	Doug Rains	(619) 390-5250	drains2@cox.net	3954301200	2011-09-26 11:50 AM
00004	Rosen Allen	(760) 944-0194	rosenap@gmail.com	22361	2011-09-26 12:12 PM
00005	Bryon Stafford	(619) 955-8208	bryon@lelandconstruction.com	4684712100	2011-09-26 01:31 PM
00006	Frank Marwood	(619) 546-9548	mrwdrule@cox.net	5331940708	2011-09-26 03:03 PM
00007	Williams Richard	(858) 922-1343	rich@arthaushome.com	2540212300	2011-09-26 07:10 PM
00008	Laura Parker	(619) 379-3456	lparker@delmarrestoration.com	2991920500	2011-09-27 07:56 AM
00009	Greg Bullock	(760) 828-8373	gregmbullock@gmail.com	2591912000	2011-09-27 01:56 PM
00010	Greg Bullock	(760) 828-8373	gregmbullock@gmail.com	2591912000	2011-09-27 01:59 PM

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MIG Marketing & Communications Content List

1. Core Documents		
	Research	
		330-161 Home Energy Raters Focus Group Findings - Final
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		EnergyUpgradeCA_Market-Research-Report.3.pdf
		EnergyUpgradeCA_Market-Research-Report.pdf
		MIG_EUC_HomeEnergyRating_MrktResearch_12.12.11.pdf
		Stakeholder_Interview_Report
		StopWaste Countywide Baseline Report October 2011.pdf
	Implementation Plans	
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MARKETING PROGRAMS IN SUPPORT OF ENERGY UPGRADE CALIFORNIA : Local Government Commission Contract #400-10-004

Identifying information: Organization: Ecology Action; Contact: Bill Maxfield, Vice President of Marketing & Communications; Email: bmaxfield@ecoact.org; Phone: 831-227-6469; Relationship to EUC: ARRA Subcontractor (LGC Contract) Agreement Administrator and Regional

	Time Period	Territory	Statewide/ 30 Plus Counties	Funding From - Sponsor	Marketing Partners	Program Type	Goals	Channel/Tactic	Objectives/ Results	Budget	Start-date	Duration	E-Copy Available-Y/N	Message - Theme of Advertisement/Promo	Total impression estimate
1	Qtr 1 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on major programmatic stakeholders: city/county/state governments/agencies, utilities, other ARRA contractors, complementary programs, industry associations, groups, organizations, etc.	Education/ Outreach	Generate awareness, enthusiasm and engagement with various programmatic stakeholders; identify existing resources and gaps; drive local/regional program design	Multifaceted approach including attendance and coordination at/of stakeholder meetings, trainings, promotional events, email/phone/in-person communications, distribution of program materials, brand guidelines, fact sheets, talking points and other information to facilitate program engagement, cooperation and participation.	1274 stakeholder interactions (251 contractors, 161 government officials, 276 homeowners, 126 NGOs, 450 Other stakeholders); included 170 activities (155 meetings, 4 trainings, 5 promotional events, 4 communications, 2 materials distributions)	Inclusive	Mar-11	4 weeks	Utilized MIG generated toolkit materials; EA generated curriculum slide decks	Part of program discovery phase under LGC contract; EA on-the-ground delivery team formed in Mar 2011; Continued to grow in 2nd Qtr 2011	1,274
2	Qtr 2-3 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on major programmatic stakeholders with increased attention to contractor and homeowner stakeholder groups	Education/ Outreach	Generate awareness, enthusiasm and engagement with various programmatic stakeholders; identify existing resources and gaps; drive local/regional program design; engage and support early contractor and homeowner adopters in program participation	Multifaceted approach including attendance and coordination at/of stakeholder meetings, trainings, promotional events, email/phone/in-person communications, distribution of program materials, brand guidelines, fact sheets, talking points and other information to facilitate program engagement, cooperation and participation.	28,563 stakeholder interactions (9422 contractors, 1766 government officials, 11229 homeowners, 1537 NGOs, 4609 Other stakeholders); included 2683 activities (922 meetings, 130 trainings, 163 promotional events, 1298 communications, 87 materials produced or distributed, 56 media exposure events)	Inclusive	Apr-11	20 weeks	Utilized MIG generated toolkit materials; EA generated curriculum slide decks; other materials generated in cooperation with MIG	EA on-the-ground delivery team formed in Mar 2011; Continued to grow in 2nd Qtr 2011; June-Aug focused on broad stakeholder activities refined in late summer by lessons learned and best management practices identified during this phase. Strategies listed below reference these refined engagement mechanisms fully implemented Sept 2011.	28,563
3	Qtr 3- 4 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on homeowner and contractor engagement; Including coordination with utilities, local/regional/state governmental agencies, business associations, neighborhood groups, nonprofits, other ARRA contractors, complementary programs, etc.	Workshops - Homeowner	Generate awareness, enthusiasm and engagement by introducing homeowners to all aspects/resources of the EUC program (web portal, building professionals [contractors/raters], incentives/rebates, locally appropriate complementary programs, financing opportunities, and local support). Encourage homeowners to go to the web portal, create an account, contact a contractor/rater, get an energy assessment and ultimately upgrade their homes.	Multifaceted community-based high-touch marketing approach targeting homeowners and linking contractors, realtors, lenders, and other stakeholders. Included event coordination, materials development, local social media, email distribution, materials dissemination and posting, and active solicitation of earned media in news, radio and television venues. Pre-event awareness activities further generated workshop demand through community event tabling, stakeholder presentations, targeted canvassing, and utilization of partner distribution networks. Collateral materials generated by EA using MIG templates and guidelines include event banners, postcards, posters and flyers.	139 homeowner workshops yielding an estimated 8.36 million impressions - [Based on Distributed Reach: # ave hard copy flyer impressions: 350 per workshop; ave # electronic impressions per workshop: 1270 = (181,000 impressions); Print/Radio/TV Earned Media: Estimated # Homeowner Stories 9/1 to date: 398; average circulation of earned media source: 20,000 per story (3.7 million estimated impressions); Earned postings & announcements: approx. 437; Ave # impressions per posting: 20,000 (over 4.48 million estimated impressions)]	Inclusive	Sep-11	On-going	Samples available upon request	Reaching Homeowners includes a variety of formats that through active participation, demonstration and dissemination of materials helps to educate the participants about EUC and encourages them to go to the web portal. Earned media for each workshop includes outreach to print, online, radio & TV press; as well as listings in localized and independent newsletters; Includes workshops to date Sept-Dec 2011. Additional workshops completed prior to Sept 2011 are presented above under Q1 and Q2 2011. Final workshops are scheduled for the remaining quarter (Q1 2012) of the program but are not reported here due to current funding status.	225,180
4	Qtr 3- 4 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on homeowner and contractor engagement; Including coordination with utilities, local/regional/state governmental agencies, business associations, neighborhood groups, nonprofits, other ARRA contractors, complementary programs, etc.	Workshops - Contractor	Generate awareness, enthusiasm and engagement by introducing contractors to all aspects/resources of the EUC program (web portal, participation process/required certifications, incentives/rebates, workforce development/appropriate complementary programs, financing opportunities, marketing and local support). Encourage Contractors/Raters to go to the web portal; get registered; sign up for Participation workshops; get BPI certified; make use of SCTP; understand rebates/incentives; market themselves using EUC. Also serves to introduce contractors and raters to homeowners, local support and other stakeholders.	Multifaceted community-based high-touch marketing approach targeting homeowners and linking contractors, realtors, lenders, and other stakeholders. Included event coordination, materials development, local social media, email distribution, materials dissemination and posting, and active solicitation of earned media in news, radio and television venues. Pre-event awareness activities further generated workshop demand through community event tabling, stakeholder presentations, targeted canvassing, and utilization of partner distribution networks. Collateral materials generated using MIG templates and guidelines include event banners, postcards, posters and flyers.	84 Contractor Workshops / Supplemental Trainings yielding an estimated impressions 3.8 million impressions - [Based on Distributed Reach: # hard copy flyer impressions: 419 per workshop, # electronic impressions per workshop: 1865 (191,856 impressions); Print/Radio/TV Earned Media: # Contractor Stories approx. 184 since 9/01/11, ave # earned media impressions: 20,000 per story (1.86 million impressions); Earned media postings & announcements: approx. 200; Average # impressions per posting: 20,000 (1.88 million impressions)]	Inclusive	Sep-11	On-going	Samples available upon request	Reaching Contractors includes a variety of formats that through active participation, demonstration and dissemination of materials helps to educate the participants about EUC and encourages them to go to the web portal and learn more. Earned media for each workshop includes outreach to print, online, radio & TV press; as well as listings in localized and independent newsletters. Includes workshops to date Sept-Dec 2011. Additional workshops completed prior to Sept 2011 are presented above under Q1 and Q2 2011. Final workshops are scheduled for the remaining quarter (Q1 2012) of the program but are not reported here due to current funding status.	191,856
5	Qtr 3- 4 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on real estate professional, lender and contractor engagement; Including coordination with utilities, local/regional/state governmental agencies, business associations, neighborhood groups, nonprofits, other ARRA contractors, complementary programs, etc.	Workshops - Finance/Realtor-Lender	Generate awareness, enthusiasm and engagement by introducing real estate professionals, lenders and contractors to all aspects/resources of the EUC program and their role in the process to increase confidence and understanding and facilitate better coordination between parties. 2-part workshops include broader overview followed by industry-focused break-out sessions. Also highlights program basics (web portal, participation process/required certifications, incentives/rebates, workforce development/appropriate complementary programs, financing opportunities, marketing and local support).	Multifaceted community-based high-touch marketing approach targeting contractors, realtors, lenders, and other stakeholders. Includes event coordination, materials development, local social media, email distribution, materials dissemination and posting, and active solicitation of earned media in news, radio and television venues. Pre-event awareness activities further generated workshop demand through community event tabling, stakeholder presentations, targeted canvassing, and utilization of partner distribution networks. Collateral materials generated by EA using MIG templates and guidelines include postcards, posters and flyers.	11 Finance/Realtor/Lender Workshops yielding an estimated 1.25 million impressions - [Based on Distributed Reach: # hard copy flyer impressions: 393 per workshop, # electronic impressions per workshop: 17,217 (193,000 impressions); Print/Radio/TV Earned Media: Estimated # Stories: 43 since 9/01/11, average# earned media impressions: 20,000 per story (620,000 impressions); Earned media postings & announcements: approx. 67, ave # impressions per posting: 20,000 (440,000 impressions)]	Inclusive	Sep-11	On-going	Samples available upon request	Reaching Realtors and Lenders through finance workshops includes a variety of formats that through active participation, demonstration and dissemination of materials helps to educate the participants about EUC and the financial options available to their clients. Finance workshops are also held for Contractors and information on financing options are also included in Homeowner workshops. Earned media for each workshop includes outreach to print, online, radio & TV press; as well as listings in localized and independent newsletters. Includes workshops to date Sept-Dec 2011. Additional workshops completed prior to Sept 2011 are presented above under Q1 and Q2 2011. Final workshops are scheduled for the remaining quarter (Q1 2012) of the program but are not reported here due to current funding status.	193,710
3	Qtr 4 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on homeowner and contractor engagement; Including coordination with utilities, local/regional/state governmental agencies, business associations, neighborhood groups, nonprofits, other ARRA contractors, complementary programs, etc.	Upgrade Success Events	Generate awareness, enthusiasm and engagement by showcasing a particular homeowner/contract upgrade success story in local media markets and with the presence of key stakeholders, elected officials and/or other representatives to maximize story impact and earned media secured.	Multifaceted marketing approach targeting local media markets to secure earned media exposure in print, radio, television and online media channels. Included event coordination, materials development, local social media, email distribution, materials dissemination and posting, and active solicitation of earned media in news, radio and television venues.	2 upgrade success events yielding an estimated 300,000 print impressions plus considerable TV and radio coverage - [Includes coverage in The Bakersfield Californian (daily paper), Bakersfield Life (monthly magazine), KGET-TV (NBC), KUZZ-FM radio; KCOY-TV (CBS/FOX), KSBY-TV (NBC), San Luis Obispo Tribune (daily paper), Radio interviews on KVEC (live, morning drive time) and KYNS (live, midday), as well as a 5 minute taped interview that aired on American General Media's stations including Q104.5, 98.1 K-Jug/jugcountry.com, Krush 92.5 and 93.3 KZOZ; Radio PSA on KCBX Public Radio] Estimated TV and Radio impression reach is not available at this time.	Inclusive	Sep-11	On-going	Samples available upon request	Reaching Homeowners includes a variety of formats that through active participation, demonstration and dissemination of materials helps to educate the participants about EUC and encourages them to go to the web portal. Earned media for these events is carefully targeted and includes outreach to print, online, radio & TV press. Includes upgrade success events to date Nov-Dec 2011. Final event(s) are scheduled for the remaining quarter (Q1 2012) of the program but are not reported here due to current funding status.	300,000

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6	Qtr 3- 4 2011	Various	ALL	EA (SEP-LGC)	California State Legislature: Assembly and Senate	Legislative Campaign	Secure prominent place and link for EUC logo on legislative websites and write educational information about EUC for broad stakeholder distribution through legislative newsletters and online updates or vignettes.	Direct personal and email outreach marketing to legislative offices via phone and email to district directors, directors of communication, or other pertinent legislative staff. Materials and information provided outlines program context, benefits, value to legislator, and materials for their review/consideration.	35 Assemblymembers contacted to date yielding: 35 EUC educated Assemblymembers and staff; EUC logo on websites: 14; EUC articles in newsletters or on websites: 13 15 Senate offices contacted to date yielding: 15 EUC educated Senators and staff; EUC logo on websites: 1; EUC articles in newsletters or on websites: 2 No specific impressions estimates are known at this time.	Inclusive	Sep-11	16 weeks	Samples available upon request	It was determined that a large number of citizens from various stakeholder groups (homeowners, contractors, realtors/lenders, etc.) could be reached through legislative websites, gaining brand visibility, building program credibility and improving total promotional reach. Outreach and education was provided to each legislative office to generate awareness, understanding and engagement.	600,000
7	Qtr 4 2011	Various	ALL	EA (SEP-LGC)	California State City & County Agencies	Local Government Campaign	Secure prominent place and link for EUC logo on city/county websites and write educational information about EUC for broad stakeholder distribution through legislative newsletters and online updates or vignettes.	Direct personal and email marketing to local government offices via phone and email to environmental offices, planning offices, sustainability office, etc. Provided context, value to official, and materials for their review/consideration and inclusion on website and in newsletters, etc.	Logos added to city/county sites: 10; addition to city Facebook page: 1; Addition to City Twitter address: 1 No specific impressions estimates are known at this time.	Inclusive	Dec-11	On-going	Samples available upon request	Continuing on the heels of the Legislative Campaign, this Local Government Campaign is following the same marketing approach. Each office was personally contacted and time was spent explaining the value of the EUC program. Although still in its early stages, the campaign is receiving much interest in local government offices.	200,000
8	Qtr 3- 4 2011	ALL	ALL	EA (SEP-LGC)	Various; Focused on contractor, rater, current/interested building professional/worker engagement; Including coordination with utilities, local/regional/state governmental agencies, business associations, neighborhood groups, nonprofits, other ARRA contractors, complementary programs, etc.	SCTP Program	Provide subsidized training to contractors for BPI and/or HERS II certification training; Facilitate understanding and interest in EUC program participation, processes and requirements; Connect participants to other relevant supplemental training	Multi-facet approach including outreach, marketing and development of opportunities for to make contractors aware of the availability of the program. Venues include trade shows, building fairs, construction associations, presentations to contractors and their organizations, planning/building departments, workforce development agencies and other governmental entities. Collateral materials generated by EA using MIG templates and guidelines include event banners, postcards, posters and flyers.	Of the Statewide SCTP BPI courses, a total of 88 classes have been completed in 30 counties through Mar 2012, with ~1000 students completing coursework leading to the BPI Written and Field Examinations. Through October 18th, a total of 53 HERS II incentives have been provided to students completing courses in Sacramento and Long Beach. In addition, the Community College SCTP is in the process of training another 90 students. Over 1000 workers will be trained by the end of the contract term. Recent SCTP specific mailing distribution to 6,000 targeted members of the 250,000 CSLB to promote the program.	Inclusive	Aug-11	#######	Samples available upon request	Reaching Contractors includes a variety of formats that through active participation, demonstration and dissemination of materials helps to educate the participants about EUC and encourages them to go to the web portal and learn more. Earned media for each workshop includes outreach to print, online, radio & TV press; as well as listings in same and independent newsletters. All Homeowner Success events are designed to promote the homeowner's upgrade as well as the work of the contractor.	6,000
9	Qtr 3- 4 2011	Various	ALL	EA (SEP-LGC)	Various	Misc. articles written for various newsletters	Gain greater exposure for EUC through community, professional and governmental newsletters; broaden promotional reach; leverage partnerships	Outreach to partners, associations, organizations, municipalities, etc. Also, in response to requests from EUC Field Team and local/regional partners.	18 Articles written to date; Circulations numbers vary from several hundred to hundreds of thousands. Estimated total impressions to date exceed 300,000.	Inclusive	Sep-11	On-going	Samples available upon request	Both independent marketing as well as marketing via the EUC Field Team, our team provides targeted stories that range from 75 words to 600+ words for local and regional newsletters and publications.	300,000
10	Q1-Q4 2011 Inclusive	ALL	ALL	EA (SEP-LGC)	Various	Overall To Date	Increase program awareness, understanding, and engagement to create jobs and increase upgrades	Person-To-Person Direct Stakeholder Interactions	88,881 stakeholder interactions (19413 contractors, 4172 government officials, 35188 homeowners, 3728 NGOs, 12611 Other stakeholders); included more than 7697 activities (1796 meetings, 328 trainings, 596 promotional events, 4200 communications, 297 materials produced; 122 materials distributed; 664 earned media exposures; 169 other engagement)	Inclusive	3/1/2011	On-going	Samples available upon request	Note, these numbers are inclusive of those from Q1-Q4 described above in #1-2; This provides total to date for easy reference. Additional media impressions referenced in #3-9 were secured in addition to the direct stakeholder interactions referenced here. Each stakeholder interaction likely corresponds to a higher total promotional reach or virtual impressions through subsequent word of mouth as stakeholder discusses/promotes the program with family, friend, or colleagues.	222,203
11	Data presented in this summary is based on the best available data at the time of submission and may not be fully reflective all final results attributable to the project.													**Sum of Lines 3-10:**	2,238,949

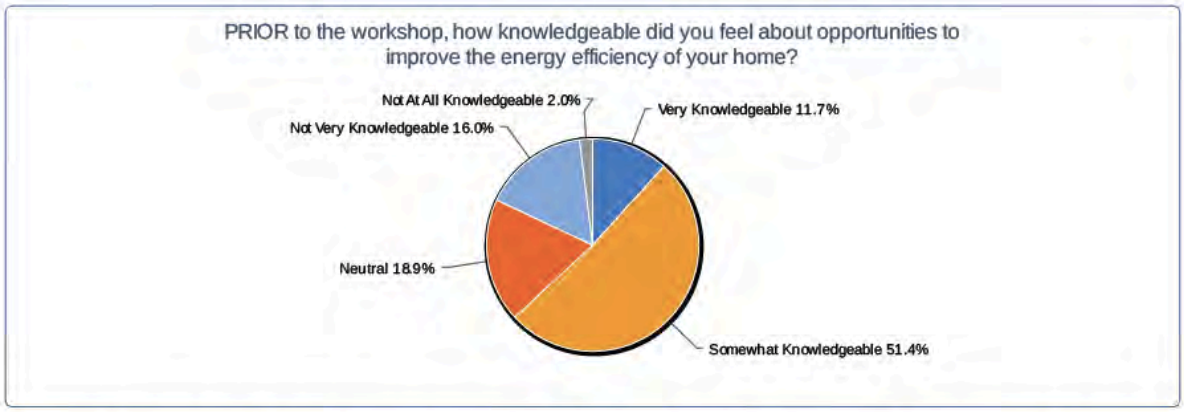
Ecology Action
Homeowner Workshop Survey Responses

Please rank your top 3 reasons for attending an Energy Upgrade California Homeowner workshop (Select up to 3 answers in order of importance)

Item	Total Score[1]	Overall Rank
Learn about Rebates	439	1
Home Comfort Issues (hot/cold rooms)	368	2
Learn about Home Energy Efficiency	316	3
High Utility Bills	313	4
Looking to Install New HVAC/Cooling system, Windows, or Insulation	207	5
Concern about the Environment	178	6
Air Quality Issues / Health Concerns	91	7
Want to Install Solar	83	8
Other	58	9

Total Respondents: 350

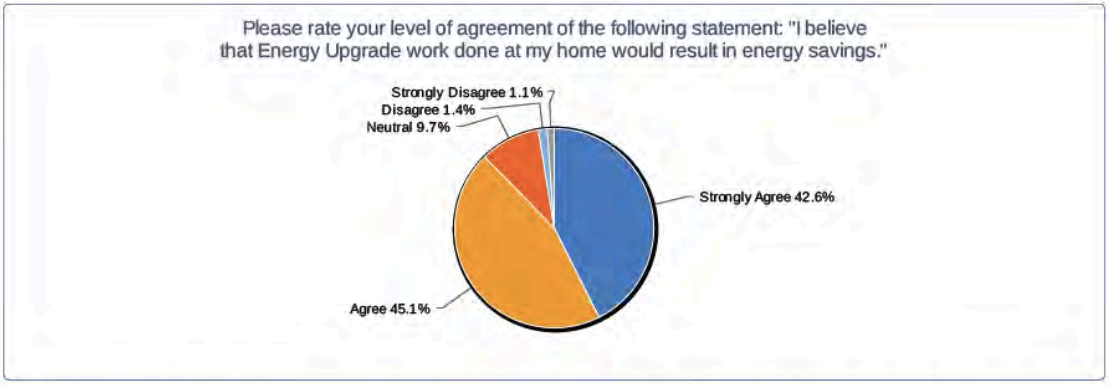
[1] Score is a weighted calculation. Items ranked first are valued higher than the following ranks, the score is the sum of all weighted rank counts.



