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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Approval of 2013-2014 Energy Efficiency Programs and Budget (U39M).	Application 12-07-001 (Filed July 2, 2012)
Application of San Diego Gas & Electric Company (U902M) for Approval of Electric and Natural Gas Energy Efficiency Programs and Budgets for Years 2013 through 2014.	Application 12-07-002 (Filed July 2, 2012)
Application of Southern California Gas Company (U904G) for Approval of Natural Gas Energy Efficiency Programs and Budgets for Years 2013 through 2014.	Application 12-07-003 (Filed July 2, 2012)
Application of Southern California Edison Company (U338E) for Approval of Energy Efficiency and Demand Response Integrated Demand Side Management Programs and Budgets for 2013-2014.	Application 12-07-004 (Filed July 2, 2012)

MOTION FOR CONSIDERATION OF THE SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK FOR SOUTHERN CALIFORNIA GAS COMPANY'S SERVICE TERRITORY FOR 2013-2014

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For the County of Los Angeles and the Southern California Regional Energy Network

Dated: July 16, 2012

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I. INTRODUCTION

Pursuant to Rule 11.1 of the California Public Utilities Commission ("Commission") Rules of Practice and Procedure, and in accordance with the *Administrative Law Judge's Ruling Regarding Procedures for Local Government Regional Energy Network Submissions for 2013-2014 and for Community Choice Aggregators to Administer Energy Efficiency Programs*, issued June 20, 2012 ("ALJ's Ruling"), the County of Los Angeles (LA County), for itself and on behalf of the Southern California Regional Energy Network (SoCalREN), is pleased to submit this application to establish SoCalREN as a Local Government Regional Energy Network ("REN") serving public agencies and their constituencies within Southern California Gas Company's ("SCG's") service territory that bring strong expertise and experience in the development and implementation of regional and local energy and sustainability programs, and request funding for the 2013-2014 transition period is in the amount of $14.4 million ("Application"). Funds are also requested in a separate Motion related to the Southern California Edison Company Energy Efficiency Application in the amount of $49.3 million for a commensurate level of electric efficiency efforts. The total combined SoCalREN request is in the amount of $63.7 million.

This Application is being submitted in concert with at least one other REN proposal, the Bay Area REN ("BayREN"), which is being developed under the Association of Bay Area Governments. The concept and development of the RENs was accomplished through the activities of the Local Government Sustainable Energy Coalition ("LGSEC").[1] The LGSEC will continue to represent the interests of the RENs in Commission proceedings and will be leveraged

[1] The LGSEC is a statewide membership organization of cities, counties, associations and councils of government, special districts, and non-profit organizations that support government entities. Each of these organizations may have different views on elements of this Application, which were approved by the LGSEC's Board. A list of LGSEC's members can be found at www.lgsec.org.

to develop additional Regional Energy Networks in the future. The Commission should consider the foregoing two RENs, SoCalREN and BayREN, acting together as a combined pilot, statewide system that will expand the reach of energy efficiency and other energy management programs to local governments and other public agencies.

As discussed in general terms herein and in greater detail in the attached Program Implementation Plan and in Section V below, this SoCalREN Application is designed to complement SCG's Application without overlap and is therefore reasonable and consistent with the provisions of the 2013-2014 Energy Efficiency Portfolio Application Information Requirements (Chapter 4).

Appendix "A", attached to this Application, is the Program Implementation Plan ("PIP") for the SoCalREN. This PIP was developed as directed by the Commission[2], using the templates circulated on May 24, 2012. Should the Commission find that it requires additional information, the SoCalREN will work with the Commission's staff in a timely fashion to ensure that the Commission has everything required to approve this Application.

II. BACKGROUND

D.12-05-015 (the "Guidance Decision") encouraged local governments to submit PIPs and budgets for REN pilots for the 2013-2014 energy efficiency transition period. The Guidance Decision stated that: "Authorizing pilots in the 2013-2014 transition portfolio would provide local governments the opportunity to develop a track record. We anticipate that the 2013-2014 programs would lead to a series of lessons learned on the appropriate level of local government administration of ratepayer-funded energy efficiency programs." (p.147). The Guidance Decision provided direction on information that should be included in the PIPs. This Application is

[2] *See,* D.12-05-015, issued January 27, 2012, Ordering Paragraph 34, at pp. 404.

submitted pursuant to the ALJ's Ruling in accordance with the Commission's direction in the Guidance Decision.

III. REGIONAL ENERGY NETWORKS WILL INCREASE LOCAL GOVERNMENT PARTICIPATION IN ENERGY EFFICIENCY INITIATIVES

A. Benefits of Regional Energy Networks

The goals of the RENs are to access untapped markets to drive greater reductions in energy use, meet or exceed final adopted cost-effectiveness measures, create jobs, and invest ratepayer funds for energy management benefits in local communities. RENs will be accountable to meet or exceed final cost-effectiveness criteria adopted by the Commission, and will achieve energy savings and other identified outcomes. Because RENs are managed by local governments, no shareholder incentives will be required.