PRIOR to the workshop, how knowledgeable did you feel about opportunities to improve the energy efficiency of your home?

Value	Count	Percent %
Very Knowledgeable	41	11.7%
Somewhat Knowledgeable	180	51.4%
Neutral	66	18.9%
Not Very Knowledgeable	56	16%
Not At All Knowledgeable	7	2%

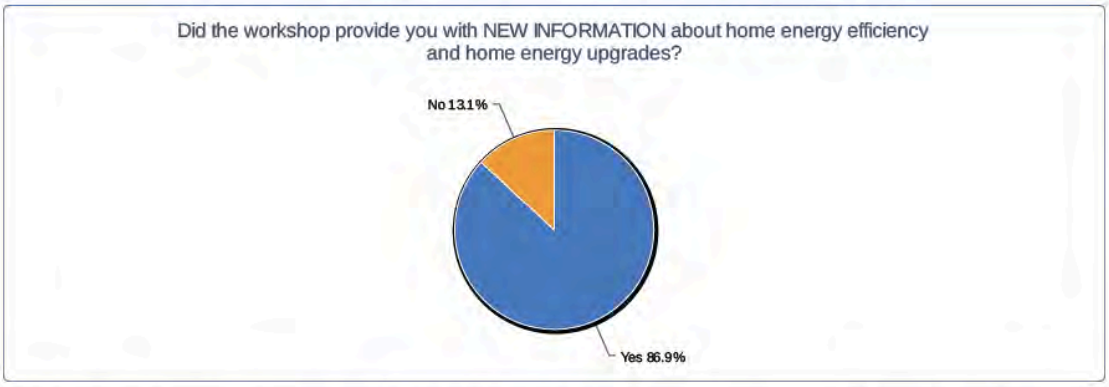
Statistics	
Total Responses	350



Please rate your level of agreement of the following statement: "I believe that Energy Upgrade work done at my home would result in energy savings."

Value	Count	Percent %
Strongly Agree	149	42.6%
Agree	158	45.1%
Neutral	34	9.7%
Disagree	5	1.4%
Strongly Disagree	4	1.1%

Statistics	
Total Responses	350



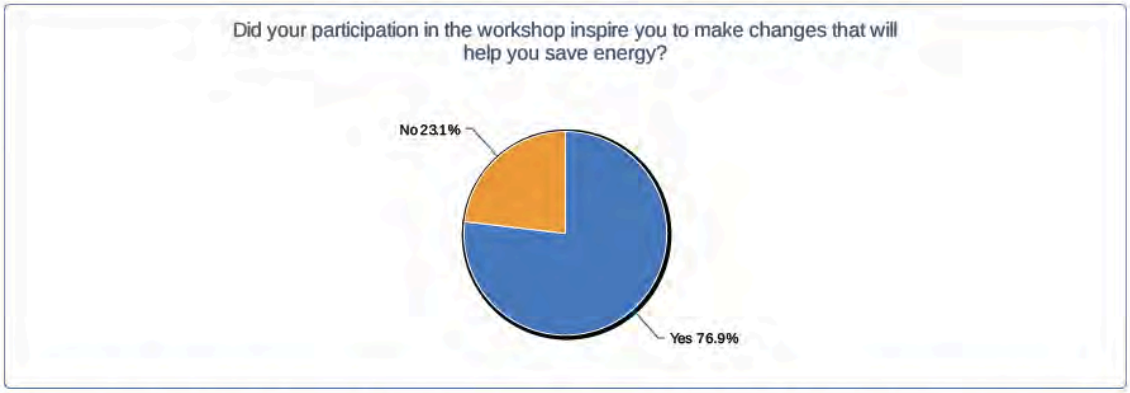
Did the workshop provide you with NEW INFORMATION about home energy efficiency and home energy upgrades?

Value	Count	Percent %
Yes	304	86.9%
No	46	13.1%

Statistics	
Total Responses	350

How much did the workshop...

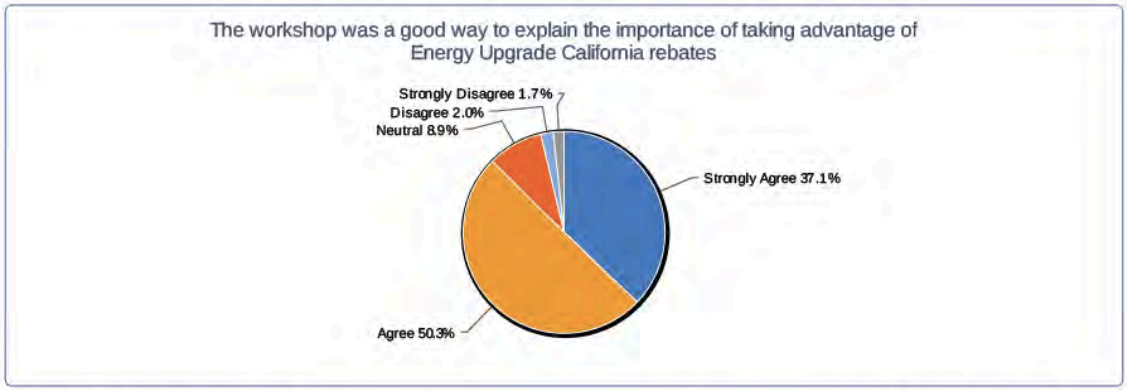
	A Great Deal	A Good Deal	Somewhat	Little	Not At All	Responses
Cause you to think differently about home energy upgrade opportunities?	24.0% 84	39.4% 138	25.7% 90	6.6% 23	4.3% 15	350
Cause you to want to make home energy upgrades?	32.9% 115	37.4% 131	19.7% 69	6.6% 23	3.4% 12	350
Increase your awareness of Energy Upgrade California opportunities?	42.6% 149	40.0% 140	13.7% 48	1.4% 5	2.3% 8	350



Did your participation in the workshop inspire you to make changes that will help you save energy?

Value	Count	Percent %
Yes	269	76.9%
No	81	23.1%

Statistics	
Total Responses	350



The workshop was a good way to explain the importance of taking advantage of Energy Upgrade California rebates

Value	Count	Percent %
Strongly Agree	130	37.1%
Agree	176	50.3%
Neutral	31	8.9%
Disagree	7	2%
Strongly Disagree	6	1.7%

Statistics	
Total Responses	350

BEFORE LEAVING the workshop, did you take any of the following actions?

	Yes	No	Responses
Speak to an Energy Upgrade California representative	60.0% 210	40.0% 140	350
Speak to a Home Performance Contractor	61.4% 215	38.6% 135	350
Pick up literature to read later	92.8% 324	7.2% 25	349
Tour the Energy Upgrade California website	36.7% 128	63.3% 221	349
Enroll in the Energy Upgrade California website	21.8% 76	78.2% 273	349
Schedule a Home Energy Assessment	22.3% 78	77.7% 271	349

Did you take any additional actions AFTER LEAVING the workshop

	Yes	No	Responses
Visited the Energy Upgrade California website	69.1% 242	30.9% 108	350
Enrolled in the Energy Upgrade California website	37.0% 129	63.0% 220	349
Shared Energy Upgrade information with a friend/colleague	73.4% 256	26.6% 93	349
Searched for additional information related to home energy efficiency	61.6% 215	38.4% 134	349
Searched for additional information on financing	31.0% 108	69.0% 240	348
Attempted to convince family members that home energy efficiency measures are needed	47.0% 163	53.0% 184	347

AFTER THE WORKSHOP, do you find that you are monitoring more closely:

	Yes	No	Not Applicable	Responses
Home energy usage	60.3% 211	37.7% 132	2.0% 7	350
Utility bill	57.1% 200	41.4% 145	1.4% 5	350
Home comfort	62.2% 217	36.7% 128	1.1% 4	349
Air quality	35.9% 125	61.8% 215	2.3% 8	348
Condition/quality of HVAC/cooling systems, lighting, windows, &/or insulation levels	58.2% 203	40.7% 142	1.1% 4	349
Thermostat settings	54.9% 192	42.9% 150	2.3% 8	350

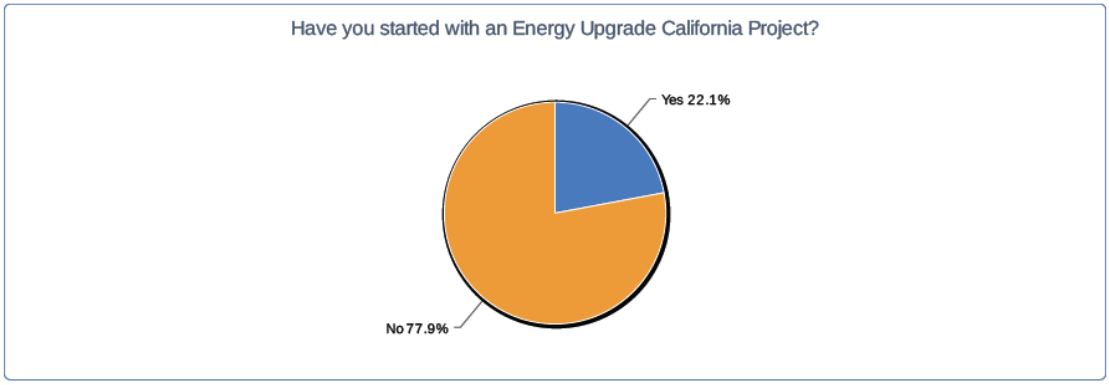
Since the homeowner workshop, have you...

	Yes	No	Not Yet - But I PLAN TO	Responses
Contacted an Energy Upgrade California Participating Contractor?	48.6% 170	33.7% 118	17.7% 62	350
Scheduled an appointment for a Home Energy Assessment or Rating?	41.7% 146	38.9% 136	19.4% 68	350
Completed a Home Energy Assessment or Rating on your property?	35.7% 125	44.0% 154	20.3% 71	350

Have you started with an Energy Upgrade California Project?

Value	Count	Percent %
Yes	77	22.1%
No	272	77.9%

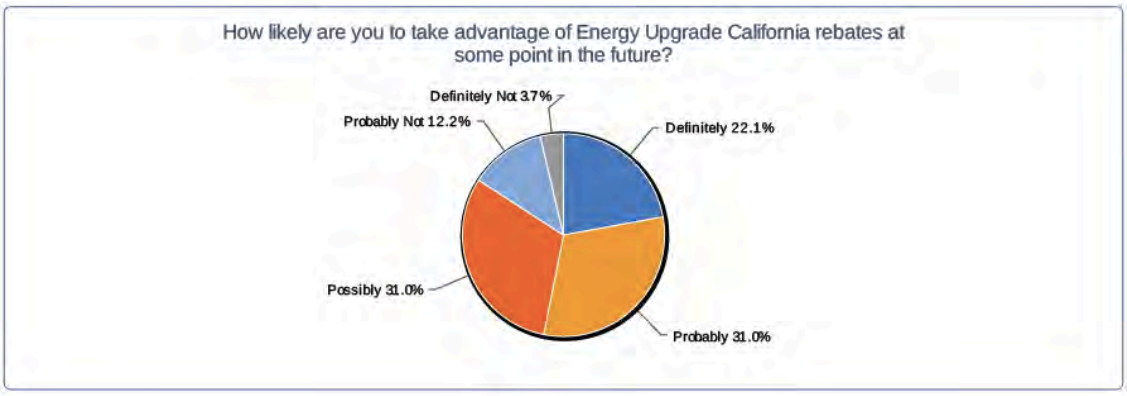
Statistics	
Total Responses	349



How likely are you to take advantage of Energy Upgrade California rebates at some point in the future?

Value	Count	Percent %
Definitely	60	22.1%
Probably	84	31%
Possibly	84	31%
Probably Not	33	12.2%
Definitely Not	10	3.7%

Statistics	
Total Responses	271



QA/QC Matrix for Energy Upgrade California

All Whole House Basic or Advanced Upgrade Packages EUC: Administration	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**
Program Administrators	SCE/SoCalGas	SoCalGas	Build It Green (BIG)	SDG&E
Pre-installation Administrative Review	RHA - Technical review of documentation for data accuracy SCE - Application review for completeness	ICF	EGIA (Subconsultant on Build It Green team)	SDG&E
Desk-top review Administrators	RHA - Technical review of documentation for data accuracy SCE - Application review for completeness	AESC performs Advanced desk top review and ICF performs Basic desk top review.	BIG	RHA
QA/QC Administrators	SCE/SoCalGas	SoCalGas	BIG	RHA
QA/QC implementers	RHA - physical inspection and technical review	QA - AESC performs Advanced and ICF performs Basic. QC - RHA	BIG with Subcontracts to independent third party verifiers	RHA
Post-installation Administrative Review	RHA - physical inspection and technical review SCE - Application review for completeness Lincus - EnergyPro review for projects greater than 35% savings	ICF	EGIA	RHA
Post-installation field review by IOU Yes/No and what percent?	No (Inspections performed by 3rd Party only)	No (Inspections performed by 3rd Party only)	Yes - PG&E inspection teams contact 100% of jobs	No (Inspections performed by 3rd Party only)
Post-installation field by IOU (if Yes) what is inspected?	N/A	N/A	BPI Combustion Appliance Zone	N/A
All Whole House Basic or Advanced Upgrade Packages EUC Programmatic Policies	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**
Home Eligibility 1. Single family, 2. 2-plex, 3-plex, 4-plex	Single family detached homes with active service accounts. Currently working on a proposal to address 2 - 4 units.	Single family detached homes with active service accounts.	Single-family, detached homes without propane. 2-4 unit attached homes without propane are eligible. Mastermetered buildings are not currently eligible. (For more information, see "2 - 4 Unit FAQs" and "2 -4 Unit Building Requirements" on http://www.builditgreenutility.org/document-library)	Single Family detached and 2-4 units buildings provided the units share no more than shared wall between units, there are no common or shared spaces (i.e. attics), there is no communication between units, and no installed measures will have any affects on adjacent units. 2-4 units who do not meet all of above criteria are elibible to participate in EUC MF Pilot.
Contractor Eligibility: Licensing including BPI	**Basic contractor eligibility:** California State License Board (CSLB) License in the appropriate specialty, bonded and in good standing, minimum insurance. **Advanced contractor eligibility:** In addition to the above, participating contractors must be BPI accredited or have a BPI analyst on staff.	**Basic contractor eligibility:** California State License Board (CSLB) License in the appropriate specialty, bonded and in good standing, minimum insurance. **Advanced contractor eligibility:** In addition to the above, participating contractors must be BPI accredited or have a BPI analyst on staff.	Certified BPI Building Analyst on Staff and valid California General B license.	BPI Building Analyst Certified on Staff+ Valid California contractor's license appropriate to the scope of work. There is also a Participating Rater Path for HERSII Raters with BPI Certification to submit projects for incentives, provided the customer utilizes a participating contractor for work.
Additional Contractor Eligibility Requires	Participation Workshop, Basic Training for new contractors who do not have a BPI analyst on staff.	Participation Workshop, Basic Training for new contractors who do not have a BPI analyst on staff.	Participation Workshop and additional affidavit that no contractor employee with access to Customer homes has been convicted within the last seven (7) years of any of the following misdemeanors or felonies: arson, assault, battery, burglary, driving under the influence (more than two instances), domestic violence, larceny, manslaughter, murder, theft (including but not limited to identity theft) and any crimes against children.	Participation Workshop. In addition to the contractor requirements for participation in the Prescriptive Path, contractors' requirements for the Performance or advance path will include: • BPI Certification in the appropriate specialty; • BPI Accreditation: Contractors are strongly encouraged to obtain firm-wide BPI accreditation within 12 months proceeding enrollment in the performance path; and • Training and proven ability to operate approved software (EnergyPro) to generate comprehensive work scopes and recommendation to customers, when ready; •Sign Contractor Participation Agreement; •Insurance/ bonding requirements; •Ethics/ criminal history requirements
Contractor Eligibility: Insurance Requirements	Commercial General Liabiity (CGL): $1 Mil aggregate each occurrence / $2 Mil aggregate for bodily injury, property damage, and personal injury Business Automotive Liability : $1 Mil for individual accident - Symbol 1 or Symbol 7, 8, 9 CA Statutory Workers Compensation: $1 Mil per employee occurrence or waiver stating they have no employees	Commercial General Liabiity (CGL): $1 Mil aggregate each occurrence / $2 Mil aggregate for bodily injury, property damage, and personal injury Business Automotive Liability : $1 Mil for individual accident - Symbol 1 or Symbol 7, 8, 9 CA Statutory Workers Compensation: $1 Mil per employee occurrence or waiver stating they have no employees	$1M commercial general liability (list list "Build It Green" and "PG&E" as additional insured); $1M business auto liability; Workers compensation and $1M employer's liability. Certificates of insurance are required.	Commercial General Liabiity (CGL): $1 Mil aggregate each occurrence / $2 Mil aggregate for bodily injury, property damage, and personal injury Business Automotive Liability : $1 Mil for individual accident - Symbol 1 or Symbol 7, 8, 9 CA Statutory Workers Compensation: $1 Mil per employee occurrence or waiver stating they have no employees Pollution Liability: $1 Mil each occurence/ $2 Mil aggregate Professional Liability: $1Mil each occurence/ $2 Mil aggregate
Code of Ethics for QA Verifiers	Do no harm policy. Health and safety first and foremost.	Do no harm policy. Health and safety first and foremost.	Yes	Yes
Mentoring - Format to improve Contractor quality and feedback from jobs-- Stricky Enforced or How?	A mentoring session can take place at either the Reservation or Application stage of the project. The contractor will be evaluated based on their baseline performance in each of these areas: Field/Data Collection, JRT/Job Processing and EnergyPro-. The ratings will be based on BPI Building Analyst Technical Standards and Energy Upgrade California QA/QC Guidelines. The contractor will receive the ratings within 2 business days of the mentoring session. The mentor will discuss the results with the contractor and offer areas of improvement. The contractor will have 3 attempts to receive a 90% standard rating. If the contractor achieves a 95% or higher score on the first or second Field session, they they are not required to complete the final 1 or 2 sessions. The Job Processing/EnergyPro sessions must all be completed and are a Pass/Fail. If the contractor fails to receive a satisfactory rating after 3 attempts, then the contractor will be referred to Program Management for discretionary action. IMPORTANT: Contractors should keep in mind that the mentoring session is to observe current knowledge, NOT provide contractor training.	A mentoring session can take place at either the Reservation or Application stage of the project. The contractor will be evaluated based on their baseline performance in each of these areas: Field/Data Collection, JRT/Job Processing and EnergyPro-. The ratings will be based on BPI Building Analyst Technical Standards and Energy Upgrade California QA/QC Guidelines. The contractor will receive the ratings within 2 business days of the mentoring session. The mentor will discuss the results with the contractor and offer areas of improvement. The contractor will have 3 attempts to receive a 90% standard rating. If the contractor achieves a 95% or higher score on the first or second Field session, they they are not required to complete the final 1 or 2 sessions. The Job Processing/EnergyPro sessions must all be completed and are a Pass/Fail. If the contractor fails to receive a satisfactory rating after 3 attempts, then the contractor will be referred to Program Management for discretionary action. IMPORTANT: Contractors should keep in mind that the mentoring session is to observe current knowledge, NOT provide contractor training.	Participating Contractors in Tiers 1 and 2 will be invited to schedule up to five field verifications to coincide with the job close-out, as a way of obtaining field mentoring Participating Contractors will receive feedback derived from Customer satisfaction surveys and paper and field verification. QA protocols address: • Customer Complaint Procedures • Mechanism for constructive feedback • Implementation of appropriate disciplinary measures if necessary for non-compliant Participating Contractors • Mechanism for improvement	Up to three mentoring projects per contractor. Mentor/Trainer will field mentor and assist with project modeling, customer presentation, and project submittal. Contractor with mentor allowed to shadow inspector and have dialogue with inspector for feedback at conclusion of QC on-site inspection. Field mentoring and assist with project test-out and final modeling and submittals. In 2012, three mentoring projects will be required for all new participating contractors on their first three projects.
If Multi-Family is allowed, what are Contractor eligibility requirements?	MF is not allowed. SCE/SoCalGas is in the process of filing the MF EUC program.	MF is not allowed. SCE/SoCalGas is in the process of filing the MF EUC program.	Internal list authorization for contractors allowed to treat 2-4 units; BIG observation required. See "2 - 4 Unit FAQs" and "2 -4 Unit Building Requirements" on http://www.builditgreenutility.org/document-library	Owners/ Managers may use the contractor of their choice. They must use a participating Rater and certified BPI MF BA
Project Authorization Required Days for From submittal to start of job	RHA performs a pre on-site inspection prior to project construction to verify pre existing condition of the home. Based on the customers availability, pre on-site inspection are normally scheduled within 5 business days of receiving the customers Reservation Package. If the project falls within the 5 business days time frame, the contractor can receive the a notice to proceed with the project, after the pre on-site inspection is conducted, on the 6th business day.	Basic Path (no site inspection) 48-72 hours for Confirmation of Incentive Reservation Letter to be issued. Basic Path (with site inspection) 5-7 days for Confirmation of Incentive Reservation Letter to be issued. Advanced Path (no site inspection and clean/completed lication) 5 business days for Confirmation of Incentive Reservation Letter to be issued. Advanced Path (with site inspection within 5 days of submittal and clean/completed application) 10 days for Confirmation of Incentive Reservation Letter to be issued. Projects must be completed within 90 days from issuance of Confirmation of Incentive Reservation Letter, 2 seperate 30 day extensions are available if needed.	Project authorization is 5 Days: 3-day desktop review cycle, followed by 2-day admin review cycle. EGIA reviews the following job application elements to confirm Customer and Participating Contractor eligibility: Participating Contractor information, Account Holder/Property Owner Information, Utility service, Combustion Appliance Safety test-in results.	contractor to be notified within 1 working day if on-site inspection will be required or their will be no inspection. If no on-site inspection, contractor may proceed on the third working day following submittal unless he is contacted to correct an issue. Guarantee to contractors to recieve submittal feedback within 3 working days regardless. For projects selected for on-site inspection, contractor will recieve results of review/inspection within 3 working days of inspection guaranteed.
Rebate check -- designation	In SCE/SoCalGas shared territories, the incentive check can be remitted to the contractor. The customer must sign the Payment Release Authorization in order for the contractor to receive payment. The Payment Release Authorization is located in the program application form.	In SoCalGas territory, the incentive check can be remitted to the contractor. The customer must sign the Payment Release Authorization in order for the contractor to receive payment. The Payment Release Authorization is located in the program application form.	Rebate check goes to account holder for single family (or account holder can assign the incentive to the property owner). Rebate check goes to property owner for 2-4 unit buildings.	Customer; Participating Contractor or Partcipating HERSII Rater
All Whole House Basic or Advanced Upgrade Packages EUC: Submittals, Sampling and EnergyPro	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**

Required Documentation for Desk-top Submittal-- Please list and reference specific documents needed for submittal 1. Checklist 2. Protocols 3. Processes	**Reservation** **Basic Path:** 1. Contractor Checklist (Recommended) 2. Signed Incentive Reservation Form 3. Job Reporting Template 4. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) **Advanced Path:** 1. Contractor Checklist (Recommended) 2. Signed Incentive Reservation Form 3. Job Reporting Template 4. EnergyPro Building Model (.BLD file) 5. EnergyPro Econ-2 Report (.PDF file) 6. 12 Months Utility History or include on JRT 7. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) **Application** **Basic Path:** 1. Contractor Checklist (Recommended) 2. Signed Incentive Application Form 3. Job Reporting Template 4. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) **Advanced Path:** 1. Contractor Checklist (Recommended) 2. Signed Incentive Application Form 3. Job Reporting Template 4. 12 Months Utility History or include on JRT	**Reservation** **Basic Path:** 1. Signed Incentive Reservation Form 2. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) 3. Signed scope of work 4. Customer facing report **Advanced Path:** 1. Signed Incentive Reservation Form 2. EnergyPro Building Model (.BLD file) 3. EnergyPro Econ-2 Report (.PDF file) 4. 12 Months Utility History included in EnergyPro 5. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) 6. Signed scope of work / detailed invoice 7. Customer facing report 8. Field data collection forms 9. EnergyPro Building Model (.XML file) **Application** **Basic Path:** 1. Signed Incentive Reservation Form 2. Other Supporting Documentation (i.e. Pictures, House Sketches, Proposals; Recommended) 3. Signed scope of work 4. Customer facing report **Advanced Path:** 1. Signed Incentive Reservation Form 2. EnergyPro Building Model (.BLD file)	Refer to "Appendix A – Desktop Review Process" in the "Quality Assurance and Quality Control Protocols" document (http://www.builditgreenutility.org/document-library).	Per QA QC Process and Protocols document
Documents that must be submitted by QA/QC field inspectors Please list and reference specific documents needed for submittal 1. Checklist 2. Protocols 3. Processes	Inspectors provide checklist, pictures, and sketches (when required).	Inspectors provide checklist, pictures, and sketches (when required).	Refer to "Appendix B – Field Verification Worksheet" in the "Quality Assurance and Quality Control Protocols" document (http://www.builditgreenutility.org/document-library).	Per QA QC Process and Protocols document
Combustion Ventilation Air (CVA) inspected?	Yes	Yes	Yes, required	Required
Combustion Ventilation Air (CVA): Form Name and Link	Need further clarification to answer.	Need further clarification to answer.	The CVA Fact Sheet is on "CAS Field Checklist." CVA recorded on the "EUC Test Measurements Form" (http://www.builditgreenutility.org/document-library).	Test information and Testor BPI certification information provided in project submittal database.
CO Monitors are part of final Field QA/QC checklist?	No	No	Yes, refer to "Appendix C - Field Scoring Worksheet" in the "Quality Assurance and Quality Control Protocols" document (http://www.builditgreenutility.org/document-library).	Yes
Hot Water insulation is part of final field QA/QC checklist?	Yes. Install insulation on all visible hot and up to 5 feet of visable cold water pipes from domestic hot water heater.	Yes. Install insulation on all visible hot and up to 5 feet of visable cold water pipes from domestic hot water heater.	Yes, if part of statement of work or basic upgrade package.	If it is part of work scope.
Sampling Rates for Participating Contractors* * These are according to work plans - but no reporting of these sampling rates for each participating contractor could be located	No. Currently inspecting 100% of projects.	Tier 1 - In-field inspection on three of the first five jobs completed by a new Participating Contractor (60% verified). Tier 2 - After the first five jobs are completed and Tier 1 is satisfactorily passed, at least four of the next twenty jobs will receive in-field inspections (20% verified). Tier 3 - After completion of their first 25 jobs; 15% rate for Participating Contractors without BPI-BA on staff (1 in 7) 5% rate for Participating Contractors with BPI-BA on staff (1 in 20); 2% rate for BPI-Accredited Participating Contractors with SoCalGas approval (1 in 50)	**Tier 0** 100% review of Participating Contractor's jobs while Participating Contractor has outstanding corrective actions. **Tier 1** In-field inspection on three of the first five jobs completed by a new Participating Contractor (60% verified). **Tier 2** After the first five jobs are completed and Tier 1 is satisfactorily passed, at least four of the next twenty jobs will receive in-field inspections (20% verified). **Tier 3** After completion of their first 25 jobs; 15% rate for Participating Contractors without BPI-BA on staff (1 in 7) 5% rate for Participating Contractors with BPI-BA on staff (1 in 20); 2% rate for BPI-Accredited Participating Contractors with PG&E approval (1 in 50). **ALSO:** PG&E will attempt to inspect all jobs completed in the program (100%) to ensure combustion appliances are in working condition and safe.	100% Pre and Post Desktop Review. Minimum Sampling Rates for Pre-Project Quality Control field verification and inspection: a. 100% of the first ten projects b. Seven of the next twenty projects c. 10% of projects after the 30th project utilizing computerized algorithms to randomly select projects d. Performance based sampling rates may be set on a case by case basis by QA/QC provider, with SDG&E approval, for identified under-performing contractors. Minimum Sampling Rates for Post-Project Quality Control field verification and inspection: a. 100% of the first ten projects b. Seven of the next twenty projects c. 5% of projects after the 30th project utilizing computerized algorithms to randomly select projects d. Performance based sampling rates may be set on a case by case basis by QA/QC provider, with SDG&E approval, for identified under-performing contractors
List Documents of recommended best practices and installation Measures (Document Name)	None provided by program; refer to BPI and/or other industry documents	SoCalGas installation specificiation handbook	Refer to "Installation Specifications" (http://www.builditgreenutility.org/webinars)	Measures Installation Standards
Program provides an EnergyPro Handbook, webinar or both	Both	Both	Recorded webinar (http://www.builditgreenutility.org/webinars)	Both
Program provides additional training in EnergyPro? In what format?	Yes. In person, webinar, and online learning center.	Yes. In person, webinar, and online learning center.	In addition to the webinar, there is EnergyPro mentoring on an appointment basis.	Webinar; in person workshops; mentoring
EnergyPro Modeling: # of Building Models are allowed	1 and 2 models accepted	1 and 2 models accepted	1 (one file for test in and test out)	2 (one for test in and one for test out)
EnergyPro Modeling: Site Energy vs. TDV	Site Energy	Site Energy	Site Energy	Site Energy
EnergyPro Modeling: 12 Month History	Required in JRT	Required in EnergyPro	Required (customer specific or EnergyPro default accepted)	Required but not enforced
EnergyPro Modeling: what appliances can be counted?	None	None	Primary refrigerator	Require infor or default value for all existing appliances. As a measure any appliance that can be modeled is allowed, but only refrigerators are permitted to be modeled as load reduction
EnergyPro Modeling: Can solar DHW be counted?	No. Solar is not part of the program.	No. Solar is not part of the program.	No	No
EnergyPro Modeling: Thermostatic Set Points checked	Default to 70 and 78	Default to 70 and 78	No	Yes
EnergyPro Modeling: Program has a method for modeling buried ducts? (If exists, what document explains this protocol?)	Allowed if Manual D, drawing, or supply house receipt is provided as supporting documentation. Ducts must be entered into the Measured Duct Surface tab. The program has an existing document called modeling buried ducts which can be found on the participating contractors resource page.	Allowed if Manual D, drawing, or supply house receipt is provided as supporting documentation. Ducts must be entered into the Measured Duct Surface tab. The program has an existing document called modeling buried ducts which can be found on the participating contractors resource page.	Yes, however policy restricts buried duct credit to R-12 max insulation value on improved ducts.	Yes; Use BPI tables
EnergyPro Modeling: Program accepts either total leakage or leakage to outside. If both, state both (If exists, what document explains this protocol?)	Total leakage. It is available in the program QA/QC inspection guideline handbook.	Total leakage. It is available in the program QA/QC inspection guideline handbook.	Both. The software doesn't distinguish between the two. Contractor must measure using the same methodology on test-in and test-out.	Both now; based on Calcerts memo are revising both QA/QC Process and Protocols and Measures Installation Standards documents now to be only Leakage to outside
EnergyPro Modeling: Program has a method for modeling infiltration splits between zones (Existing & Improved) (If exists, what document explains this protocol?)	Yes. Based on the CFA in the zone. It is available in the EnergyPro handbook.	Yes. Based on the CFA in the zone. It is available in the EnergyPro handbook.	No, it's not possible to accurately test this in a real house. EnergyPro requires splitting building leakage across all zones for proper incentive calculations.	No; has not come up yet, would email Energy Pro and then put in QA/QC documents
EnergyPro Modeling: Program has a method for modeling combined hydronic system (Existing & New) (If exists, what document explains this protocol?)	Yes. It is available in the EnergyPro handbook.	Yes. It is available in the EnergyPro handbook.	Yes.	No; has not come up yet, would email Energy Pro and then put in QA/QC documents

EnergyPro Modeling: Program has method for modeling knee walls (If exists, what document explains this protocol?)	Yes. It is available in the EnergyPro handbook.	Yes. It is available in the EnergyPro handbook.	Yes.	Yes, as a shaded wall; not in QA/QC documents
EnergyPro Modeling: Program has method for modeling pools and spas (If exists, what document explains this protocol?)	Pool pumps/heaters and associated outdoor usage from water heating and pumping (jacuzzi, fountains) is excluded from whole house calculation for advanced projects.	Pool pumps/heaters and associated outdoor usage from water heating and pumping (jacuzzi, fountains) is excluded from whole house calculation for advanced projects.	No, pool and spa pumps cannot be modeled in EnergyPro.	Process and Protocols has method for modeling pools and spas and combined solar/gas heating systems.
EnergyPro Modeling: Program has method for modeling home additions (If exists, what document explains this protocol?)	Yes. It is available in the EnergyPro handbook.	Yes. It is available in the EnergyPro handbook.	Yes.	Yes, leave addition out in pre submittal and in post turn the exterior wall into adiabatic wall. Not in QA/QC documents
EnergyPro Modeling: Program has method for modeling multiple assembly upgrades (i.e. two different upgraded roof R-values) (If exists, what document explains this protocol?)	Yes. It is available in the EnergyPro handbook.	Yes. It is available in the EnergyPro handbook.	Yes, but this can depend on the circumstance.	Yes, split assembly upgrades into 2 different assembly upgrades. Not in QA/QC documents
EnergyPro Modeling: Program has method for modeling multi-system homes (DHW, HVAC) (If exists, what document explains this protocol?)	Yes. It is available in the EnergyPro handbook.	Yes. It is available in the EnergyPro handbook.	Yes.	Yes, model enter another system and enter the correct attached zones for each system. Enter systems based upon combined BTU's and efficiency for each system and combine in the model.
EnergyPro Multifamily Modeling: Whole Building vs. Each unit separately	Not part of the single family program	Not part of the single family program	For 2-4 unit buildings, each unit is modeled and treated separately.	For MF buildings 2 units or greater that are required to participate in MF, the modeling is by whole building. For 2-4 unit buildings where individual units are qualified to participate in SF, then modeling is done per unit.
All Whole House Upgrade Diagnostic Testing	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**
What is the allowable variance between contractor data and QC inspection	Variances pending approval	Variances pending approval	Duct leakage is within 5% of test-out results. Building leakage is within 5% of test-out results. Square footage is within 10% of EP model. Glazing per orientation is within 20% of EP model. All Full Application ECON-2 upgrades were installed.	10% for any individual diagonostic number or measurement.
Combustion appliance safety test	CAS test must be conducted before and after the upgrade is completed and anytime work is done that impacts the pressurization of the home (including infiltration measures)	CAS test must be conducted before and after the upgrade is completed and anytime work is done that impacts the pressurization of the home (including infiltration measures)	Combustion Safety Testing must be conducted before and after the upgrade is completed and anytime work is done that impacts the pressurization of the home (including infiltration measures).	Home must pass. Make repairs or take other corrective actions as specified in the Combustion Appliance Safety Action Guidelines.
Blower Door	0.35 ACHn target, 14% reduction in leakage is the minimum performance, achieved in accordance with BPI Standards and ASHRAE 62.2. Pressurize is the default method. If a hazardous condition existis within the property, no pressurization testing will occur.	0.35 ACHn target, 14% reduction in leakage is the minimum performance, achieved in accordance with BPI Standards and ASHRAE 62.2. Pressurize is the default method. If a hazardous condition existis within the property, no pressurization testing will occur.	Guideline: 0.35 ACHn target achieved in accordance with BPI Standards and ASHRAE 62.2, if chosen as an upgrade measure. Required unless asbestos is present.	0.35 ACHn target, 0.5 ACHn minimum performance, achieved in accordance with BPI Standards and ASHRAE 62.2. De-Pressurize unless any of the following is identified: asbestos, vermiculite, solid fuel appliance with loose ashes, animal feces in attic or crawls space, raw sewage under the home. If one of the above is present, pressurization may be allowed.
Duct sealing	Final leakage rate cannot exceed 15% of airflow based on 400 CFM per ton or 21.7 CFM per kbtu output for heat only systems. If system exceeds final leakage rate of 15%, a CF-4R is required.	Final leakage rate cannot exceed 15% of airflow based on 400 CFM per ton or 21.7 CFM per kbtu output for heat only systems. If system exceeds final leakage rate of 15%, a CF-4R is required.	Guideline: Reduce duct leakage to 10% or less of nominal or actual air flow of the heating/cooling system. Any reduction from test-in conditions is accepted.	Reduce duct leakage to 10% or less of nominal air flow of the heating/cooling system.
How is leakage to outside verified or enforced? Or is total leakage accepted?	Total leakage is the default. Enforced by duplicating leakage test.	Total leakage is the default. Enforced by duplicating leakage test.	Leakge is only verified if field verification is done. Total leakage, based on nominal or actual air flow, and leakage to outside are both allowed.	New Duct System: Designed and sized per ACCA Manual D; ducts located in unconditioned spaces shall be buried in insulation or insulated to minimum R-8; duct leakage shall not to exceed 6% of nominal air flow; meet or exceed Title 24 requirements. Existing Duct System: 15% total system leakage if not feasible then seal all accessible leaks and smoke test.
Duct Leakage- Nominal vs. Measured Air Flow	Nominal	Nominal	Both nominal and measured air flow duct leakage are acceptable.	Nominal
What is the a maximum duct leakage excepted on test-in?	Manometer reading above 10pa or HERS verification certificate.	Manometer reading above 10pa or HERS verification certificate.	Anything over 30% duct leakage requires supporting photo documentation.	No maximum looking at this now.
What is maximum allowable post-retrofit duct leakage allowable?	15% or HERS verification	15% or HERS verification	There is no maximum allowable post-retrofit duct leakage. An improvement is required to get incentive credit.	For new system 6%, for existing system 15%
All Whole House Upgrade: Permits and Title 24	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**
Contractors must obtain all applicable permits- How this is determined?	Checkbox was added to application for customer to select agreeing to: "By checking this box, I confirm that I have used a licensed contractor, as appropriate and followed applicable permitting requirements for this installation."	Checkbox was added to application for customer to select agreeing to: "By checking this box, I confirm that I have used a licensed contractor, as appropriate and followed applicable permitting requirements for this installation."	Permits are required to be filed with final incentive application.	Asking for permits for all equipment replacement as part of project submittal. For all others, do not verify if permit required per local jurisdiction but ask for permit information and verify final inspection for all permit information provided.
Can Contractors take credit for Fan Watt draw?	Yes with HERS certifcation.	Yes with HERS certifcation.	Allowed with HVAC change out and as required by California Title 24 Climate Zone specific requirements. Requires CF-4R filed by HERS rater.	No
Can Contractors take credit for Refrigerant Charge?	Yes with HERS certifcation.	Yes with HERS certifcation.	Allowed with HVAC change out and as required by California Title 24 Climate Zone specific requirements. Requires CF-4R filed by HERS rater.	No
Can Contractors take credit for System Air Flow -- 350 per ton minimum?	Yes with HERS certifcation.	Yes with HERS certifcation.	Allowed with HVAC change out and as required by California Title 24 Climate Zone specific requirements. Requires CF-4R filed by HERS rater.	No
Can Contractors take credit for QII?	No for QII.	No for QII.	No. EnergyPro doesn't allow it.	Not at this time, but looking at this issue.
Whole House Advanced Upgrade Package Measures	**SCE/SoCalGas**	**SoCal Gas Only**	**PG&E**	**SDG&E**
Stance on Basic Pathway measures -- what is required of Basic measures in an advanced package?	Basic Path measures are required to be addressed if not already installed.	Basic Path measures are required to be addressed if not already installed.	Contractors are strongly recommended to include all Basic measures in Advanced Packages.	Required to include any Basic Upgrade measure that are not already installed
Low flow water fixtures (toilets, showers, sinks)	Install a low-flow showerhead with thermostatic-activated flow restriction valve or if customer would like to keep existing showerhead, install thermostatic-activated flow restriction valve device on all showers.	Install a low-flow showerhead with thermostatic-activated flow restriction valve or if customer would like to keep existing showerhead, install thermostatic-activated flow restriction valve device on all showers.	Thermostatic flow restrictor on primary shower is strongely recommended for Basic Packages.	Recommended not required
Carbon monoxide/fire monitor	Not required	Not required	Permanent installation of at least one CO detector meeting UL-2034 or CSA 6.19 standards, installed according to manufacturer's instructions, in every home with an attached garage and/or combustion appliances.	Permanent installation of at least one CO detector meeting UL-2034 or CSA 6.19 standards, installed according to manufacturer's instructions in every home with an attached garage and/or combustion appliances.
Attic Insulation	The final insulation level must be at least R-30 unless a higher level is specified by local jurisdiction. Attic insulation is feasible only when the attic crawl space is adequate. If sufficiency space is not available for R-30, the final retrofit level must be at least R-19. Garages and other non-living areas do not qualify.	The final insulation level must be at least R-30 unless a higher level is specified by local jurisdiction. Attic insulation is feasible only when the attic crawl space is adequate. If sufficiency space is not available for R 30, the final retrofit level must be at least R-19. Garages and other non-living areas do not qualify.	R-38 or better per QII standards if chosen as an upgrade measure.	R-38 or better
Wall insulation	Wall insulation is eligible as long as existing walls are not currently insulated and are between conditioned living area and unconditioned area (window upgrades are included in this measure). Garages and other non-living areas do not qualify. The installed insulation must achieve a minimum of R-13. An Insulation Certificate must be supplied to take this credit.	Wall insulation is eligible as long as existing walls are not currently insulated and are between conditioned living area and unconditioned area (window upgrades are included in this measure). Garages and other non-living areas do not qualify. The installed insulation must achieve a minimum of R-13. An Insulation Certificate must be supplied to take this credit.	R-13 or better, installed per CEC QII Standards if chosen as an upgrade measure.	R value ≥ 13 for 3 1/2 wall cavity; R value ≥ 19 for 5 1/2 wall cavity. Recommend best practice of installation per CEC QII Standards.
Duct insulation	No minimum required, The post construction duct insulation shall be model as installed.	No minimum required, The post construction duct insulation shall be model as installed.	R-8 is a guideline; any improvement is accepted.	Any improvement Accepted. Recommend T24.
Crawlspace/floor insulation	No minimum required, Insulation certificate is recommended for submittal.	No minimum required, Insulation certificate is recommended for submittal.	R value ≥ 19, installed to full-joist thickness, per CEC QII Standards if chosen as an upgrade measure.	R value ≥ 19, installed to full-joist thickness, per CEC QII Standards