The RENs will provide a one-stop shop for local governments to implement larger scale, cross-sector energy management strategies that complement and supplement services provided by existing utility local government partnerships. RENs will provide integrated energy management capabilities for local governments that include the following measures and activities:

- Technical assistance, resources, expertise, capacity building;
- Regional aggregation of projects and energy management actions;
- Shared procurement and contracting approaches;
- Shared use of innovative technical tools, software, and systems;
- Regional financing programs for municipal and private building retrofit projects;
- Cost savings through collaborative joint funding and contracting mechanisms;
- Implementation of multi-jurisdictional projects encompassing underserved and low income customer segments;

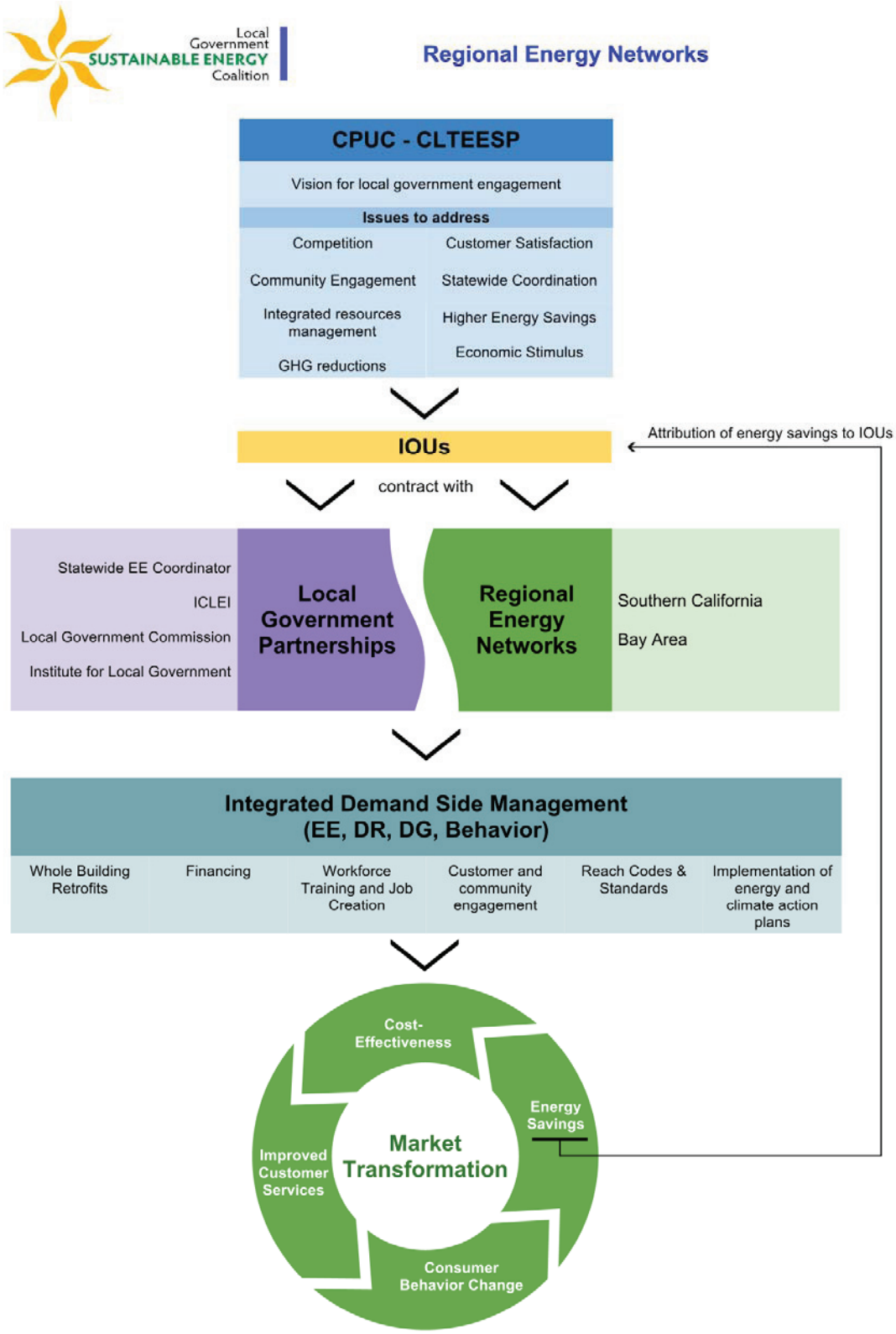
- Mobilization of local resources and local vendors, creating local jobs and stimulating green economic activity; and
- Education, information and empowerment at a grassroots level to change individual energy behaviors and create energy accountability within communities.

The RENs will provide specific services that include: residential, commercial, and municipal building retrofits; financing programs; implementation of energy/climate action plan projects through collective procurement and contracting for services; acceleration of reach codes and standards development and implementation; and community engagement for energy behavior change.

The RENs will expand the number of local governments participating in energy efficiency programs, creating better institutional capacity to undertake comprehensive energy management activities. Between the SoCalREN and the BayREN, more than two-thirds of California's population will have access to REN services. The RENs will be peer-driven organizations, where local governments assist and learn from one another.

Figure 1 shows the functional relationships among the Commission, investor owned utilities ("IOUs"), local government partnerships and RENs, and describes the services provided by the RENs.

Figure 1: California Local Government Regional Energy Networks



B. *Funding for Regional Energy Networks*

Funding for the RENs should be drawn from unspent, reallocated, or other funds currently under administration by the IOUs. Funding for the RENs should not be taken from budgets otherwise directed to energy efficiency partnerships with local governments. The Commission should direct a combined $63.7 million to SoCalREN for both electric and gas efficiency activities. Some or all of funds described in the following table could be used to fund the RENs.