Mechanical Ventilation	BPI Standards must be followed and checklists applied: Building Analyst Professional; Envelope Professional; Heating Professional; Air Conditioner/Heat Pump Professional; Pre- and post- diagnostics will be performed for all work in the work scope to verify success of installation. Whenever changes to the building shell requiring a blower door test are part of the work scope, a Building Airflow Standard must be calculated for the home according to the air exchange requirements provided by ASHRAE (BA references ASHRAE standard 62-89; BPI-1100-T-2010 Energy Auditing Standard references ASHRAE 62.2; contractors must comply with local jurisdictional or program requirements if different than BPI Standard. Actual occupancy of the building must be used when calculating the Building Airflow Standard. Mechanical ventilation must be installed according to specified action levels.	BPI Standards must be followed and checklists applied: Building Analyst Professional; Envelope Professional; Heating Professional; Air Conditioner/Heat Pump Professional; Pre- and post- diagnostics will be performed for all work in the work scope to verify success of installation. Whenever changes to the building shell requiring a blower door test are part of the work scope, a Building Airflow Standard must be calculated for the home according to the air exchange requirements provided by ASHRAE (BA references ASHRAE standard 62-89; BPI-1100-T-2010 Energy Auditing Standard references ASHRAE 62.2; contractors must comply with local jurisdictional or program requirements if different than BPI Standard. Actual occupancy of the building must be used when calculating the Building Airflow Standard. Mechanical ventilation must be installed according to specified action levels.	Guideline: Recommend evaluating using BPI BAS and ASHRAE 62.2 and install if appropriate.	Recommended of IAQ and source pollutant control, required id ACHn is equal to or less that 70% of BAS
Air conditioning system replacement (split system, package unit, heat pump, room AC)	Split Central AC SEER 13 Packaged Central Air Conditioner SEER 13 Split Heat Pump SEER 13 EER – HSPF 7.7 Packaged Heat Pump SEER 13 EER – HSPF 7.7	Strongly recommend an Annual Fuel Utilization Efficiency (AFUE) of 92 percent Split Central AC SEER 13 Packaged Central Air Conditioner SEER 13 Split Heat Pump SEER 13 EER – HSPF 7.7 Packaged Heat Pump SEER 13 EER – HSPF 7.7	Recommendations: Split central AC SEER: ≥ 14.5, EER ≥ 12; Packaged central AC: SEER ≥ 14, EER ≥ 11; all systems properly sized according to ACCA Manuals J, D, and S with room-by-room air flows and register types identified.	Guidelines-split central AC SEER: ≥ 14.5, EER ≥ 12; Packaged central AC: SEER ≥ 14, EER ≥ 11; All systems properly sized according to ACCA Manuals J, D, and S with room-by-room air flows and register types identified.
Heating system replacement (heat pump, furnace, split system)	Split Central AC SEER 13 Packaged Central Air Conditioner SEER 13 Split Heat Pump SEER 13 EER – HSPF 7.7 Packaged Heat Pump SEER 13 EER – HSPF 7.7	Strongly recommend an Annual Fuel Utilization Efficiency (AFUE) of 92 percent Split Central AC SEER 13 Packaged Central Air Conditioner SEER 13 Split Heat Pump SEER 13 EER – HSPF 7.7 Packaged Heat Pump SEER 13 EER – HSPF 7.7	Recommendations: Central natural gas furnace: AFUE ≥ 94%; Split heat pump: ≥ 14.5, EER ≥ 12, HSPF ≥ 8.2; Split central heat pump: SEER ≥ 14, EER ≥ 11, HSPF ≥ 8; All systems properly sized according to ACCA Manuals J, D, and S with room-by-room air flows and register types identified.	Central natural gas furnace: AFUE ≥ 92%; Split heat pump: ≥ 14.5, EER ≥ 12, HSPF ≥ 8.2; Split central heat pump: SEER ≥ 14, EER ≥ 11, HSPF ≥ 8; All systems properly sized according to ACCA Manuals J, D, and S with room-by-room air flows and register types identified.
Radiant heating system	No minimum required; if installed, follow manufacturer's guideline.	No minimum required; if installed, follow manufacturer's guideline.	Installed according to manufacturer's specifications.	Per manufacturer's specification.
Hydronic heating systems	No minimum required; if installed, follow manufacturer's guideline.	No minimum required; if installed, follow manufacturer's guideline.	Installed according to manufacturer's specifications.	No
Water heater (gas, electric, heat pump)	High-efficiency storage gas water heaters must have an Energy Factor (EF) of 0.62 or greater. The water heater must be 30 gallons or greater. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself. Efficient Electric Storage Water Heater, Energy Factor of .93 or greater, 30 gallons minimum. Replace an existing electric water heater. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself. Tankless water heaters do not qualify. Replacing a gas water heater with an electric unit does not qualify.	High-efficiency storage gas water heaters must have an Energy Factor (EF) of 0.62 or greater. The water heater must be 30 gallons or greater. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself. Efficient Electric Storage Water Heater, Energy Factor of .93 or greater, 30 gallons minimum. Replace an existing electric water heater. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself. Tankless water heaters do not qualify. Replacing a gas water heater with an electric unit does not qualify.	Exceed Title 24 requirements or ENERGY STAR standards, when applicable.	Exceed Title 24 requirements or ENERGY STAR standards when applicable
Hot water supply insulation (insulate tank, piping)	Install insulation on all visible hot and cold (up to first five feet from the hot water heater) water pipes from domestic hot water heater.	Install insulation on all visible hot and cold (up to first five feet from the hot water heater) water pipes from domestic hot water heater.	Foam pipe insulation on at least the first five feet of the hot and cold water lines.	foam pipe insulation
Tankless water heater	Tankless water heaters must be replacing a conventional tank-type water heater. Tankless water heater must have an Energy Factor (EF) of 0.82 or higher. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself.	Tankless water heaters must be replacing a conventional tank-type water heater. Tankless water heater must have an Energy Factor (EF) of 0.82 or higher. Look for the EF rating on the water heater specification sheet or on the packaging box; it does not always appear on the water heater label itself.	Installed according to manufacturer's specifications.	Per manufacturer's specification.
Window retrofit (glass and frame types)	High Performance Dual-Pane Windows are eligible provided they have a U-factor of 0.35 or less and a Solar Heat Gain Coefficient (SHGC) of 0.32 or less.	High Performance Dual-Pane Windows are eligible provided they have a U-factor of 0.35 or less and a Solar Heat Gain Coefficient (SHGC) of 0.32 or less.	ENERGY STAR® compliant, air leakage less than 0.3 cfm/ft., installed per manufacturer's instructions.	ENERGY STAR® compliant, air leakage less than 0.3 cf-m/ft., installed per manufacturer's instructions
Energy efficient refrigerator	Not part of the EUC program	Not part of the EUC program	Allowed for primary refrigerator.	Per manufacturer's specification.
Door retrofit	Not part of the EUC program	Not part of the EUC program	Weatherstripping as part of air infiltration reduction.	No
Hardwire lighting (can/panel/recessed with low-wattage bulbs)	Interior: To qualify, must replace an existing hardwired incandescent fixture that is rated≥ 100 watts. ENERGY STAR® CFL must be included in fixture. Closets and storage spaces do not qualify for rebate. Exterior: To qualify, must replace an existing incandescent fixture that is rated≥ 60 watts in common area (e.g. walkways, carport/garage, porch lights)	Interior: To qualify, must replace an existing hardwired incandescent fixture that is rated≥ 100 watts. ENERGY STAR® CFL must be included in fixture. Closets and storage spaces do not qualify for rebate. Exterior: To qualify, must replace an existing incandescent fixture that is rated≥ 60 watts in common area (e.g. walkways, carport/garage, porch lights)	Exceed Title 24 requirements or ENERGY STAR standards when applicable.	Exceed Title 24 requirements or ENERGY STAR standards when applicable
Cool roof	Roofing materials meet or exceed 1) the Aged Solar Reflectance and Aged Thermal Emittance levels or 2) the Solar Reflectance Index (SRI) ratings specified below along with rated by the Cool Roof Rating Council (CRRC).	Roofing materials meet or exceed 1) the Aged Solar Reflectance and Aged Thermal Emittance levels or 2) the Solar Reflectance Index (SRI) ratings specified below along with rated by the Cool Roof Rating Council (CRRC).	Aged Thermal Emittance ≥ 0.75; Low slope: Aged Solar Reflectance ≥ 0.55; Steep slope: ASR ≥ 0.35	Home must have Central AC; Aged Thermal Emittance ≥ 0.75; Low slope: Aged Solar Reflectance ≥ 0.55; Steep slope: ASR ≥ 0.35
Radiant Barriers	Allowed as part of roof assembly in modeling software.	Allowed as part of roof assembly in modeling software.	Allowed as part of roof assembly in modeling software.	Low emissivity 0.1 or less and high reflectivity 0.9 or greater.
Questions or Comments			Please note, please check with Energy Soft regarding Energy Pro inquiries.	

Comment Key**

	=	more info is expected
	=	additional info is not expected
	=	not applicable

*** Please highlight any blank cells in your section accordingly*

Summary of Regional Coordination Events & Trainings

Project Title	Activity Date	County	Activity Type	Region	Lead
San Diego Finance Workshop - CCSE	3/18/11	San Diego	Finance Workshop	Southern California	CCSE
Eureka Homeowner Workshop	4/26/11	Humboldt	Homeowner Workshop	North Coast	RCEA
Willits Homeowner Workshop	5/11/11	Mendocino	Homeowner Workshop	North Coast	REDI
Santa Cruz Home Finance Workshop	5/20/11	Santa Cruz	Finance Workshop	Central Coast	EA
San Benito Finance Training - CHF & Wells Fargo	5/26/11	San Benito	Finance Workshop		EA
City of Millbrae Homeowners Workshop	6/7/11	San Mateo	Homeowner Workshop	Bay Area	EA
Redwood City Homeowner Workshop	6/8/11	San Mateo	Homeowner Workshop	Bay Area	EA
Eureka - Contractor Training	6/13/11	Humboldt	Supplemental Training	North Coast	RCEA
Crescent City - Contractor Training	6/14/11	Del Norte	Supplemental Training	North Coast	RCEA
Santa Cruz Finance Workshop- Santa Cruz Association of Realtors	6/20/11	Santa Cruz	Finance Workshop	Central Coast	EA
Fort Bragg Homeowner Workshop	6/22/11	Mendocino	Homeowner Workshop	North Coast	REDI
Walnut Creek Homeowner Workshop	6/29/11	Contra Costa	Homeowner Workshop	Bay Area	EA
Woodland Homeowner Workshop	7/10/11	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
West Sacramento Homeowner Workshop	7/13/11	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Santa Cruz Homeowner Workshop	7/14/11	Santa Cruz	Homeowner Workshop	Central Coast	EA
Davis Homeowner Workshop	7/14/11	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Alameda County Workshop	7/20/11	Alameda	Homeowner Workshop	Bay Area	EA
Greening Oakland Homes Homeowner Event "New Loans and Rebates for Oakland Homeowners Make Greening Upgrades a No-Brainer	7/25/11	Alameda	Homeowner Workshop	Bay Area	EA
Greening Oakland Homes Homeowner Event "New Loans and Rebates for Oakland Homeowners Make Greening Upgrades a No-Brainer	7/26/11	Alameda	Homeowner Workshop	Bay Area	EA
Fort Bragg Homeowner Workshop	7/27/11	Mendocino	Homeowner Workshop	North Coast	REDI
Mendocino Contractor Finance Workshop - REDI	7/28/11	Mendocino	Finance Workshop	North Coast	REDI
Advanced Field Mentoring	7/28/11	San Diego	Supplemental Training	Southern California	CCSE
San Diego Homeowner Workshop	8/2/11	San Diego	Homeowner Workshop	Southern California	CCSE
San Diego SCTP	8/11/11	San Diego	SCTP BPI Training	Southern California	EA
San Diego Finance Workshop - CCSE	8/16/11	San Diego	Finance Workshop	Southern California	CCSE
El Cerrito Homeowner's Workshop	8/16/11	Contra Costa	Homeowner Workshop	Bay Area	EA
Fort Bragg Mendocino Contractor Financing Workshop	8/18/11	Mendocino	Finance Workshop	North Coast	REDI
San Diego SCTP	8/18/11	San Diego	SCTP BPI Training	Southern California	EA
Energy Pro Training	8/18/11	San Diego	Supplemental Training	Southern California	CCSE
San Bruno Homeowner Workshop	8/23/11	San Mateo	Homeowner Workshop	Bay Area	EA
Burlingame Homeowner Workshop	8/24/11	San Mateo	Homeowner Workshop	Bay Area	EA
San Diego Homeowner Workshop	8/25/11	San Diego	Homeowner Workshop	Southern California	CCSE
Presentation to South SF Kiwanis	8/30/11	San Mateo	Homeowner Workshop	Bay Area	EA
Lunch Presentation at SRI, International	8/31/11	San Mateo	Homeowner Workshop	Bay Area	EA
Santa Cruz SCTP	9/1/11	Santa Cruz	SCTP BPI Training	Central Coast	EA
San Diego Homeowner Workshop	9/7/11	San Diego	Homeowner Workshop	Southern California	CCSE
Monterey SCTP	9/8/11	Monterey	SCTP BPI Training	Central Coast	EA
Hayward Homeowner Workshop	9/15/11	Alameda	Homeowner Workshop	Bay Area	EA
Contractor-led Homeowner Workshop	9/17/11	San Mateo	Homeowner Workshop	Bay Area	EA
California Home, Garden, and Gourmet Show Workshop on Energy Assessments	9/18/11	San Mateo	Homeowner Workshop	Bay Area	EA
Loomis Homeowner Workshop	9/20/11	Placer	Homeowner Workshop	Capitol Region	EA
Fresno - Homeowner Workshop	9/21/11	Fresno	Homeowner Workshop	Central Valley	EA
Auburn Homeowner Workshop	9/21/11	Placer	Homeowner Workshop	Capitol Region	EA
Contra Costa SCTP	9/22/11	Contra Costa	SCTP BPI Training	Bay Area	EA
Mendocino SCTP	9/22/11	Mendocino	SCTP BPI Training	North Coast	EA