Figure 2: Potential Funding Sources (estimates)

$50 million	Unspent Energy Upgrade California funds (2010-2012)
$20 million	Partial reallocation of ongoing codes and standards funding during Bridge Period and standards funding during bridge period
$30 million	Unspent funds (2010-2012) from other non-local government portions of EE Portfolios
$30 million	Portion of financing programs implementation proposal
$130 million	TOTAL

IV. THE SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK

A. *Overview of the Regional Energy Network*

- **Service Area**

The SoCalREN will provide services to counties, cities and unincorporated areas within the Southern California Gas Company service territory:

- **Subprograms**

The SoCalREN will pursue the following subprograms which will be made available to the participating counties and cities:

- Energy Upgrade California
- Financing
- Southern California Regional Energy Center

- **SCG Efficiency Budget Amount: $14,428,589**
- **Expected outcomes**

The SoCalREN's activities will result in numerous outcomes, such as:

- 5,000 single-family homes will undergo multi-measure energy upgrades
- 8,000 multi-family units will undergo multi-measure energy upgrades
- Significant numbers of building professionals, real estate professionals, and local government building department staff will be trained.
- 800 low income residential unit upgrades will be completed.
- 51.2 million kWh and 1.9 million therms will be saved through municipal facility, single family and multi-family retrofits

B. The Southern California Regional Energy Network Meets or Exceeds the Requirements of D.12-05-015, the Guidance Decision

Ordering Paragraph 34 of the Guidance Decision (p.354) directs that any PIP submitted by a local government for a regional pilot must demonstrate the extent to which the REN will address several factors. This section provides that information.

1. Leverage Additional State and Federal Resources So That Energy Efficiency Programs are Offered at Lower Costs to Ratepayers

As discussed by the Commission in the Guidance Decision, local governments have the ability to leverage additional state, federal, local, grant, and other funding not currently available to utilities to implement energy efficiency activities. Through coordination among local governments, the SoCalREN will be able to leverage the resources and efforts of local programs such as local sustainability, climate and transportation programs, planning, zoning and inspection activities, water utility programs, and a number of other local-scale activities to drive the mission of market transformation towards energy efficiency. In addition to accessing local funds, the regional

coordination approach of the SoCalREN positions it well to obtain additional program resources offered through state and federal agencies.

To date, local governments who will be participating in the SoCalREN have successfully leveraged more than $40 million in funds provided by the California Energy Commission and U.S. Department of Energy. These funds are being used in many ways through June 2013, including:

- Establish a regional media marketing presence and conduct local outreach through homeowner workshops and events in partnership with Councils of Governments, local governments and Participating Contractors;
- Provide direct assistance to program participants and contractors by offering increased incentives for the utility-administered Energy Upgrade program for Basic and Advanced Packages, as well as an incentive for an LA County-administered program called Flex Path;
- Develop tools to support the multi-family whole-building energy upgrade market;
- Support workforce development through contractor and professional trainings;
- Provide additional incentives to customers to perform upgrades.
- Provide aggregated and bundled procurement and contracting services
- Loan loss reserve funding
- Regional Climate Action planning

Through these efforts, local governments that will participate in the SoCalREN have already helped to achieve the following results:

Figure 3: Energy Upgrades Promoted Through LA County's Energy Upgrade California in Los Angeles County incentive program[3]

Number of Upgrades Achieved (Completed)	521
Number of Upgrades Promoted (Completed and in Process)	1,221
Average Energy Savings per Upgrade	19%

3 LA County Energy Upgrade incentive data for whole house retrofits as of June 2012.

Average kWh savings per Upgrade	1,964
Total kWh saved (Calculated from Average for Completed Upgrades)	1,023,129
Average Therms savings per Upgrade	115
Total Therms saved (Calculated from Average for Completed Upgrades)	59,826
Average Cost per Upgrade	$7,693
Total Value of Upgrades Incentivized (Calculated from Average for Completed Upgrades)	$4,008,059
Average Square Footage per Upgrade	1,944 (Flex only)
Total Square Footage Upgraded (Calculated from Average for Completed Upgrades)	645,408 (Flex only)
Participating Contractors (All SCE/SCG Territory)	113
Participating Contractors (LA County Territory only)	98
Multifamily Upgrades	
Number of Upgrades (Units In Process)	964
Number of Upgrades (Buildings In Process)	31
Total Value of Upgrades Incentivized	$948,860
Total Square Footage Upgraded (In process)	711,571
Average Projected Energy Savings	31%

Figure 4: Energy Upgrade Marketing Activities[4] as of June 2012

General Marketing Activities	
Total Media Impressions (Paid and earned)	414,819,062
Total Website Page Views (Energy Upgrade California/local portals as appropriate)	894,349
Targeted Communications	

4 Primarily from efforts by LA County.

Direct mail	5775
Email sign ups (homeowner, contractors, city/COGs, Real Estate Professionals):	7,616
Individual emails	~33,000
Hangers/canvassing	375,000
Events, including public/homeowner-facing workshops, information sessions and sector-specific (for realtors, building officials, city council, etc.)	
Number of Events	716
Number of touches	101,250
Energy Upgrade Call Center	
Number of Email Tickets	245
Number of Calls	2,070

Local governments who will participate in the SoCalREN have also leveraged state and federal agency grants to develop innovative financing programs that support both private and public sector building projects. To date, LA County's private, residential financing program has provided over $1.5 million in loans for Energy Upgrade California projects. LA County's lender will make the program available throughout the Southern California region. In partnership with other cities, a regional, financing program is being developed which will provide low-interest financing for public agency energy projects. This program will leverage all other available public agency financing and provide consistent, easy to adopt procedures for accessing this financing for a variety of projects (including energy efficiency, renewable, demand response, water, etc.). Lastly, nearly all of LA County's private buildings are eligible for a non-residential Property Assessed Clean Energy ("PACE") financing program. The SoCalREN will lead a regional effort to provide current, unbiased information and support to assist in the development of PACE districts throughout the region.

2. Address the water/energy nexus

Unlike the IOUs, local governments are required to approach sustainability through the lens of multiple resources and activities. Certainly, energy efficiency and renewable energy are key considerations, but local governments are also concerned with water conservation and watershed management, resource conservation, and

urban form and transportation patterns and their effects on the environment. Through their efforts, programs, and relationships with nonprofit organizations, businesses and other government agencies, local governments have developed significant expertise in these areas, and are well positioned to combine any activities associated with REN programs into their efforts. This is especially true in the Southern California area, where cities and counties in this region have been working together to develop programs and policies to address sustainability concerns and to integrate those into business as usual.

The SoCalREN's activities will leverage local government's expertise and relationships to address cross-resource considerations, including the following:

- Through the Single-Family Subprogram, the SoCalREN will engage with local water utilities to incorporate their DSM program offerings into the Flex Path.
- Through the Financing Subprogram, the SoCalREN will include water conservation measures in its financing approach, wherever applicable.
- Through the Southern California Regional Energy Center ("SoCalREC") Subprogram, the SoCalREN will engage with local water utilities to incorporate their DSM offerings into the SoCalREC advisory services and encourage comprehensive retrofits that include water conservation measures wherever possible.

3. Develop and deploy new and existing technologies

While rarely the drivers of new technology development, local governments come into regular contact with building professionals who are planning or implementing projects through the planning and permitting processes. Local governments are, therefore, in a key position to leverage their direct ongoing relationships with building professionals to promote best practices and use of new and innovative technologies.

The SoCalREN activities will leverage local governments' access to building professionals to promote new and existing technologies in the following ways:

- SoCalREN efforts will include trainings and forums on best practices for new and existing technologies for building department staff, who will then bring those into permitting and inspection processes and discussion with builders;

- Multi-family technical assistance will include support for property managers in using energy management solutions such as EEMIS.
- Training will be provided for multi-family building professionals that will include the use of best practice/new technologies in modeling and upgrading multi-family properties.

Both private and public sector building operators will be educated and encouraged to implement the newest, highly efficient building systems and technologies, including those listed in Figure 5 below.

Figure 5: Sample list of Systems and Technologies

LED Lighting – Residential and Commercial
Hot/Dry AC Systems
Evaporative Cooling
Indirect Evaporative Cooling
Ductless Air Conditioning
Water-Cooled Heat Exchangers for HVAC Equipment
Residential Night Ventilation Cooling
Heat Pump Water Heaters
Condensing Gas Water Heater
LED for Street, Area, & Parking Lot Illumination
Improved Data Center Design
Improved Air-Flow Management
Variable-Speed CRAC Compressors
Advanced Lighting Controls
Evaporator Fan Controller for Medium Temperature Walk-Ins
Combined Space and Water Heater
Advanced HID Lighting - Pulse Start and Ceramic Metal Halide
Fault Detection and Diagnostics
Variable Refrigerant Flow
Advanced Steam Trap Systems
Reduced Working Temperature for Asphalt
High Performance Rooftop Unit
Comprehensive Commercial HVAC Rooftop Unit Quality Maintenance

4. Address workforce training issues

During the implementation of Energy Upgrade California in LA County, cities who will participate in SoCalREN were active in increasing the number and quality of skilled building professionals, in order to address

projected gaps in the required workforce needed to support market transformation. Activities included coordination with training providers, community colleges, and other workforce organizations to deliver a series of local and regional building professional trainings and mentoring. These efforts resulted in trained and/or mentored individuals as depicted in Figure 6:

Figure 6: Energy Upgrade Training Activities

Type of Training	Number of Trainees
EnergyPro (Basic)	9
EnergyPro (Advanced)	7
EnergyPro (Multifamily)	9
Sales and Marketing (webinar series)	141
Certified Green Building Professional	96
Green Point Rated Existing Homes	84
Green Point Rated Core	86
BPI Building Analyst	36
BPI Field Mentoring (1 day)	34
Certified Green Real Estate Professional (2 day)	150
Green Realtor Workshop (4-hour)	79
Total Trained	**731**

During the ARRA performance period, actions identified significant technical and non-technical gaps in the skills of existing contractors which kept them from effectively selling and delivering energy upgrades. The SoCalREN will address these gaps by providing training and mentorship opportunities for building professionals in the single-family and multi-family sectors. For single-family professionals, training and mentoring opportunities will focus on non-technical skills such as marketing and sales techniques, customer relations management, job sequencing, and small business administration. For multi-family professionals, training and mentoring will focus on specific technical topics, as determined necessary by multi-family stakeholders and professionals.