Project Title	Activity Date	County	Activity Type	Region	Lead
San Bernardino SCTP	9/22/11	San Bernardino	SCTP BPI Training	Southern California	EA
Santa Cruz SCTP	9/22/11	Santa Cruz	SCTP BPI Training	Central Coast	EA
Lake County Homeowner Workshop	9/24/11	Lake	Homeowner Workshop	North Coast	REDI
Present at Contra Costa County Contractor Workshop	9/27/11	Contra Costa	Homeowner Workshop	Bay Area	EA
Clovis - Homeowner Workshop	9/27/11	Fresno	Homeowner Workshop	Central Valley	EA
San Diego Homeowner Workshop	9/28/11	San Diego	Homeowner Workshop	Southern California	CCSE
Davis Homeowner Workshop	9/28/11	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Kern SCTP	9/29/11	Kern	SCTP BPI Training	Central Valley	EA
Riverside SCTP	9/29/11	Riverside	SCTP BPI Training	Southern California	EA
San Mateo SCTP	9/29/11	San Mateo	SCTP BPI Training	Bay Area	EA
Woodland Homeowner Workshop	10/5/11	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Ukiah Homeowner Workshop	10/6/11	Lake	Homeowner Workshop	North Coast	REDI
Loomis Homeowner Workshop	10/6/11	Placer	Homeowner Workshop	Capitol Region	EA
Santa Barbara SCTP	10/6/11	Santa Barbara	SCTP BPI Training	Central Coast	EA
Solano SCTP	10/6/11	Solano	SCTP BPI Training	Capitol Region	EA
EUC Contractor Orientation	10/6/11	San Diego	Supplemental Training	Southern California	CCSE
Sacramento (Curtis Park)	10/11/11	Sacramento	Homeowner Workshop	Capitol Region	Valley Vision
San Diego Homeowner Workshop	10/11/11	San Diego	Homeowner Workshop	Southern California	CCSE
Contractor Networking - Suisun City	10/13/11	Solano	Contractor Networking	Capitol Region	EA
Homeowner Workshops Alameda	10/13/11	Alameda	Homeowner Workshop	Bay Area	EA
Bakersfield - Homeowner Workshop	10/13/11	Kern	Homeowner Workshop	Central Valley	EA
Rocklin Homeowner Workshop	10/13/11	Placer	Homeowner Workshop	Capitol Region	EA
San Francisco SCTP	10/13/11	San Francisco	SCTP BPI Training	Bay Area	EA
Tulare SCTP	10/13/11	Tulare	SCTP BPI Training	Central Valley	EA
Fresno - Homeowner Workshop	10/20/11	Fresno	Homeowner Workshop	Central Valley	EA
Sacramento SCTP	10/20/11	Sacramento	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	10/20/11	San Diego	SCTP BPI Training	Southern California	EA
Santa Barbara SCTP	10/20/11	Santa Barbara	SCTP BPI Training	Central Coast	EA
Sonoma SCTP	10/20/11	Sonoma	SCTP BPI Training	Capitol Region	EA
Porterville- Homeowner Workshop	10/22/11	Tulare	Homeowner Workshop	Central Valley	EA
San Diego Homeowner Workshop	10/25/11	San Diego	Homeowner Workshop	Southern California	CCSE
San Francisco Interfaith Power and Light Workshop	10/25/11	San Francisco	Homeowner Workshop	Bay Area	EA
Santa Cruz Homeowner Workshop	10/25/11	Santa Cruz	Homeowner Workshop	Central Coast	EA
Tri-Valley Homeowner Workshop	10/26/11	Alameda	Homeowner Workshop	Bay Area	EA
Bakersfield - Homeowner Workshop	10/26/11	Kern	Homeowner Workshop	Central Valley	EA
Morgan Hill Homeowner Workshop	10/27/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Humboldt SCTP	10/27/11	Humboldt	SCTP BPI Training	North Coast	EA
Riverside SCTP	10/27/11	Riverside	SCTP BPI Training	Southern California	EA
San Joaquin SCTP	10/27/11	San Joaquin	SCTP BPI Training		EA
Santa Clara SCTP	10/27/11	Santa Clara	SCTP BPI Training	Bay Area	EA
Santa Cruz SCTP	10/27/11	Santa Cruz	SCTP BPI Training	Central Coast	EA
Contractor Workshop Capitol Region- Sacramento (SMUD)	10/28/11	Sacramento	Contractor Networking	Capitol Region	Valley Vision
Sacramento Finance Training	10/28/11	Sacramento	Finance Workshop	Capitol Region	Valley Vision
Tulare- Homeowner Workshop	10/29/11	Tulare	Homeowner Workshop	Central Valley	EA
North San Diego Homeowner Workshop	11/1/11	San Diego	Homeowner Workshop	Southern California	CCSE
EmPower SBC Forum	11/1/11	Santa Barbara	Homeowner Workshop	Central Coast	EA
Berkeley Homeowners Workshop	11/2/11	Alameda	Homeowner Workshop	Bay Area	EA
Fort Bragg Energy Finance Workshop for Contractors- REDI	11/3/11	Mendocino	Finance Workshop	North Coast	REDI
Lunch Presentation to Autodesk Green Team	11/3/11	Marin	Homeowner Workshop	Bay Area	EA
Loomis Homeowner Workshop	11/3/11	Placer	Homeowner Workshop	Capitol Region	EA
Contra Costa SCTP	11/3/11	Contra Costa	SCTP BPI Training	Bay Area	EA
Marin SCTP	11/3/11	Marin	SCTP BPI Training	Bay Area	EA
Sacramento SCTP	11/3/11	Sacramento	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	11/3/11	San Diego	SCTP BPI Training	Southern California	EA

Project Title	Activity Date	County	Activity Type	Region	Lead
Visalia Homeowner Workshop	11/5/11	Tulare	Homeowner Workshop	Central Valley	EA
Rocklin Homeowner Workshop	11/8/11	Placer	Homeowner Workshop	Capitol Region	EA
Fresno (Woodward) - Homeowner Workshop	11/9/11	Fresno	Homeowner Workshop	Central Valley	EA
San Diego Homeowner Workshop	11/9/11	San Diego	Homeowner Workshop	Southern California	CCSE
Vacaville Homeowner Workshop	11/9/11	Solano	Homeowner Workshop	Capitol Region	SBIC
Ventura Workshop	11/9/11	Ventura	Homeowner Workshop	Central Coast	EA
EUC Basic Building Performance Workshop	11/9/11	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
Sacramento (Curtis Park) Upgrade Success Event	11/9/11	Sacramento	Upgrade Success Event	Capitol Region	Valley Vision
Presentation to Prudential Realty and Homeowner Clients in San Bruno	11/10/11	San Mateo	Homeowner Workshop	Bay Area	EA
Suisun City Homeowner Workshop	11/10/11	Solano	Homeowner Workshop	Capitol Region	SBIC
Ojai Workshop	11/10/11	Ventura	Homeowner Workshop	Central Coast	EA
San Luis Obispo SCTP	11/10/11	San Luis Obispo	SCTP BPI Training	Central Coast	EA
San Mateo SCTP	11/10/11	San Mateo	SCTP BPI Training	Bay Area	EA
Siskiyou SCTP	11/10/11	Siskiyou	SCTP BPI Training	North Coast	EA
Tulare SCTP	11/10/11	Tulare	SCTP BPI Training	Central Valley	EA
EUC Basic Building Performance Workshop	11/10/11	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
Bakersfield Upgrade Success Event	11/10/11	Kern	Upgrade Success Event	Central Valley	EA
EUC Basic Building Performance Workshop	11/11/11	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
Redding - Contractor Workshop	11/14/11	Shasta	Contractor Networking	North Coast	EA
Fresno (Fig Garden) - Homeowner Workshop	11/14/11	Fresno	Homeowner Workshop	Central Valley	EA
Lake Isabella - Homeowner Workshop	11/14/11	Kern	Homeowner Workshop	Central Valley	EA
Green Town SunShares Workshop	11/14/11	San Mateo	Homeowner Workshop	Bay Area	EA
Dixon Homeowner Workshop	11/14/11	Solano	Homeowner Workshop	Capitol Region	SBIC
San Diego Homeowner Workshop	11/16/11	San Diego	Homeowner Workshop	Southern California	CCSE
South San Francisco Homeowner Workshop	11/16/11	San Mateo	Homeowner Workshop	Bay Area	EA
Upgrade Success	11/16/11	San Luis Obispo	Upgrade Success Event	Central Coast	EA
Mojave - Homeowner Workshop	11/17/11	Kern	Homeowner Workshop	Central Valley	EA
Homeowner workshop for Genentech Green Team	11/17/11	San Mateo	Homeowner Workshop	Bay Area	EA
Monterey SCTP	11/17/11	Monterey	SCTP BPI Training	Central Coast	EA
Napa SCTP	11/17/11	Napa	SCTP BPI Training	Bay Area	EA
Placer SCTP	11/17/11	Placer	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	11/17/11	San Diego	SCTP BPI Training	Southern California	EA
Santa Barbara SCTP	11/17/11	Santa Barbara	SCTP BPI Training	Central Coast	EA
Eureka- Contractor Workshop	11/19/11	Humboldt	Contractor Networking	North Coast	RCEA
Eureka Homeowner Workshop	11/19/11	Humboldt	Homeowner Workshop	North Coast	RCEA
Monterey SCTP	11/20/11	Monterey	SCTP BPI Training	Central Coast	EA
Napa SCTP	11/20/11	Napa	SCTP BPI Training	Bay Area	EA
San Diego Homeowner Workshop	11/22/11	San Diego	Homeowner Workshop	Southern California	CCSE
Energy Pro Training	11/22/11	San Diego	Supplemental Training	Southern California	CCSE
Lake SCTP	11/24/11	Lake	SCTP BPI Training	North Coast	EA
Tulare SCTP	11/24/11	Tulare	SCTP BPI Training	Central Valley	EA
Fresno Finance Workshop	11/28/11	Fresno	Finance Workshop	Central Valley	EA
Granite Bay Homeowner Workshop	11/28/11	Placer	Homeowner Workshop	Capitol Region	EA
Homeowner Workshop: Hayward	11/29/11	Alameda	Homeowner Workshop	Bay Area	EA
Auburn Homeowner Workshop	11/29/11	Placer	Homeowner Workshop	Capitol Region	EA
San Diego Homeowner Workshop	11/29/11	San Diego	Homeowner Workshop	Southern California	CCSE
Field Combustion Safety Training	11/30/11	San Diego	Supplemental Training	Southern California	CCSE
Stockton Homeowner Workshop	12/1/11	San Joaquin	Homeowner Workshop	Capitol Region	EA
EUC Contractors Orientation Workshop	12/1/11	San Diego	Supplemental Training	Southern California	CCSE
Santa Clara County Employee presentation 1	12/2/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Palm Springs Homeowner Workshop	12/6/11	Riverside	Homeowner Workshop	Southern California	CCSE

Project Title	Activity Date	County	Activity Type	Region	Lead
San Jose city employee workshop	12/6/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Santa Clara County Employee presentation 2	12/6/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Fort Bragg Finance Workshop - REDI	12/7/11	Mendocino	Finance Workshop	North Coast	REDI
Santa Maria- SB Workshop	12/8/11	Santa Barbara	Homeowner Workshop	Central Coast	EA
Concord Homeowner Workshop	12/8/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Contra Costa SCTP	12/8/11	Contra Costa	SCTP BPI Training	Bay Area	EA
Humboldt SCTP	12/8/11	Humboldt	SCTP BPI Training	North Coast	EA
Placer SCTP	12/8/11	Placer	SCTP BPI Training	Capitol Region	EA
San Francisco SCTP	12/8/11	San Francisco	SCTP BPI Training	Bay Area	EA
Santa Clara County Employee presentation 3	12/9/11	Santa Clara	Homeowner Workshop	Bay Area	EA
EUC Advanced Training	12/9/11	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
Cupertino Mandarin Homeowner Workshop	12/10/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Monterey Homeowner Workshop	12/12/11	Monterey	Homeowner Workshop	Central Coast	EA
Lincoln Homeowner Workshop	12/12/11	Placer	Homeowner Workshop	Capitol Region	EA
Stockton Workshop	12/13/11	San Joaquin	Finance Workshop		EA
Rancho Mirage Homeowner Workshop	12/13/11	Riverside	Homeowner Workshop	Southern California	CCSE
Santa Clara County Employee presentation 4	12/13/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Energy Upgrade Business Roundtable-Sacramento (SMUD)	12/14/11	Sacramento	Contractor Networking	Capitol Region	Valley Vision
San Diego Homeowner Workshop	12/15/11	San Diego	Homeowner Workshop	Southern California	CCSE
Stockton Homeowner Workshop	12/15/11	San Joaquin	Homeowner Workshop	Capitol Region	EA
Homeowner Workshop San Luis Obispo	12/15/11	San Luis Obispo	Homeowner Workshop	Central Coast	EA
Alameda SCTP	12/15/11	Alameda	SCTP BPI Training	Bay Area	EA
San Diego SCTP	12/15/11	San Diego	SCTP BPI Training	Southern California	EA
Santa Cruz SCTP	12/15/11	Santa Cruz	SCTP BPI Training	Central Coast	EA
Shasta SCTP	12/15/11	Shasta	SCTP BPI Training	North Coast	EA
Ventura SCTP	12/15/11	Ventura	SCTP BPI Training	Central Coast	EA
Fresno Workshop 2	12/16/11	Fresno	Finance Workshop	Central Valley	EA
EUC Advanced BPI Training	12/16/11	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
Millbrae Mandarin Homeowner Workshop	12/17/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Foster City Homeowner workshop	12/18/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Santa Clara County Employee presentation 5	12/20/11	Santa Clara	Homeowner Workshop	Bay Area	EA
Santa Clara SCTP	12/22/11	Santa Clara	SCTP BPI Training	Bay Area	EA
Shasta SCTP	12/22/11	Shasta	SCTP BPI Training	North Coast	EA
Rater Field House Training	1/3/12	San Diego	Supplemental Training - Contractor Tech Training	Southern California	CCSE
San Luis Obispo Workshop	1/4/12	San Luis Obispo	Finance Workshop	Central Coast	EA
EUC Energy Pro Training	1/4/12	San Diego	Supplemental Training	Southern California	CCSE
Ventura County Workshop	1/5/12	Ventura	Finance Workshop	Central Coast	EA
Fresno Contractor Networking	1/5/12	Fresno	Supplemental Training	Central Valley	EA
SMUD Upgrade Success Event	1/7/12	Sacramento	Upgrade Success Event	Capitol Region	Valley Vision
Sacramento (Curtis Park) Homeowner Workshop	1/9/12	Sacramento	Homeowner Workshop	Capitol Region	Valley Vision
San Bernardino County Workshop – Rancho Cucomunga	1/10/12	San Bernardino	Finance Workshop	Southern California	EA
Elk Grove Homeowner Workshop	1/10/12	Sacramento	Homeowner Workshop	Capitol Region	Valley Vision
SF Cole Hardware Workshop	1/10/12	San Francisco	Homeowner Workshop	Bay Area	EA
Benicia Homeowner Workshop	1/10/12	Solano	Homeowner Workshop	Capitol Region	SBIC
Bakersfield - Homeowner Workshop	1/11/12	Kern	Homeowner Workshop	Central Valley	EA
San Diego Homeowner Workshop	1/11/12	San Diego	Homeowner Workshop	Southern California	CCSE
SF Cole Hardware Workshop	1/11/12	San Francisco	Homeowner Workshop	Bay Area	EA
Winters Homeowner Workshop	1/11/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Winters Upgrade Success Event	1/11/12	Yolo	Upgrade Success Event	Capitol Region	Valley Vision
Visalia Contractor Networking	1/12/12	Tulare	Contractor Networking	Central Valley	EA
Fresno SCTP	1/13/12	Fresno	SCTP BPI Training	Central Valley	EA

Project Title	Activity Date	County	Activity Type	Region	Lead
Marin SCTP	1/13/12	Marin	SCTP BPI Training	Bay Area	EA
San Diego SCTP	1/13/12	San Diego	SCTP BPI Training	Southern California	EA
San Diego SCTP	1/13/12	San Diego	SCTP BPI Training	Southern California	EA
Santa Cruz SCTP	1/13/12	Santa Cruz	SCTP BPI Training	Central Coast	EA
Sonoma SCTP	1/13/12	Sonoma	SCTP BPI Training	Capitol Region	EA
Fairfield Homeowner Workshop	1/14/12	Solano	Homeowner Workshop	Capitol Region	SBIC
San Diego Finance Workshop – BIG/CCSE (Kevin Present)	1/17/12	San Diego	Finance Workshop	Southern California	CCSE
Alameda Homeowner Workshop	1/17/12	Alameda	Homeowner Workshop	Bay Area	EA
Fresno - Homeowner Workshop	1/17/12	Fresno	Homeowner Workshop	Central Valley	EA
Dixon Homeowner Workshop	1/17/12	Solano	Homeowner Workshop	Capitol Region	SBIC
Energy Pro Training, Sales and Marketing	1/17/12	Alameda	Supplemental Training	Bay Area	EA
Fremont Homeowner Workshop	1/18/12	Alameda	Homeowner Workshop	Bay Area	EA
Rio Vista Homeowner Workshop	1/18/12	Solano	Homeowner Workshop	Capitol Region	SBIC
Building Officials Workshop	1/18/12	Santa Cruz	Supplemental Training	Central Coast	EA
Fresno Upgrade Success Event	1/18/12	Fresno	Upgrade Success Event	Central Valley	EA
Sacramento (Land Park) Upgrade Success Event	1/18/12	Sacramento	Upgrade Success Event	Capitol Region	Valley Vision
Tri-Valley (Dublin, Livermore and Fremont) HOW-Stopwaste	1/19/12	Alameda	Homeowner Workshop	Bay Area	EA
Sacramento (Oak Park) Homeowner Workshop	1/19/12	Sacramento	Homeowner Workshop	Capitol Region	Valley Vision
Silver Spring Corporate Homeowner Workshop	1/19/12	San Mateo	Homeowner Workshop	Bay Area	EA
Suisun City Homeowner Workshop	1/19/12	Solano	Homeowner Workshop	Capitol Region	SBIC
Sacramento SCTP	1/19/12	Sacramento	SCTP BPI Training	Capitol Region	EA
San Mateo SCTP	1/19/12	San Mateo	SCTP BPI Training	Bay Area	EA
Energy Pro Training, Sales and Marketing	1/19/12	Napa	Supplemental Training	Bay Area	EA
Sacramento (Oak Park) Upgrade Success Event	1/19/12	Sacramento	Upgrade Success Event	Capitol Region	Valley Vision
Contractor "Info Session" w/ mPower Placer - Auburn	1/20/12	Placer	Contractor Networking	Capitol Region	EA
Riverside Workshop	1/20/12	Riverside	Finance Workshop	Southern California	EA
South Bay Home Show	1/20/12	Santa Clara	Homeowner Workshop	Bay Area	EA
EnergyPro and Report Creation	1/20/12	San Benito, Santa Cruz and Monterey	Supplemental Training	Central Coast	EA
Tulare Supplemental Training; Epro	1/20/12	Tulare	Supplemental Training	Central Valley	EA
South Bay Home Show	1/21/12	Santa Clara	Homeowner Workshop	Bay Area	EA
South Bay Home Show	1/22/12	Santa Clara	Homeowner Workshop	Bay Area	EA
San Jose Homeowner Workshop: Cory Neighborhood	1/23/12	Santa Clara	Homeowner Workshop	Bay Area	EA
Vallejo Homeowner Workshop	1/23/12	Solano	Homeowner Workshop	Capitol Region	SBIC
San Diego Homeowner Workshop	1/24/12	San Diego	Homeowner Workshop	Southern California	CCSE
Ripon Homeowner Workshop	1/24/12	San Joaquin	Homeowner Workshop	Capitol Region	EA
Homeowner Workshop Atascadero	1/24/12	San Luis Obispo	Homeowner Workshop	Central Coast	EA
Albany Homeowner Workshop	1/25/12	Alameda	Homeowner Workshop	Bay Area	EA
Bakersfield Contractor Networking	1/26/12	Kern	Contractor Networking	Central Valley	EA
San Leandro Homeowner Workshop	1/26/12	Alameda	Homeowner Workshop	Bay Area	EA
Fresno (Sunnyside) - Homeowner Workshop	1/26/12	Fresno	Homeowner Workshop	Central Valley	EA
Granite Bay Homeowner Workshop	1/26/12	Placer	Homeowner Workshop	Capitol Region	EA
Lake SCTP	1/26/12	Lake	SCTP BPI Training	North Coast	EA
Placer SCTP	1/26/12	Placer	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	1/26/12	San Diego	SCTP BPI Training	Southern California	EA
Santa Barbara SCTP	1/26/12	Santa Barbara	SCTP BPI Training	Central Coast	EA
Santa Barbara SCTP	1/26/12	Santa Barbara	SCTP BPI Training	Central Coast	EA
San Diego Finance Workshop - CCSE& Kevin Nunn	1/27/12	San Diego	Finance Workshop	Southern California	CCSE