Municipal building operators, managers and energy management professionals have been trained under a pilot program, which utilizes ratepayer and federal and state grant funding, to utilize EEMIS – an internet based, real-time enterprise energy management information system – which collects utility bill, utility pulse-meter, and sub-meter/building automation system data and provides nearly unlimited reporting, benchmarking and analysis capabilities. Over 50 cities are sharing the EEMIS system (managed by LA County) and the SoCalREN will make

EEMIS available to all interested public agency stakeholders and provide training on the use of this state-of-the-art energy management system.

5. Address hard-to-reach customer segments such as low to moderate income residential households and small to medium sized businesses

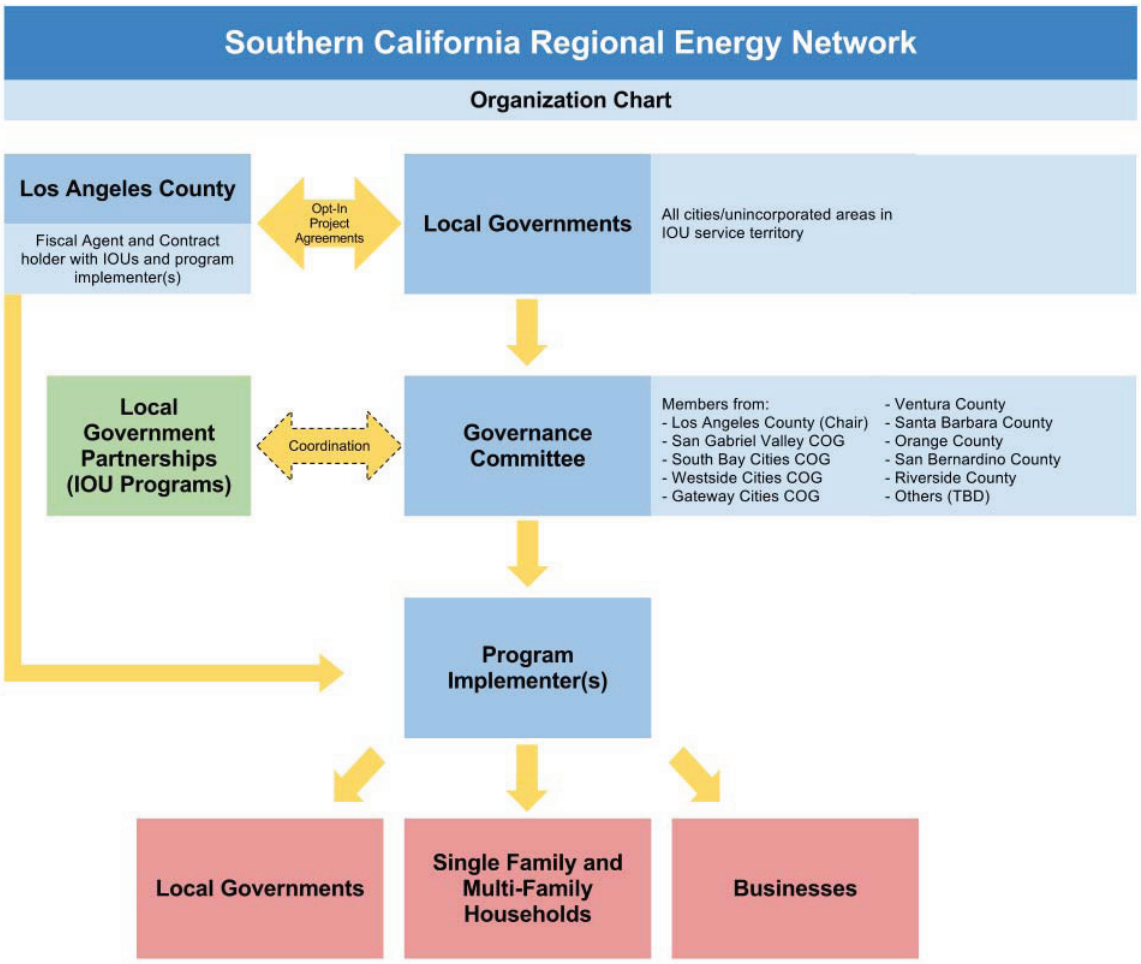
The SoCalREN will address the low to moderate-income market by conducting the following activities:

- Continue to offer an alternative upgrade package (Flex Path) which lowers project costs and provides an incentive for homeowners who cannot afford the cost of a whole-house upgrade, effectively making the market accessible to moderate income homeowners.
- Provide subsidized financing instruments for moderate-income homeowners, so they can more easily access financing for whole-house upgrades.
- Provide services which will work with interested homeowners and, if they are income qualified, direct them to the low-income weatherization programs and support them with those programs, so they can get their homes weatherized for free.
- Provide services for public housing single-family home rehabilitation programs.
- Create an enhanced energy efficiency incentive for public housing development and retrofits.
- Continue to attempt coordination with the low-income development and rehabilitation programs offered in the Southern California Area.

6. Organization chart

Figure 7 depicts the governance structure for the SoCalREN. The Governance Committee will be comprised of representatives of local governments from the SoCalREN service area who will meet regularly to provide guidance and oversight for SoCalREN activities.

Figure 7: Southern California Regional Energy Network Organization Chart



Los Angeles County

Serving as the fiscal agent for the SoCalREN, LA County will execute and administer contracts with IOUs and serve as the fiscal agent and liaison to the IOU for coordination of services. The fiscal agent will also administer contracts with program implementer(s) on behalf of the SoCalREN and execute any required individual project/program opt-in agreements with participating local governments on behalf of the SoCalREN.

Local Governments

Individual cities, counties and special districts within the SoCalREN service area are eligible to participate in services provided by the SoCalREN. Specific opt-in requirements may be associated with individual projects, programs and services of the SoCalREN they choose to participate in.

Governance Committee

A Governance Committee, chaired by the fiscal agent for the SoCalREN, will include representation from cities and counties in the service area as depicted in Figure 7. The Governance Committee will be responsible for providing guidance and oversight to the activities of the SoCalREN. Responsibilities include strategic project decisions, review and monitoring of project performance by the contracted program implementer(s), assistance with communication, education and outreach about the SoCalREN, and effective advocacy and support for the SoCalREN to the staff and elected officials of the various included cities, counties and other public agencies.

Investor Owned Utilities

The IOUs will act as the conduit for funding to the RENs. The IOUs will not be held accountable for performance by the RENs to achieve goals. The IOUs will receive attribution for energy savings obtained by the SoCalREN.

Local Government Partnerships

Local Government Partnership, Institutional Partnership, and Strategic Plan support activities that are administered by IOUs that will be implemented simultaneously with the SoCalREN

during the 2013-14 transition period. The activities of the IOU partnership and strategic plan support programs will be closely coordinated with the activities of the SoCalREN.

Program Implementer(s)

Contractors, sub-contractors and local government staff who are engaged to assume responsibility for administration, direct implementation, project management, budget planning and accounting, ME&O, data collection and tracking, project reporting, QA/QC, and EM&V activities required by the SoCalREN.

Recipients of SoCalREN Programs and Services

Participating local governments and public agencies, residential households, small and medium-sized businesses and other ratepayers who directly benefit from services, resources and assistance provided by the SoCalREN, and achieve deeper levels of energy and cost savings.

V. The Southern California Regional Energy Network is Complementary to the SCG Mandated Program Plan

A. The Southern California Regional Energy Network Complements the SCG Mandated Program Plan [5]

Pursuant to the direction in the ALJ's Ruling regarding procedures for local government regional energy network submissions, in the motions containing the REN proposals: "…*the proponents should, to the extent possible, indicate identified areas where the proposal overlaps with program and/or measures proposed in the IOU's portfolio applications*."

[5] *Southern California Gas Company's Application for Approval of Energy Efficiency and Demand Response Integrated Demand Side Management Programs and Budgets for 2013-14*, filed July 2, 2012.

The SCG Energy Efficiency Application proposed budget does not include any anticipated costs for REN proposals, stating that "to the extent that any approved REN proposals are incremental to utility proposed programs, the final adopted budget may be higher than that required by SoCalGas." (p.7) In addition, the Application states that to provide greater options for local governments seeking to more aggressively pursue energy efficiency in their communities, "SoCalGas proposes to provide local governments with additional technical resources as an alternative to Regional Energy Networks ("RENS"). (p.31). Further, instead of adopting the REN model, the Application states that the Commission should "pursue a strategy for 2013 that facilitates options for partnering and leveraging of resources. The focus of such efforts should be limited to providing financing (i.e. ARRA programs) and technical support for local governments." (p. 44).

The SoCalREN is proposed with the intent that it will complement and build on existing Local Government Partnership programs to provide an effective platform for programs that require regional consistency and scale. In this way, the SoCalREN provides an efficient, centralized program delivery model that is not currently available through the LGPs, particularly since the existing SCG LGPs only comprise about half of the cities in the SCG territory. In addition, and as mentioned previously, the local governments that will participate in the SoCalREN pilot have already invested millions of ARRA dollars in infrastructure, market momentum and program delivery innovations under a centralized framework, best positioning the SoCalREN to deliver the proposed subprograms included in the SoCalREN PIP.

All or almost all of the services to be provided by the SoCalREN are not offered by SCG. Specifically, the services described in the Financing and Regional Energy Center subprograms,

as well as the Flex Path and Multi-family EUC programs are not currently provided by SCG. SCG's approach as stated in their application would create an inefficient delivery model for programs that necessitate streamlined regional program design and implementation, and would be counter to the direction of the Commission as communicated in the Guidance Decision.

In contrast to the SCG Local Government Partnership program, SoCalREN's mission is to pilot an innovative regional model, that closely coordinates with existing LGP programs, to achieve deep and more cost-effective energy savings and advance market transformation, as directed by the Commission. Only through a centralized SoCalREN, and not through piece-meal expansion of LGP offerings as proposed by SCG, can this goal be successfully achieved.

Following the Commission's Guidance Decision to consider establishing regional energy network pilots, local governments that will participate in the SoCalREN have been working to design Program Implementation Plans that will operate successfully and in concert with current IOU programs, including existing LGPs. Given the proposed collaboration between the SoCalREN and SCE in the implementation of services, as is described in the Motion and PIP that has been submitted for the SoCalREN related to the SCE Energy Efficiency budget, it makes consummate sense for SCG to also collaborate with the SoCalREN and ensure a coordinated and successful implementation within the joint service territories. The SoCalREN proponents look forward to working with the Energy Division and SCG in the post submission period to reconcile and finalize program and budget details for implementation of the SoCalREN pilot during the 2013-2014 transition cycle.

B. *The Regional Energy Network Approach Will Produce Greater Reach than IOU Programs Alone*

The SoCalREN will provide services in areas not currently provided by the IOUs – specifically, the services offered through the SoCalREC and financing Subprograms. The SoCalREN will work in concert with and supplement IOU programs and allow for participation by local governments who would not otherwise be able to achieve deeper energy savings.