Project Title	Activity Date	County	Activity Type	Region	Lead
Marin SCTP	1/27/12	Marin	SCTP BPI Training	Bay Area	EA
San Bernardino SCTP	1/27/12	San Bernardino	SCTP BPI Training	Southern California	EA
Stockton Finance Workshop- PGE Training Center	1/30/12	San Joaquin	Finance Workshop		EA
Santa Cruz County Homeowner Workshop	1/30/12	Santa Cruz	Homeowner Workshop	Central Coast	EA
Contractor and Rater Forum	1/31/12	San Diego	Contractor Networking	Southern California	CCSE
Bakersfield Finance Workshop- Bakersfield Association of REALTORS®	1/31/12	Kern	Finance Workshop	Central Valley	EA
Oakland Homeowner Workshop	1/31/12	Alameda	Homeowner Workshop	Bay Area	EA
Tracy Homeowner Workshop	1/31/12	San Joaquin	Homeowner Workshop	Capitol Region	EA
Goleta Workshop	1/31/12	Santa Barbara	Homeowner Workshop	Central Coast	EA
Esparto Homeowner Workshop	1/31/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Auburn Homeowner Workshop	2/1/12	Placer	Homeowner Workshop	Capitol Region	EA
Los Altos Homeowner Workshop	2/1/12	Santa Clara	Homeowner Workshop	Bay Area	EA
Energy Pro Training, Sales and Marketing	2/1/12	Santa Clara	Supplemental Training	Bay Area	EA
Vacaville Finance Workshop- Ulatis Community Center	2/2/12	Solano	Finance Workshop	Capitol Region	EA
Arvin Homeowner Workshop	2/2/12	Kern	Homeowner Workshop	Central Valley	EA
Winters Homeowner Workshop	2/2/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Fresno SCTP	2/2/12	Fresno	SCTP BPI Training	Central Valley	EA
Napa SCTP	2/2/12	Napa	SCTP BPI Training	Bay Area	EA
Sacramento SCTP	2/2/12	Sacramento	SCTP BPI Training	Capitol Region	EA
Sonoma SCTP	2/2/12	Sonoma	SCTP BPI Training	Capitol Region	EA
Napa Workshop - Napa Library	2/3/12	Napa	Finance Workshop	Bay Area	EA
Santa Clara Workshop- SC Association of Realtors	2/6/12	Santa Clara	Finance Workshop	Bay Area	EA
Pleasanton Workshop - Bay East Association of Realtors	2/7/12	Alameda	Finance Workshop	Bay Area	EA
Reedley Homeowner Workshop	2/7/12	Fresno	Homeowner Workshop	Central Valley	EA
San Diego Homeowner Workshop	2/7/12	San Diego	Homeowner Workshop	Southern California	CCSE
Walnut Creek Workshop - KW Realty Walnut Creek	2/8/12	Alameda	Finance Workshop	Bay Area	EA
San Benito Homeowner Workshop	2/8/12	San Benito	Homeowner Workshop	Central Coast	EA
Stockton Homeowner Workshop	2/8/12	San Joaquin	Homeowner Workshop	Capitol Region	EA
Half Moon Bay Homeowner Workshop	2/8/12	San Mateo	Homeowner Workshop	Bay Area	EA
Adobe Corporate Homeowner Workshop	2/8/12	Santa Clara	Homeowner Workshop	Bay Area	EA
Thousand Oaks Workshop	2/8/12	Ventura	Homeowner Workshop	Central Coast	EA
West Sacramento Homeowner Workshop	2/8/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Eureka- Energy Pro & Report Creation Workshop	2/8/12	Humboldt	Supplemental Training	North Coast	RCEA
Fairfax Homeowner Workshop	2/9/12	Napa	Homeowner Workshop	Bay Area	EA
Davis Homeowner Workshop	2/9/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Alameda SCTP	2/9/12	Alameda	SCTP BPI Training	Bay Area	EA
Contra Costa SCTP	2/9/12	Contra Costa	SCTP BPI Training	Bay Area	EA
San Diego SCTP	2/9/12	San Diego	SCTP BPI Training	Southern California	EA
San Francisco SCTP	2/9/12	San Francisco	SCTP BPI Training	Bay Area	EA
Santa Clara SCTP	2/9/12	Santa Clara	SCTP BPI Training	Bay Area	EA
Santa Cruz SCTP	2/9/12	Santa Cruz	SCTP BPI Training	Central Coast	EA
Shasta SCTP	2/9/12	Shasta	SCTP BPI Training	North Coast	EA
Ventura SCTP	2/9/12	Ventura	SCTP BPI Training	Central Coast	EA
Veterans Energy Upgrade Project	2/11/12	San Luis Obispo	Supplemental Training	Central Coast	EA
San Mateo Workshop- San Mateo Assoc. of Realtors	2/13/12	San Mateo	Finance Workshop	Bay Area	EA
Fresno (OK Produce) Homeowner Workshop	2/13/12	Fresno	Homeowner Workshop	Central Valley	EA
Monterey Workshop - Monterey Association of Realtors	2/14/12	Monterey	Finance Workshop	Central Coast	EA
Woodland Homeowner Workshop	2/15/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision

Project Title	Activity Date	County	Activity Type	Region	Lead
Home Energy Testing Procedures and Equipment Review	2/15/12	San Benito, Santa Cruz and Monterey	Supplemental Training	Central Coast	EA
Willits Finance Workshop - REDI	2/16/12	Mendocino	Finance Workshop	North Coast	REDI
Santa Barbara Workshop - SB Association of Realtors	2/16/12	Santa Barbara	Finance Workshop	Central Coast	EA
Placer SCTP	2/16/12	Placer	SCTP BPI Training	Capitol Region	EA
Riverside SCTP	2/16/12	Riverside	SCTP BPI Training	Southern California	EA
San Diego SCTP	2/16/12	San Diego	SCTP BPI Training	Southern California	EA
Santa Barbara SCTP	2/16/12	Santa Barbara	SCTP BPI Training	Central Coast	EA
Energy Pro and Sales Training - Sacramento (SMUD)	2/16/12	Sacramento	Supplemental Training	Capitol Region	Valley Vision
Contractor Round Table	2/17/12	Santa Cruz	Contractor Networking	Central Coast	EA
Sales and Marketing	2/17/12	San Benito, Santa Cruz and Monterey	Supplemental Training	Central Coast	EA
Contractor Sales and Marketing	**2/17/12**	Santa Clara	Supplemental Training	Bay Area	EA
Moreno Valley Homeowner Workshop	2/21/12	Riverside	Homeowner Workshop	Southern California	CCSE
San Diego Homeowner Workshop	2/21/12	San Diego	Homeowner Workshop	Southern California	CCSE
Tracy Homeowner Workshop	2/21/12	San Joaquin	Homeowner Workshop	Capitol Region	EA
Santa Cruz Workshop- SC Association of Realtors	2/22/12	Santa Cruz	Finance Workshop	Central Coast	EA
Redding Energy Finance Workshop - EA	2/22/12	Shasta	Finance Workshop	North Coast	EA
Facebook Employee Homeowner Workshop	2/22/12	San Mateo	Homeowner Workshop	Bay Area	EA
Tulare Go Green Summit	2/23/12	Tulare	Finance Workshop	Central Valley	EA
Buttonwillow Homeowner Workshop	2/23/12	Kern	Homeowner Workshop	Central Valley	EA
Rancho Cucamonga Homeowner Workshop	2/23/12	San Bernardino	Homeowner Workshop	Southern California	CCSE
West Sacramento Homeowner Workshop	2/23/12	Yolo	Homeowner Workshop	Capitol Region	Valley Vision
Kern SCTP	2/23/12	Kern	SCTP BPI Training	Central Valley	EA
Sacramento SCTP	2/23/12	Sacramento	SCTP BPI Training	Capitol Region	EA
Sacramento SCTP	2/23/12	Sacramento	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	2/23/12	Orange County	SCTP BPI Training	Southern California	EA
Sonoma SCTP	2/23/12	Sonoma	SCTP BPI Training	Capitol Region	EA
EnergyPro and Report Creation	2/23/12	Santa Barbara	Supplemental Training	Central Coast	EA
Bakersfield Contractor Networking	2/26/12	Kern	Contractor Networking	Central Valley	EA
Sacramento/Yolo Finance Workshop	2/27/12	Sacramento	Finance Workshop	Capitol Region	Valley Vision
Corona Homeowner Workshop	2/28/12	Riverside	Homeowner Workshop	Southern California	CCSE
Placer SCTP	3/1/12	Placer	SCTP BPI Training	Capitol Region	EA
Sacramento SCTP	3/1/12	Sacramento	SCTP BPI Training	Capitol Region	EA
San Diego SCTP	3/1/12	San Diego	SCTP BPI Training	Southern California	EA
San Diego SCTP	3/1/12	San Diego	SCTP BPI Training	Southern California	EA
San Mateo SCTP	3/1/12	San Mateo	SCTP BPI Training	Bay Area	EA
Santa Clara SCTP	3/1/12	Santa Clara	SCTP BPI Training	Bay Area	EA
Alameda SCTP	3/8/12	Alameda	SCTP BPI Training	Bay Area	EA
San Diego SCTP	3/8/12	San Diego	SCTP BPI Training	Southern California	EA

Summary of Events By Type	Total
Contractor Networking Count	11
Finance Workshop Count	34
Homeowner Workshop Count	156
SCTP BPI Training Count	96
Supplemental Training Count	23
Supplemental Training - Contractor Tech Training Count	6
Upgrade Success Event Count	8
Total	**334**

Strategic Communications on Energy Efficiency

Conveying Leadership by
the California Energy Commission
on EE Programs

resource media
Unlock the Power of Communication

MIG

energy upgrade™ CALIFORNIA

Programs to Highlight

FACT SHEET #1: CALIFORNIA'S ENERGY INDEPENDENCE (11 x 17")

Key Messages

- California is leading the nation in energy efficiency.
- The CEC-administered ARRA programs will help California:
  - Increase its energy security;
  - Keep more money and jobs in-state; and
  - Preserve the environment.
- The CEC formed unprecedented alliances that changed the way government agencies and private industry work together.
- Energy efficiency is an energy *resource*, a primary way for California to fuel our growing economy.
- Existing EE programs already help Californians save energy—we've avoided the need to build six new power plants in the past 20 years.
- Energy usage is still more than can be produced within California, resulting in $27 billion spent in other states for our energy every year.
- Energy efficiency will create both direct and indirect jobs, causing economic ripples throughout the state's economy.
- Increasing energy efficiency helps to provide a stable and secure energy future and puts California back in charge of our economic future

Topics

- Buildings consume significant amounts of energy and offer the greatest potential for helping CA meet its goals for reducing energy use, costs for consumers and emissions
- AB 758,
- Energy "loading order": California is committed to energy efficiency—emphasized ahead of increasing renewables and finding new fossil fuels sources.
- Building efficiency improved dramatically with 1978 building codes, but much stock is older than that—with 70% of electricity is used in buildings, there's a huge potential for savings
- The State's goal is an overall 20% reduction in energy consumption by 2020, saving nearly $10 billion annually. Without energy efficiency, electricity consumption would instead rise 10.6% by 2020.
- Energy efficiency will directly create 15,000-18,000 new energy efficiency jobs; building upgrades generate three times as many jobs as investments in coal
- For every billion dollars not spent on utilities, businesses can create 7,000-8,000 new jobs.
- Energy efficiency helps CEC meet AB32 goals: 25% of GHG emissions attributable to energy consumed by buildings
- Urban low-income areas can benefit the most from energy efficiency—often buildings in those areas are the oldest, least efficient

Resource Gaps

- Spokesperson/quote (CEC)

FACT SHEET #2: CEC-ADMINISTERED ARRA PROGRAMS
8.5 x 11"

Key Messages

- American Recovery and Reinvestment Act (ARRA) funds were used wisely in innovative programs
- Funds built the infrastructure for new, job-creating markets.
- New markets and jobs will continue after ARRA funding ends.

Topics/Accomplishments

- Special Projects focused on green job-creating manufacturing
- Energy Upgrade California focused on reducing energy consumption and green job creation
  - Single-family residential, multi-family, targeted municipal/commercial
- Clean Energy Business Financing Program–uses ARRA State Energy Program (SEP) funds to award low-interest loans to eligible applicants that improve or expand their energy efficiency or renewable energy manufacturing facilities in California
- Clean Energy Workforce Training Program (CEWTP)–prepares workers for careers in energy efficiency, water efficiency, renewable energy, and clean transportation
- Cash for Appliances focused on reducing energy consumption
- Spokespeople/quotes

FACT SHEET #3: ENERGY UPGRADE CALIFORNIA
8.5 x 11"

Key Messages

- The program built the infrastructure for market transformation, creating long-term jobs, while increasing choices and quality of the workforce for consumers
- It is changing the way consumers think about energy consumption/creating demand for energy efficiency (while increasing comfort)
- Education and outreach built consumer awareness of Energy Upgrade California and laid the groundwork for future long-term buying decisions

Topics/Accomplishments

- Alliance between utilities, local, state and federal governments
- Web portal, one-stop-shop
- Statewide brand positioning/marketing
  - Total number of statewide impressions
- Training/support to build the industry and create viable/qualified whole-house workforce
  - Increased BPI certifications (300 to 3,000)
  - Green jobs more resilient than conventional jobs in recession
  - Marketing training and materials, templates, PR, online resource library, etc.

- Shifted focus from single measure to "whole-house" or "whole building" upgrades – looking at the building envelope saves a tremendous amount of energy
- Financing options to increase affordability (see Financing Fact Sheet)
- Number of upgrades showing monthly exponential growth
- Average energy savings per upgraded home/total BTUS saved: Homes now saving 30% energy; commercial buildings could be 80% more efficient, even net zero, according to US Dept of Energy
- Spokespeople: CEC, Participating Contractors, Raters, Utility

FACT SHEET #4: ENERGY UPGRADE CALIFORNIA FOR SINGLE-FAMILY HOMEOWNERS 8.5 x 11"

Key Messages

- Created a framework for market transformation: reduce energy consumption and create green jobs
- Homeowners are saving an average of 31% energy consumption—and those savings can return to the local economy
- The "whole house" approach is the most cost effective-approach
- Upgrades are now increasing exponentially
- The program will continue with utility and some local government rebates

Topics/Accomplishments

- Provided homeowners resources to move forward with upgrades – rebates, one-stop web portal, financing options (also see Financing Fact Sheet)
- About 3,600 upgrades completed and hundreds more in process – monthly exponential growth
- Average energy savings of 31% per upgraded home
- Total of over 35 billion BTUS
- Program designed to maximize cost savings *and* energy efficiency with basic insulating and sealing as a first step (explain "whole house")
- Utility incentives of $1,000 - $4,000 will continue, help sustain market transformation
- Innovative programs:
  - LA County – Energy Champions
  - Alameda County – Energize for the Prize
  - San Diego County – Residential Energy Roadshow
  - Fresno's HERS II pilot – Home Energy Tune-Up
- Spokespeople: Homeowners, contractors

FACT SHEET #5: ENERGY UPGRADE CALIFORNIA FOR TARGETED MUNICIPAL AND COMMERCIAL BUILDINGS

8.5 x 11"

Key Messages

- The goal of the Program is to create new sustainable jobs for California workers; acquire significant, reliable, long term energy savings through Program implementation of proven retrofit measures; and further develop the market for energy efficiency technologies
- Programs help municipal and commercial facilities implement smart, sustainable business practices such as Energy-efficient technology.
- Programs help build California's green workforce through
  - Technical training for electricians and HVAC technicians
  - Technology seminars for building facility staff
  - Internships and on-the job training
- They created new jobs and a sustainable workforce through implementation of emerging energy-saving technologies.

Topics/Accomplishments

- Innovative programs/projects highlighted successful energy technologies from the PIER program
- QuEST (Oakland Shines) – Focus on emerging technologies for smaller commercial customers through advancing energy efficiency in Downtown Oakland, creating jobs, leveraging existing workforce development

  Performance Data:
  - Completed 480 Audits <<Brendan Havenar-Daughton at QuEST reports more than 600 surveys>>
  - Completed 167 Projects ($1.6 million rebate verified/paid) <<QuEST reports over 175 projects complete with another 20 scheduled for completion by May, 2012)
  - Created 78 jobs <per T.Wong>

- Energy Solutions (Energy Technology Assistance Program)– provides free technical and financial assistance.

  Performance Data:
  - <<Completed 57 Retrofit projects (Heidi Hauenstein at Energy Solutions reports says 67 completed)>>
  - <<Created 211 jobs (per T.Wong)>>

- PECI (EnergySmart Jobs) – helping businesses save energy and money, and building a sustainable workforce
  - SaveMart/EnergySmart Jobs partnership
  - Ken's Liquor/EnergySmart Jobs small business partnership

Resource Gaps

- Check some conflicting stats in

FACT SHEET #6: ENERGY UPGRADE CALIFORNIA FINANCING OPTIONS
8.5 x 11"

Key Messages

- Financing options, combined with Energy Upgrade California rebates make energy efficiency upgrades affordable
- Public/private partnerships streamline the process of attaining low-cost loans
- Created a solid framework of energy efficiency financing options that will continue

Topics/Accomplishments

- Extensive education and outreach to contractors and homeowners increased uptake of financial packages
- Energy efficiency financing is on-track to become a mainstream class of financial assets
- Innovative programs to highlight:
  - Interest rate buy-downs (LA County)
  - Loan loss reserves
  - EmPower SBC–Santa Barbara County's comprehensive residential energy efficiency financing program
  - Moderate Income Sustainable Technology Program (MIST)–low interest loans for low-moderate income residents
  - Commercial PACE (LA)

FACT SHEET #7: ENERGY UPGRADE CALIFORNIA MULTIFAMILY PROGRAM
8.5 x 11"

Key Messages

- Programs offer free technical assistance and significant rebates for both common area and in-unit energy upgrades, depending on the amount of energy saved
- Website helps owners find the most cost-effective upgrades and all available rebates
- Making properties energy efficient can result in 30%-75% energy savings in common areas and reduce operating costs
- Energy-efficient, green buildings are more competitive in today's rental market and have higher curb appeal when selling
- Urban low-income areas can benefit the most from energy efficiency—often buildings in those areas are the oldest, least efficient
- Financing options are available

Topics/Accomplishments

- Programs are designed to get over the "split incentive" of building owners paying for upgrades and renters benefiting from them most directly
- Details of pilots underway in:
  - Sacramento
  - Alameda
  - San Francisco
  - Los Angeles
  - San Diego

The California Energy Commission

Fueling California's Resurgent Economy: The Power of Energy Efficiency

Steven Kienzle has $320 more in his pocket every month than he did one year ago. He upgraded his home's energy efficiency through Energy Upgrade California. The family reduced their energy usage by about 40% and their monthly utility bill by about $320.

Steven participated in one of the California Energy Commission's ambitious and innovative energy efficiency programs, funded by the American Recovery and Reinvestment Act (ARRA).

Forging unprecedented collaborations with other state agencies, utilities and local governments, the Energy Commission developed energy efficiency programs that are:

- Creating and retaining jobs
- Keeping more money in-state
- Reducing per capita energy consumption
- Increasing the state's energy security by reducing imported energy

The Need for Energy

It takes tremendous amounts of energy—electricity and natural gas—to fuel the juggernaut of California, the world's 7th largest economy. At a cost of over $50 billion annually, California spends more money on energy each year than the entire annual budgets of countries like Egypt, New Zealand and the Philippines.[1] California is only able to generate in-state a small portion of the energy it needs to keep its economy moving and growing, and that's not likely to change:

- 13% of natural gas generated in state
- 35% of electricity generated in state, plus another 35% using out-of-state natural gas

A river of money is flowing out of the state to buy that energy: Over $20 billion spent in other states every year.[2] That money is not being spent here by our businesses and our residents.

The Kienzle Family

- Stephen and Colleen Kienzle, three teenage sons
- Whittier, California
- 2,400-square-foot home
- Built in 1957

"We knew our utility bills were higher than our neighbors, but we weren't sure why. It turns out, our house was leaking about 50% of its heat and air conditioning. We had minimal attic insulation—about three to four inches. Now we have more than 12 inches. Our new variable speed pool pump is probably one-tenth the cost. And the house feels better—it's cleaner and we're not breathing all the dust and allergens sucked in through the leaky ducts. With all of our upgrades, we hit 40% energy savings. We save over $300 a month—that's huge savings!"

Some of that imported electricity is particularly dirty: while California does not have coal-fired power plants, it does buy electricity from two of the biggest and dirtiest coal plants in the country (and coal prices are projected to increase substantially over the next five years).[3]

Energy Efficiency is an Energy *Resource*

The Energy Commission's solution doesn't require cutting edge technology or vast new energy sources. The energy problem is being solved one building at a time. It's energy efficiency—and a new way to look at how buildings consume energy. First, assess the energy features of the home, then upgrade the house as a system. Even modest building repairs such as new insulation and duct sealing can yield significant energy savings.