The SoCalREN will take a successful model that was developed over the past two years by a group of forward-thinking local governments to increase energy management expertise and implement more projects, and will expand it to include all local government partnerships and those jurisdictions that are not part of a partnership.

VI. Required Information

Rule 2.1 of the Commission's Rules of Practice and Procedure requires applications to include certain information. That information is provided in this section.

A. *Legal Name*

The SoCalREN is an association of local governments in Southern California. It is not a corporation organized and existing under the laws of the State of California. The location of the SoCalREN's principal place of business is 1100 North Eastern Avenue Los Angeles, CA 90063-3200.

B. *Correspondence and Communications*

All correspondence or communications in regard to this application should be sent to:

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The SoCalREN understands that notices, orders and other papers may be served upon the individual named above, and such service shall be deemed to be service upon the SoCalREN.

C. Categorization and Proposed Schedule

This Application should be categorized as ratesetting, because it involves the allocation of utility funds. The SoCalREN respectfully requests that the Commission expedite processing of this Application in order to allow for the SoCalREN to commence operation on January 1, 2013, the beginning of the transition period. Hearings on this Application are not required. The issue to be considered by the Commission by this Application is the allocation of funding to the SoCalREN. The Commission has already found the concept of RENs to be reasonable in the Guidance Decision.

D. Proposed Schedule

Date	Action
July 16, 2012	Local Government Regional Energy Network applications filed
August 15, 2012 (30 days)	Protests to applications
August 27, 2012 (10 business days)	Replies to protests
September 11, 2012	Proposed Decision
October 1, 2012 (20 days)	Comments on Proposed Decision
October 8, 2012 (5 business days)	Reply Comments on Proposed Decision
October 11, 2012	Commission Approval

VII. CONCLUSION

For the reasons stated herein, the Commission should grant this Application and authorize funding for the SoCalREN and the BayREN, as described in this Application and the related Application submitted by the BayREN. The RENs will provide the required breadth of scope and focus to meet the critically important energy management needs of local governments and the constituencies they serve. By establishing RENs, including the SoCalREN, the Commission will be able to rely upon local governments, both now and into the future, to deliver cost-effective energy savings.

Dated: July 16, 2012

Respectfully submitted,

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For the County of Los Angeles and the Southern California Regional Energy Network

VERIFICATION

(See Rule 1.11)

My name is Howard Choy and I am the Chair of the Southern California Regional Energy Network. I am authorized to make this verification on behalf of the Southern California Regional Energy Network. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on JULY 16, 2012 at LOS ANGELES, California.

Howard Choy BR

Howard Choy
General Manager, County Office of Sustainability
Chair, Southern California Regional Energy Network

APPENDIX A

Southern California Regional Energy Network

2013–2014 Energy Efficiency Portfolio

Southern California Regional Energy Network (SoCalREN) Program Implementation Plan

July 16, 2012

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2013-2014 Energy Efficiency Programs
Southern California Regional Energy Network
Program Implementation Plan

1) Program Name: Southern California Regional Energy Network

Program Description (general): The Southern California Regional Energy Network (SoCalREN) is a pilot project offering "one-stop" energy services to counties and cities in the SCE/SCG ("IOU") service territories. It will provide services for residential, commercial and municipal building retrofits; financing programs; implementation of energy/climate action plan projects through collective procurement and contracting for services; and community engagement for behavior change.

The SoCalREN addresses the compelling need of local governments to receive technical support, resources, tools, templates, expertise, and access to financing that will enable them to cost effectively implement integrated energy management strategies. As a peer driven-organization where local governments will learn from one another, the SoCalREN will expand the number of local governments participating in energy efficiency programs. SoCalREN services will be available to the over 190 cities and unincorporated areas in IOU service territories, comprising 40% of the cities in California.

The SoCalREN *complements and supplements* the services of existing LGP partnerships. It does so by offering services that are either not able to be offered by IOU's (i.e. joint procurement, energy project management services) or are delivered in concert with IOU program offerings (i.e. supplemental marketing and contractor training through Energy Upgrade California). The SoCalREN aggregates and supports local government projects and increases their scope and depth through improved financing, joint procurement, more comprehensive project development services and open source best practices.

The SoCalREN also fills the resource gap for cities not participating in LGP's by providing them with its energy management services. Nearly half of the local governments in the IOU territories are not members of LGPs and do not have access to the expertise or resources to design and implement

comprehensive energy efficiency programs on their own. The SoCalREN offers an essential resource to provide these communities with the necessary credibility, leadership, support and collective strategy that will drive significant energy savings.

The SoCalREN provides an effective platform for local government energy programs that require regional consistency and scale. It offers opportunities for local governments to jointly participate in bundled procurement and contracting and financing services to reduce cost, save time and leverage resources. By harnessing the collective energy actions of local governments and leveraging existing and emerging resources, the SoCalREN will enable more communities to benefit from deeper, more cost-effective energy efficiency savings than are currently achieved by LGP's alone.

The SoCal REN pilot directly supports the goals of the California Energy Efficiency Strategic Plan. CEESP Goal 5 seeks to support actions that enable "energy efficiency expertise to become widespread and typical in local governments," and support efforts that "will build significant additional local government capacity to design, implement and manage comprehensive energy solutions within their communities."