By 2014, Energy Commission policies can result in:[4]

- Preventing the need for 8 or more large power plants
- 300,000 tons less of CO2 emitted
- Californians saving $100 million a year in lower utility bills
- Thousands of new clean energy jobs

Tackling the Building Challenge

By far, the biggest energy hogs are our buildings, sucking in about 50% of all energy used and 75% of electricity used.[5] The U.S. Department of Energy reports that the average American house wastes 20-30% of its energy budget through leaks in heating and cooling ducts. Even more is lost from inadequate—or no—insulation, and leaky doors and windows.[6]

In 1978, the State enacted pioneering, energy efficiency building codes for newly constructed buildings that have significantly reduced the energy required for buildings: we've avoided the need to build six power plants since then.[7] Per capita consumption was increasing at 7% annually in 1973. With those building codes, it is now increasing at just .63%—less than our population increase.[8] Californians comprise 12% of the United States' population but consume only 6% of the nation's energy.

But, 55% of our homes and apartments and 40% of commercial buildings are older than 1978 and did not benefit from the codes for new buildings.[9]

Incorporating energy efficiency in about 6 million older California homes and the thousands of older commercial buildings will result in even more significant decreases in energy usage statewide.

California homeowners who have already performed energy upgrades on their homes through the Energy Upgrade program have seen an average energy savings of 30% (see "Energy Upgrade California for Single-Family Homes"). That decrease in their monthly energy bill (plus rebates offered by California utilities and some local governments) can make their energy upgrade more affordable, with the added benefit of creating a more comfortable and healthy home environment.

"As a result of these (California's energy efficiency) policies, California's per capita electricity use has remained virtually flat while—during the same time period—the United States' consumption has increased by 50%. These standards have saved California more than $56 billion in electricity and natural gas costs since 1978, equivalent to more than $1,000 per household."

Professor David Roland-Holst,
University of California, Berkeley[10]

Efficiency upgrades in the buildings of the commercial and industrial sectors are estimated to have an even more dramatic effect. The Energy Commission projects that within the next 18 years, commercial and industrial buildings will require no outside source of energy, they will be generating their own. Through combining energy efficiency and individual ability to generate power, commercial and industrial buildings will reach zero net energy use (ZNE).

California's Energy Independence

The Energy Commission and California Public Utilities Commission (CPUC) made an even more far-reaching commitment to efficient energy use and reduced emissions in implementing Assembly Bill 758, the Comprehensive Energy

Efficiency Program. Further reducing energy consumption by even 20% by 2020 could save nearly $10 billion annually. That's the equivalent of another nine power plants. Without increased energy efficiency, electricity consumption would instead rise by 10.6% by 2020.[11]

The agencies have clearly prioritized policies for developing energy sources, also called the energy "Loading Order:" first look to energy efficiency. Only after all-cost effective energy efficiency has decreased demand for energy, and after cost-effective renewable sources of energy have failed to provide enough power, may utilities seek out new power derived from "clean" fossil fuel.

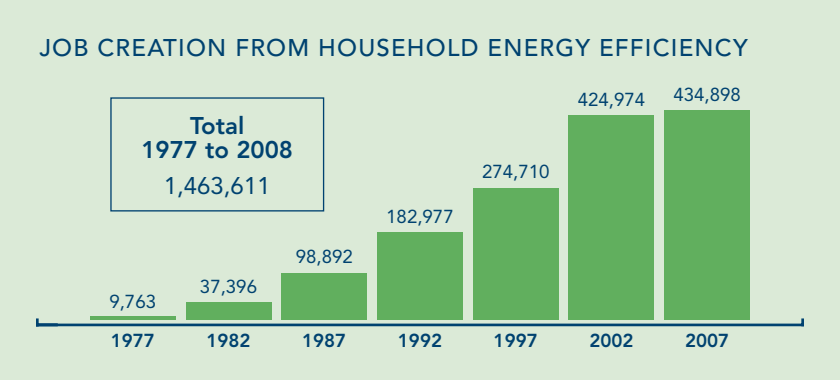
The potential for energy savings through increased energy efficiency—upgrading our homes and commercial buildings—is huge.

Spend it on Jobs!

Energy efficiency will create both direct and indirect local jobs, causing economic ripples throughout the state's economy. Energy upgrades in buildings generate three times as many jobs as investments in new coal production—and the jobs are local, not out of state.[12] The State's efforts are already generating jobs in four ways:

- Direct jobs in energy assessments, construction, and the ongoing operations and maintenance
- Indirect supply chain jobs manufacturing new energy efficiency equipment (the majority is manufactured in the US)
- Direct jobs created by businesses that hire workers instead of paying high utility bills
- Indirect jobs created by residents who spend the money on consumer goods and services instead of paying high utility bills—household consumption is the most important driver of economic activity in the State

A recently released research study by Deutsche Bank/Rockefeller Foundation concluded that upgrading buildings and replacing energy-consuming equipment nationwide will generate $1 trillion of energy savings and 3.3 million jobs created over ten years.[13] Scaling to California, that's almost 400,000 jobs. These jobs would include a range of skill qualifications, and be geographically diverse.



California is now seeing those jobs develop on the ground. During the past 35 years since California began energy efficiency in earnest, our innovative energy policies have created 1.5 million direct and indirect fulltime equivalent jobs, with a payroll of over $45 billion.[14] For every job lost in the energy sector due to increased efficiency, 50 have been created across the State's economy.[15]

> "If you want the game changer, if you want the real job generator, it's certainly not coal, it's not nuclear, and it's not even solar and wind…(it's) retrofitting buildings—7,000 jobs are created when you invest $1 billion in making buildings energy efficient."
>
> **Lieutenant Governor Gavin Newsome,** March 2011

Reducing GHG Emissions

Increasing energy efficiency is also the cheapest and fastest way to significantly reduce greenhouse gas emissions. In California, buildings are responsible for 25% of the State's GHG emissions,[16] the largest sector other than transportation. Just upgrading the energy efficiency of residential, commercial and institutional buildings would reduce total GHG emissions by nearly 10%.[17]

Our state is a global leader with our law to reduce GHG emissions 30 percent below business-as-usual by 2020 (to 1990 levels) and 80 percent below 1990 levels by 2050. Focusing on building energy performance can help put us well on our way to achieving these important goals and reducing polluting emissions that have a harmful effect on Californians' health.

A History of Leadership

Over the last thirty-five years, as a result of landmark energy efficiency policies, the California Energy Commission has helped put the State on a different trajectory than the rest of the country—reducing per capita energy consumption even as it has risen in the rest of the country.

The first breakthrough came in 1978 with pioneering building codes, administered by the Energy Commission, to make newly constructed homes more energy efficient. That was expanded to encompass energy efficient standards for alterations to existing buildings and the Home Energy Rating System (HERS) standards. In 2009, AB758, enacted by the California Legislature, became the Energy Commission's guide for energy efficiency policies, encompassing all buildings, new and existing, and positioning the State to take full advantage of the Department of Energy's State Energy Program (SEP) funds and ARRA grants. Those grants resulted in Energy Upgrade California, now the major initiative to implement AB758.

In the past two years, the Energy Commission's successful policies and programs, seeded with ARRA, SEP and Energy Efficiency Conservation and Block Grant (EECBG) funds, have built the foundation for California's energy market transformation.

Foundation for the Future

The Energy Commission's leadership in energy efficiency has made California a role model in the country—we've been reducing per capita energy consumption and have ambitious policies and programs in place to make even deeper reductions.

The Energy Commission has developed successful, groundbreaking energy efficiency pilot programs for single- family, multifamily and commercial buildings. The solid infrastructure will continue to support a new energy efficiency market after ARRA funds are spent. California is on the way to stable and secure energy supplies, and a "clean" economy, which will put the State back in charge of our economic future.

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1 "The World Fact Book," the Central Intelligence Agency, 2011.

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14 Roland-Holst.

15 Roland-Holst.

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The California Energy Commission

Leveraging ARRA Funds: Building the Infrastructure for Market Transformation

Using $226 million of American Recovery and Reinvestment Act (ARRA) stimulus funds, the California Energy Commission (Energy Commission) invested in ambitious pilot programs to tackle the State's critical need for energy independence, jobs and environmental preservation.

Rather than using funds solely to retrofit State buildings or on short-term quick-payback programs, The Energy Commission built an infrastructure to transform the energy efficiency market, and train workers to meet the new demand. The ripple effect of market transformation will continue long after ARRA funds are exhausted, based on success in these four major programs:

- Energy Upgrade California™ incentive program (also see related fact sheets)
- Clean Energy Business Financing Program
- Clean Energy Workforce Training Program
- Cash for Appliances

Energy Upgrade California

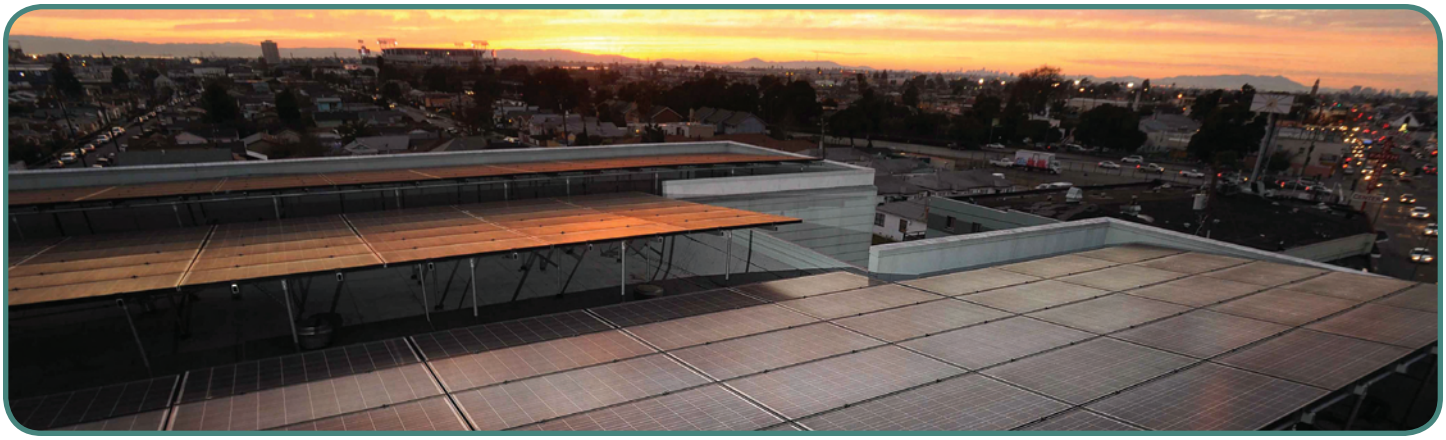
Energy Upgrade California is unique in promoting a "whole house" approach to energy savings and training consumers to understand how a home or building works as a system. The program is gaining momentum and steadily transforming California's energy efficiency market. With $110 million in ARRA funding, Energy Upgrade California developed the tools, workforce and infrastructure to support energy upgrades for single-family residential homes, with smaller programs for multifamily and municipal/commercial buildings.

The Bryan Family

- William and Cynthia Bryan, two kids
- Pomona, California
- 1,700-square-foot home
- Built in 1992

"Our house would get so hot in summer. We thought we had a good air conditioning unit. Actually, we really thought our entire house was pretty energy efficient. But contractors found a lot of things we couldn't see. We were surprised that over 20% of the air in our ducts was being lost. Our contractor sealed and added insulation. They installed a new unit with a bigger air return. Instantly, we could fee the difference!"

Energy Upgrade's first-ever statewide one-stop web portal provides consumer-friendly access to State, local and utility rebates and incentives, financing, Participating Contractors, Raters, and program information, as well as password-protected resources for Participating Contractors and Raters. Energy Upgrade California earned growing recognition across the State and has become the overarching statewide "whole house" energy efficiency program, with continued administration by the California Public Utilities Commission.



Clean Energy Business Financing Program

The Clean Energy Business Financing Program launched in April 2010, providing nearly $20 million in low-interest loans at 2.75% to California businesses that expanded their renewable energy manufacturing facilities. Loans will be fully drawn down by April 30, 2012. Because of the tremendous potential for job creation, the Energy Commission created a revolving loan fund (as loans are repaid, new loans are made), called the Clean and Renewable Energy Business Financing Revolving Loan Fund, to continue to offer low-interest loans for renewable energy manufacturing.

"It's the nearest thing we've got to a free lunch. And, the return is very high. For every billion dollars you spend on building retrofits, you get between 7,000 and 8,000 jobs."

President William Clinton,
PBS News Hour Interview,
December 2011

Loan Recipients

Loan recipients were private sector California businesses that manufacture solar equipment. For example:

SoloPower, Inc., San Jose

- Purchased equipment to expand its manufacturing capacity of thin film solar panels
- Intended to relocate operations to Oregon, but instead maintained its California facility.
- Created and/or retained 80 operator and technician jobs

Morgan Solar Inc., Chula Vista

- Purchased equipment to expand their manufacturing capacity of concentrated solar panels
- Intended to locate production facility in Mexico, but instead located in California
- Created and/or retained 25–40 jobs

The Solaria Corporation, Fremont

- Purchased equipment to expand their manufacturing capacity of solar panels
- Expanded production capacity by 150%.
- Created and/or retained 60–70 jobs

Stion Corporation, San Jose

- Purchased equipment to expand its manufacturing capacity of thin film solar modules
- Created and/or preserved 10–20 jobs

Clean Energy Workforce Training Program

To ensure that California can meet its energy goals and grow its green economy, the State needs a prepared, well-trained workforce. The Energy Commission joined the Employment Development Department (EDD), the California Workforce Investment Board, and the Employment Training Panel (ETP) to create the Clean Energy Workforce Training Program (CEWTP), the largest State-sponsored green workforce development program in the nation.

The program delivered training through partnerships with local workforce investment boards and community colleges to build skills for occupations in energy efficiency, water efficiency, renewable energy and clean transportation industries. The partnerships also provide job placement services, working with local green business leaders.

CEWTP was launched in October, 2009 with funding from four sources: $20 million in ARRA funds, $2.2 million in Alternative and Renewable Fuel and Vehicle Technology Program funds, $10 million from Workforce Investment Act Governor's Discretionary funds and $39 million in public-private partnership matching dollars from grantees. To build capacity for clean energy training, the Energy Commission drew on the EDD's workforce expertise and the Employment Training Panel, rather than recreate a stand-alone workforce initiative. While funding ended in early 2012, many programs will continue as funding can be secured.

As of February 2012:

- $27 million in grants awarded to local workforce development collaboratives
- 34 community colleges and training institutions received funding
- 8,160 people received training

"The building performance classes have been great. They give a broad perspective on green building, and practical hands-on experience for green residential and commercial projects. Now I'm a Certified Green Building Professional."

Rick Mozer, previously underemployed contractor/CEWTP program participant

The program focused on three training categories:

- Retraining targeting unemployed or underemployed construction workers, building on construction skills and providing new skills to retrain them for full employment.
- Pre-Apprenticeship Training, targeting new workforce entrants, unemployed or underemployed workers with little or no construction experience.
- "Upskilling" for current workers to build clean energy skills and gain a competitive edge in the marketplace.

Training Highlights

Los Angeles Trade Technical College

This program focused on a broad spectrum of clean energy related training with basic and work readiness skills, mainly in the Solar/PV and electrical distribution and energy efficiency careers. The program had a 65% job placement rate with 63% retention of at least 6 months. Twelve percent of participants entered postsecondary degree programs.

City of Richmond

RichmondBUILD Green Careers Academy focused on green construction, energy efficiency and solar installation, and had an extremely high job placement rate of 75%.

College of the Desert

With the growing importance of solar in inland areas, this program emphasized working closely with potential employers, who donated equipment to train students. Industry and labor partners have provided support in the curriculum development and in the training itself.

NoRTEC

The North/Far North Regional Consortium of California Community Colleges coordinated the implementation of the services and training. The program placed almost 80% of trainees and the community colleges gained tremendous knowledge of business and industry employment needs.

Cash for Appliances

Californians are saving 6 million kilowatt-hours per year as a result of rebates for new energy-efficient appliances, compared with non-Energy Star® models—enough to fully power 1,000 homes annually. The rebate program helped remove old energy-hogging appliances and recycled their components. The program launched in April 2010 with $35.2 million in Energy Commission-administered ARRA funds. All funds have been exhausted.

Rebates ranged from $50 to $1,300 for appliances bought in California. New water heaters and HVAC systems had to be installed by a licensed California contractor and old units recycled.

Results

- 178,190 appliances, water heaters, and heating and cooling systems replaced and recycled
- $33,519,750 in rebates
- 182 partners statewide
- $5.5 million in-kind contributions by California retailers and partners to promote and market the Cash for Appliances rebate program.

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Energy Upgrade California: Groundbreaking Programs

Energy Upgrade California™ is the most ambitious energy efficiency program of its kind in the country, steadily transforming California's energy efficiency market.

This innovative pilot program has demonstrated that many elements are necessary to successfully upgrade the energy efficiency of buildings:

- Robust rebates, based on the amount of energy saved
- Financing options, often below market rate
- Construction industry workforce development, to increase consumer choices and confidence
- Easy to use, one-stop web portal for consumers and contractors
- Robust, local consumer outreach, education and marketing to support behavior change around energy efficiency
- State and local government and utility coordination of rebates and incentives

The results to date are exponentially increasing numbers of energy upgrades, an average 31% energy saved in participating homes, an expanding, qualified workforce and millions of dollars of work for contractors. Energy Upgrade is a solid foundation to meet statewide energy savings goals and push California further as a role model for energy efficiency in the United States.

Energy Upgrade laid the groundwork for a market transformation, leveraging ARRA money to build an infrastructure that now ensures the State is on a faster track than any other state to meet energy efficiency goals, create jobs, save consumers money and reduce our use of fossil fuels.

Unprecedented Collaboration

The $250 million Energy Upgrade California pilot program was launched statewide in March 2011 as an unprecedented collaboration among the California Energy Commission, the California Public Utility Commission, utilities, local governments, non-governmental organizations and the private sector. The Energy Commission provided funds to local governments to develop innovative programs, develop tools and protocols needed for energy efficiency upgrades, undertake outreach and education, and offer local rebates and incentives. The Pubic Utilities Commission administered utility programs that provided $1-4,000 rebates and additional marketing. The Energy Commission guided development of the consumer-friendly Energy Upgrade brand—the first time a single consumer brand has been used by both utilities and government. It encompasses single-family residential, multifamily and targeted commercial properties.

The "Whole Building" Approach

Energy Upgrade is changing the way consumers think about how buildings consume energy. While most property owners know about leaky windows and Energy Star appliances, few think about the crucial role of ducts, insulation and sealing.

The challenge is to help consumers understand how a home or building works as a system. Often, the greatest percentage of energy savings comes from the least costly upgrades, such as reducing air leaks in the building or ductwork, adding attic insulation and insulating water heaters, pipes and ducts. Those basic upgrades can maximize the efficiency of a new air conditioner or water heater, for example, saving energy, creating a more comfortable environment and reducing long-term energy costs. The program encourages addressing the basics first, then layering on the more expensive options, such as a new air conditioner, water heater, new windows, solar, or other green measures.

"Insulation is sexy stuff…Here's what's sexy about it: saving money. Think about it this way: If you haven't upgraded your home yet, it's not just heat or cool air that's escaping – it's energy and money that you are wasting."

President Obama, December, 2009

One-Stop Upgrade Shop

The Energy Upgrade web portal is a one-stop clearinghouse for information about energy upgrades, incentives and rebates, information about financing, and links to Participating Contractors and Whole House Raters. County pages highlight county rebates and incentives, local programs, events and promotions available to their residents. The site gets about 830 unique visitors everyday, with about 6,500 direct contacts from the site to contractors as of March 2012.

Unique Rebate Structure

Working collaboratively, the Energy Commission and Public Utility Commission designed a homeowner rebate/incentive structure based on "whole house" upgrades, not single measures. The "up to $4,000" utility cash-back incentive is based on the percentage of energy savings. In addition to utility rebates, some local governments also offered additional rebates of as much as $5,000, providing robust total rebates that helped propel homeowners to upgrade.

Workforce Training and Long-Term Jobs

Both local governments and utilities reached out to diverse licensed contractors to encourage them to become Energy Upgrade Participating Contractors and Whole-House Home Energy Raters. While contractors implement the upgrades, Raters provide assessments and third-party recommendations for the most cost-effective upgrades. The program provides extensive training and support to help build the green industry and create a viable and qualified "whole house" workforce. The 127 contractor certification trainings have reached over 1,000 workers. As of March 2012, the program has a registry of over 500 Participating Contractor firms—who are now hiring workers. Over 553 contractors and Raters are now listed on the website. And, Building Performance Institute (BPI) certifications has doubled in just one year.

Upgrades must be performed by Participating Contractors to be eligible for rebates and incentives. Consumers can easily find and contract local contractors and raters through the website. The website provides a password-protected online Resource Library for Participating Contractors and Raters with Energy Upgrade-branded marketing and promotional materials to help boost business. Over 50% of energy upgrade projects are now being generated by Participating Contractors and Raters.

Contractors report that prior to Energy Upgrade about 15-20% of the home energy assessments turned into upgrade jobs; now that rate is about 40-50%.

Infrastructure for Long-Term Change

The Energy Commission recognized that public-private collaboration is the most effective way to provide California homeowners with consumer-friendly information and incentives to make home energy efficiency upgrades more affordable. This unprecedented alliance paves the way for future public-private partnerships and raises the bar for more integrated, consumer-friendly government-backed programs. Although federal ARRA funds end in early 2012, Energy Upgrade California continues with rebates from utility partners.

www.EnergyUpgradeCA.org

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The California Energy Commission

Energy Upgrade for Single-Family Homes: Huge Savings Ahead

Energy Upgrade California™ is making great strides in moving home energy efficiency forward in California—with deep energy and cost savings.

The true impact of the program is in changing the way homeowners think about how they consume energy: looking at their entire house as a system, rather than simply changing light bulbs and washing machines. The potential for energy savings is huge because homes consume more energy than any other single sector.

Program Successes

Energy Upgrade California is quickly growing. As of March 2012:

- Over 3,600 residential upgrades completed, with numbers increasing exponentially month over month
- Over xx,xxx energy assessments completed, documenting before and after energy consumption
- An average of 30% energy savings per house
- Costs average $10,000-$15,000 per house
- Added up to $60 million to local economies
- Over 117 billion BTUs of energy saved to date—that's like taking 10,000 cars off the road
- Over 500 contractor and energy professional firms—who are hiring!
- Over $30 million reinvested into California's local economies

The program is the most ambitious of its kind in the country, launched with unprecedented collaboration among the Energy Commission, California Public Utility Commission, utilities, local governments, non-governmental organizations and the private sector.

> "Energy Upgrade California allows consumers to put more money in their pockets by investing in the long-term benefits of energy efficiency and renewable energy property improvements."
>
> **Robert Weisenmiller, Ph.D.,**
> Chair of the Energy Commission

Although ARRA funding will end in early 2012, Energy Upgrade California for single-family homes continues under the administration of the California Public Utilities Commission. Many local governments are also continuing their efforts.

Reaching Homeowners Where They Live

Every day, about 830 California homeowners actively think about getting a home energy upgrade: they click on the one-stop website after hearing about Energy Upgrade from family, friends or an ad.

The program has been implemented in 58 counties with both statewide and locally driven awareness campaigns (radio, print ads, billboards/bus sides, cable TV, online ads and social media) that have resulted in more than 400 million impressions. Energy Upgrade California program representatives, often with teams of Participating Contractors, also attended community meetings, workshops and events statewide, with over 85,000 direct interactions with homeowners. Local governments provided thousands more interactions through city and county newsletters, events and websites. About half of all homeowners who attended an Energy Upgrade workshop scheduled or completed an upgrade.

Innovative Awareness Campaigns

The Energy Commission specifically awarded funding to local governments that developed innovative campaigns that have now proved to successfully boost program participation.

> "We're seeing this industry really explode…because of the work coming our way through Energy Upgrade California we're looking at hiring two more energy auditors in the next month and at least one more within the next 2-4 months, plus we anticipate adding 2-3 administrative staff to support the work our field staff are doing."
>
> **Bobbi Lou Bennett,** Apollo Energy Services, Capitol Region

Energize for the Prize

Alameda County developed a community-based program that helps schools and school organizations raise money by promoting energy efficiency upgrades to homeowners. Every homeowner who signs up for an energy upgrade can designate a school organization to receive $100. The organizations, or "Energy Ambassadors," that recruit the most upgrades earn cash prizes up to $5,000. As of March 2012, the program has enrolled 66 Parent-Teacher Associations, education foundations and non-profit organizations. Completed energy upgrades in Alameda County save an average savings of 33% energy.

The Energy Champions

LA County upgrades help community-based organizations raise money by promoting residential energy upgrades to homeowners. An Energy Champion is a community organization that "champions" the cause of saving energy. The 100 organizations have contacted 23,600 homeowners and can earn up to $500 for each homeowner they contact who completes an energy upgrade. Over 10% of upgrades in the County come from Champions (50% come from Participating Contractors). A standout Champion is Sustainable Claremont, a group of volunteers who work with the city and local contactors to educate the Claremont community regarding the "whole house" approach. Completed upgrades in LA County save an average savings of 25% energy.

The Residential Energy Roadshow

Energy Upgrade California in San Diego County, in coordination with San Diego Gas & Electric, developed a traveling home show booth that features Energy Upgrade California program information about "whole house" upgrades and incentives with Participating Contractors and Whole House Raters on-hand to answer questions and capture leads. As of March 2012, over 3,000 homeowners visited the Roadshow and the County now has a database of over 1,500 interested consumers. It's become a powerful sales tool, generating qualified leads to Participating Contractors and Whole House Raters. Completed upgrades in San Diego County save an average of 25% energy.

Positive Impact on the Environment

Although saving energy in one home doesn't seem like a lot, multiplied over time by potentially 6 million California homes that could benefit from an upgrade make a dramatic impact on the environment. By 2020, just counting the 3,600 energy upgrades already completed, about 1.75 trillion BTUs would be saved—an annual reduction of 21,368 metric tons of CO2 equivalent greenhouse gas emissions. That's like planting trees in an area the size of the City of San Diego! Imagine the savings as more homes are upgraded.

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Energy Upgrade Targeted Municipal/Commercial: Proving Research On-the-Ground

Although residential buildings account for most energy consumption statewide, each individual commercial building upgraded can significantly reduce energy use—and the upgrade can have a major impact on the business's bottom line.

The California Energy Commission invested $30.7 million of American Recovery and Reinvestment Act (ARRA) stimulus funds for on-the-ground implementation of advanced energy-saving technologies. The technologies were developed by Public Interest Energy Research (PIER), the Energy Commission's science and technology research and development group charged with exploring how new energy applications and products can reduce electricity use and solve environmental problems. The technologies included wireless lighting controls, bi-level lighting with occupancy control, task ambient lighting, energy-efficient refrigeration and lighting controls, and wireless HVAC controls.

The program, aimed at municipal and commercial buildings, proved that the new technologies are cost-effective and efficient:

- Achieved significant, long-term energy savings
- Saved businesses and agencies money
- Created new, sustainable jobs for California workers
- Further developed the market for energy efficiency technologies

Innovative Pilot Projects

The Energy Commission awarded grants through Energy Upgrade California™ to three organizations: EnergySmart Jobs, Oakland Shines and the Energy Technology Assistance Program. Along with significant energy use reductions, these projects created contractor and energy assessor positions, provided technical job training and created hundreds of new sustainable jobs through partnerships with local work organizations.

EnergySmart Jobs

The statewide project helped commercial retailers save money and energy through energy-efficient refrigeration and lighting upgrades. The program was administered by PECI (Portland Energy Conservation, Inc.) and funded with $18.8 million in ARRA funds. EnergySmart Jobs provided no-cost energy assessments and rebates (a portion of installation costs, plus utility incentives). With the help of EnergySmart Jobs, small independent retailers and large national stores were able to improve the energy efficiency of their facilities, save money on utility bills and reduce maintenance costs.

- Completed more than 6,200 energy surveys
- Completed over 3,200 upgrade projects
- Provided $8.7 million in rebates
- Trained 132 youths from the California Conservation Corps as energy surveyors
- Achieved over 54 million kWh in annual energy savings
- Trained over 60 Energy Upgrade California Participating Contractors
- Created 116 new jobs and retained more than 200 contractor and surveyor positions
- Estimated 248 job-years, based on economic activity brought about by program spending

"We installed motion-sensitive LED lighting for our reach-in coolers. The rebates paid for more than 80% of the total project, nearly covering the entire cost of installation. The savings really help our business. It's nice to know the program is creating jobs, and I hope that other stores will also participate and see the benefits of saving energy."

Soo Chang Pak,
Owner of a convenience market, Escondido

"We have a new level of comfort control and the ability to track and report our performance. This was a win for our building's energy efficiency, a win for our pursuit of LEEDS certification, a win for tenant comfort and a win for the community. We would not have been able to complete the project on our own due to budget restraints so it was win for the building owners as well."

Jack Whitehouse, Chief Operating Engineer, Rotunda Building, Oakland

Oakland Shines

The project for small businesses promoted energy efficiency in Downtown Oakland, created jobs and leveraged existing workforce development programs. The program is a partnership of QuEST (Quantum Energy Services and Technologies) and the City of Oakland. It was initially funded with $5 million from ARRA, with an additional $250,000 awarded later because of its success—and leveraged millions of dollars in additional resources from the City of Oakland and PG&E. The program offered a free "concierge service" to guide businesses, free energy surveys and incentives to cover 30-80% of upgrade costs. Other partners included the nationally recognized Oakland Green Job Corps, the Ella Baker Center, Cypress Mandela Training Center and the Laney Community College Growth Sector. The program ended April 30, 2012, but energy efficiency rebates will continue through PG&E.

- Completed more than 600 energy surveys
- Completed almost 200 energy upgrades
- Installed some of the most advanced technologies in lighting and HVAC in Downtown Oakland
- Created 78 jobs
- Provided over $3 million in incentives to Oakland's business community
- Achieved nearly $670,000 in annual utility expense savings

Energy Technology Assistance Program (ETAP)

ETAP provided technical support, implementation assistance and rebates to local governments, colleges, libraries and other agencies throughout California. The project focused on three energy efficiency technologies: bi-level lighting controls, wireless lighting controls and wireless HVAC controls. ETAP is administered by Energy Solutions, and funded with almost $6.7 million. The program ended April 30, 2012.

- Completed 169 energy surveys
- Completed 124 upgrade projects
- Created 211 jobs
- Provided almost $3.5 million in rebates
- Projected average annual electricity savings of 182,000 kWh per facility
- Trained 34 unemployed electricians in advanced lighting control technology and 24 HVAC technicians in advanced HVAC controls

"Initially I was leery about the bi-level feature. The idea of reducing light levels when no one is around makes a lot of sense because it saves energy, but I was concerned that at half power the area would appear dark and uninviting. This really changed my mind – at half power there was ample light and seeing the fixtures brighten in front of you as you walk in creates a really positive feeling."

Matt Eierman, City of Sacramento Parking Facilities Manager

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Energy Upgrade Financing: Overcoming the Upfront Hurdles

One of the major hurdles to undertaking an energy upgrade, for both residential and commercial property owners, is the upfront cost—money they need to spend before getting rebates or seeing utility bill savings.

New, innovative financing methods not only make upgrades more affordable, they also have the potential to highly leverage public dollars.

Many California property owners are now finding that their monthly loan payments virtually match their utility bill savings so their upgrades pay for themselves from day one.

Although most of the Energy Upgrade California™ financing programs are less than a year old, they have already delivered significant benefits in generating jobs, reducing energy consumption and preserving the environment.

Some financing programs plan to continue beyond California Energy Commission (Energy Commission) and American Recovery and Reinvestment Act (ARRA) funding. Shorter-term programs aim to provide an initial economic boost to build the momentum necessary to sustain longer term market growth. Programs have inspired both new public/private partnerships and grassroots community building efforts.

Statewide Financing: CHF Residential Program

California's low- and moderate-income families have long lacked effective programs to help them make home energy improvements. However, since CRHMFA Homebuyers Fund (CHF) received an Energy Commission grant in September 2010, they have offered eligible homeowners a way to affordably finance home energy improvements with 3% interest, 15-year fixed term loans and grants up to $1,750 per home. About 317 homeowners received a 0% interest loan. The CHF Residential Energy Retrofit Program has also created or retained approximately 300 jobs in local energy efficiency measure installation and verification trades. As a joint powers authority providing home financing for low-to-moderate income Californian's since 1993, CHF was well positioned to administer this program in 54 counties throughout the state.

Results as of March 2012:

- 1054 projects
- 30% energy savings
- 307 estimated jobs created/retained
- $23.7 million in loans distribute
- $2.1 million in grants distributed
- 86 billion BTUs of total energy savings—7,500 cars off the road!

The Friedman Family

"I noticed an alarming rise in my utility bills. An assessment showed me I could save 20% by sealing holes in my attic and air ducts, and adding insulation. I got a $2,000 rebate, which brought my costs down to $8,000. I financed that through an energy efficiency loan with a monthly payment of $75. Since I save over $75 a month on my utility bills, my upgrade pays for itself! And I've already noticed a significant difference in my home's overall comfort."

Vicky Friedman, Oakland homeowner

emPower Santa Barbara: Local Partnerships

Using a loan loss reserve financing partnership with local lenders, emPower Santa Barbara County turned a $3 million in Department of Energy and Energy Commission grant into tens of millions of dollars in value to County residents, the local economy and the environment. Grant funds included $773 thousand in ARRA EECBG

State subgrant funding from the CEC and $2.4 million from the ARRA EECBG Federal competitive award from the DOE BetterBuildings program. By using grant funds to cover some of default risk for lenders, the County enabled residents to get long-term unsecured loans at 5.9% interest rates—significantly less than most unsecured loans—and attracted $20 million in private credit union investment. The County used traditional advertising, grassroots outreach and broad-based community partnerships to motivate residents to make improvements. Community barbeques helped publicize the program, cities helped recruit homeowners, and contractors and realtors joined the effort.

Results as of March 2012:

- $200,000 in loan applications
- 40 projects completing upgrades
- 20-56% energy savings per project

Anticipated Totals

- $20,000,000 in loans
- 1,333 projects
- $15,000 average cost per job
- 384 jobs created
- $55 million total economic value

Los Angeles County: Interest Rate Buy Down and Loan Loss Reserve

The County of Los Angeles began offering a residential loan program in July 2011, using a loan loss reserve to create affordable interest rates. Applications began soaring in December 2011, when the County formed a partnership with Matadors Community Credit Union to buy down the interest rate even more. Fifty-nine percent of the total loans were made since the interest rate buy down. While the rate on most unsecured loans is currently near 8%, the County's Energy Loan program is offering loans at 2.9% interest, until funding ends. With that financing, Los Angeles County homeowners are choosing to make more improvements per project, for even more energy savings.

Results as of March 2012:

- About 115 loans
- $14,500 average project cost
- 27% average energy savings

City of Los Angeles: Commercial PACE

Attractive financing for commercial energy upgrade projects has been very difficult to obtain—but Property Assessed Clean Energy (PACE) financing has changed that. The Los Angeles Commercial PACE Financing Program one-year pilot is the first open-market PACE financing program in the country, and allows multiple PACE investors to participate, encouraging private financing of commercial energy retrofits. The Los Angeles Commercial PACE Program was jointly developed by the City of LA and LA County, and makes PACE financing available for wide variety of commercial properties, from office buildings to restaurants. Property owners can finance up to 100% of installed costs, and repay the cost through voluntary assessments placed on the property tax bill, which sit in first position and stay with the property when it is sold. The open market PACE program requires no government investment and presents a low risk investment opportunity for PACE investors.

Results as of March 2012:

- Energy audits completed on over 30 million square feet of buildings
- 80 buildings
- 10-20% energy savings
- Over 200 construction jobs anticipated
- About 40,000 tons of greenhouse gas saved/year projected

For more information

California Energy Commission
Media and Public Communications Office
1516 Ninth Street, MS-29, Sacramento, CA 95814
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Energy Upgrade Multifamily: Solving the "Split Incentive" Barrier

With many units clustered together, multifamily buildings offer the potential of significant energy savings.

However, it's often difficult to persuade building owners to upgrade tenant units. While they incur the costs of financing the improvements, the tenants benefit from the lowered utility costs and increased comfort. Increasing the rent to pay for improvements is not always a viable option.

The Energy Commission is helping address this challenge by supporting five whole-building multifamily pilot programs. The pilot projects, in Los Angeles, Sacramento, San Diego, San Francisco and Alameda Counties, are using ARRA State Energy Program (SEP) and Energy Efficiency Conservation Block Grant (EECBG) funds to find the best methods for overcoming the incentive barrier. They offer ways to make improvements that add long-term value to the property and offer immediate savings:

- Free technical and design assistance, sending an energy consultant to the property to work with the owner and determine the most cost-effective upgrades.
- Rebates for the energy assessments that evaluate the building from top to bottom (some programs).
- Cash incentives offered per unit, based on the amount of energy saved.
- Matching funds from some partnering cities.

There's also an easy-to-use website and tool that shows owners potential incentives and financing options, and allows them to track energy improvements for multiple properties.

"Camelot Apartments is a 40-unit affordable complex for families with limited or fixed incomes. Tenants pay all their own utilities, so savings go right to their pocketbooks. We upgraded HVAC and sealed ducts, and got 24% energy savings. The cost was $129,000, but we got a $99,000 incentive! We were so pleased with the ease of the program and success of the upgrades that we are making energy upgrades at another project."

Sheryl Kelley, Eugene Burger Management Corporation, Sacramento

Benefits

Tenants benefit with reduced utility bills, more comfortable living space and healthier air.

Benefits for building owners who complete upgrades include:

- Reduced operating costs for common area lighting, central HVAC units, central water heating, laundry facilities and landscaping
- Reduced maintenance for the more efficient new systems
- Lower vacancy rates with happier, more comfortable tenants
- Enhanced appeal for environmentally conscious renters
- Increased curb appeal when selling

Pilot Programs

In San Diego County

This program is a partnership of the City and County of San Diego, SDG&E, and the City of Chula Vista. Owners receive free upfront technical assistance and cash incentives of $550-$1,500 per unit, based on energy savings, plus bonus incentives of $350-$1,400 per unit for low- and moderate-income properties in the City of San Diego and bonus incentives of $550-$1,500 for all properties in Chula Vista.

- Participating units goal: 1,000 by May 2012
- Average energy saved: 20% (peak reduction)

The program continues through December 2012, or until funds are exhausted.

> "It's rare in construction and development when improvements can be cost-effective, good for the environment, enhance the property's value and benefit the tenants' lives all at once. Energy Upgrade California allowed us to do just that."
>
> **Colin Rice,** RAHD Group, San Diego

In Los Angeles County

Owners can receive free technical assistance (valued up to $5,000) and cash incentives of $5,000-$10,000 to offset the cost of an energy assessment. They can also receive $200-$1,200 per unit for upgrades, based on energy savings (capped at $100,000). Additional incentives of $4,000 (for 5-20 units) plus $50-$100 per additional unit are available for achieving GreenPoint Rated a label.

- Participating units: 1,500
- Average energy saved: 15-30%

The program continues though June 2012, or until funds are exhausted.

In Alameda County

The program, administered by StopWaste, provides free technical assistance (valued up to $5,000) and cash incentives of $3,000- $30,000, based on building size, for achieving the GreenPoint Rated label (which includes water-saving elements). Owners can receive 20% of the incentive upfront to offset the cost of initial ratings.

- Participating units: 1,500 by June 2013
- Average energy saved: 20-25%

The program continues though May 2013 or until funds are exhausted.

In San Francisco County

The "San Francisco Energy Watch" program offers owners free technical assistance and discounts on equipment and incentives to offset as much as 100% of capital and installation costs.

In Sacramento County

The SMUD HomePerformance Program–MultiFamily offers free technical assistance and up to $150 per unit for an energy assessment, plus incentives of $2,300–$3,800 per unit based on energy savings (minimum 20% required).

- Participating units: 11,289 audited; 2,513 upgrades
- Average energy saved: 30% (peak reduction)

A new SMUD program launched April 1, with slightly lower incentives.

For more information

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