The SoCalREN offers services in the following three key program areas : *Energy Upgrade California, Financing, and the Southern California Regional Energy Center.*

Energy Upgrade California. The SoCalREN will build on the accomplishments of Energy Upgrade California (EUC) in Los Angeles County by expanding it to all interested participants in SCG's service territory. EUC services proposed to be offered through the SoCalREN pilot are: Marketing; Green Building Rating and Real Estate Training; Flex Path; Contractor Outreach and Training; Multifamily Retrofits; Smart Tech Behavior Pilot; and Community Development / Public Housing upgrades.

Financing. The SoCalREN will offer financing options to local governments to supplement the on-bill financing offered by SCG and therefore enable greater investments in deep energy savings. Specific services offered will be Public Building Financing Loan Loss Reserve; EUC private residential financing

Loan Loss Reserve; Multifamily Loan Loss Reserve; Non-Residential PACE; and Public Building Revolving Loan Fund.

Regional Energy Center. Building on the current Regional Energy Center which was launched with Flight 5.6 funds, the SoCalREN will offer comprehensive technical support to local governments to enable them to implement deeper and more cost effective energy management practices. Specific services include an aggregated regional procurement and contracting program; utilization of the EEMIS software system for integrated and comprehensive energy data management; region-wide building benchmarking and EM&V; supporting local Climate Action and Energy Action plans to move to implementation; creation of a water-energy nexus pilot with water utilities; and developing a regional energy project tracking and permitting system.

2) Total Projected Program Budget and Savings:

Program Budget: $63,761,697

kWh Savings: 51,190,198

kW Reduction: 15,213

Therm Savings: 1,874,855

3) Table 1: Total Projected Program Budget & Savings by Subprogram

Subprogram	SCE ($)	SCG ($)	Kwh	KW	Therms
A: Energy Upgrade	$21,347,633	$9,496,306	16,753,056	8,508	1,165,855
B: Financing	$12,898,750	$2,276,250	TBD	TBD	TBD
C: SoCalREC	$15,086,725	$2,656,033	34,437,142	6,705	709,000
Total	**$49,333,108**	**$14,428,589**	**51,190,198**	**15,213**	**1,874,855**

4) **Table 2: Total Projected Program Savings by IOU**

Subprogram	SCE Kwh	SCE KW	SCG Therms	Total
A: Energy Upgrade	16,753,056	8,508	1,165,855	
B: Financing	TBD	TBD	TBD	
C: SoCalREC	34,437,142	6,705	709,000	
Total	**51,190,198**	**15,213**	**1,874,855**	

5) **Short description of each subprogram** (suggested word limit - 50 words/subprogram).

Subprogram A: Continue and Expand Various Energy Upgrade California in Los Angeles County Program Activities to the entire Region –

A number of the pilot programs that have been developed through the Energy Upgrade California in Los Angeles County (EUCLA) program that is supported by over $40 million in non-ratepayer grant funds will be continued and expanded throughout the region. Some of these pilot program activities will continue under Los Angeles County's DOE grant through at least June 2013 which provides an excellent opportunity to leverage ratepayer funds with outside grant funds for more cost-effective program outcomes.

Subprogram B: Develop and Launch Regional Public Agency Led Financing Programs for Energy Projects in Public, Commercial and Residential Buildings –

Financing initiatives to be developed and administered will include a regional public building loan loss reserve program, expansion of a successful EUC loan loss reserve program (EUC-LLR), expansion of a private-sector, integrated demand-side management financing program that builds off a model being led by the City of Santa Monica, creation of a multi-family loan loss reserve program (MF-LLR), promotion and administration of already established non-residential PACE programs, and establishment of a public agency revolving loan fund program (RLF).

Subprogram C: Continue and Expand Southern California Regional Energy Center (SoCalREC) Pilot to the entire Region –

SoCalREC is an innovative pilot project launched by Los Angeles County and the City of Huntington Beach in 2011 that is slated to terminate at the end of 2012. SoCalREC has already demonstrated how centrally led, joint actions by a broad group of engaged cities can complement existing LGPs and significantly expand the implementation of deeper and more cost-effective energy efficiency projects and make energy efficiency expertise widespread and typical for local governments and other public agencies. SoCalREC already has 55 local government participants and has identified over $20 million in previously untapped municipal facility projects for potential implementation under an aggregated procurement approach, and has solicited and identified a lender who will provide low-cost capital for the regional financing program. SoCalREN will continue these innovative and effective activities and greatly expand them to the entire Southern California region.

2013-2014 Energy Efficiency Programs
Southern California Regional Energy Network
Program Implementation Plan

1) **Sub-Program Name:**

Sub-Program A: Continue and Expand Various Program Activities of Energy Upgrade California in Los Angeles County throughout the entire Region

2) **Sub-Program ID number:** _____
3) **Type of Sub-Program: __Core X_ Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve[6]:**

   a. _X_Residential
      i. Including Low Income? _X_Yes __ No;
      ii. Including Moderate Income?_X_Yes __ No.
      iii. Including or specifically Multifamily buildings_X_Yes __ No.
      iv. Including or specifically Rental units?_X_Yes __ No.
   b. __ Commercial (List applicable NAIC codes: _____)
   c. __ Industrial (List applicable NAIC codes: _____)
   d. __ Agricultural (List applicable NAIC codes: _____)

5) **Is this sub-program primarily a:**
   a. Non-resource program ___ Yes_X_ No
   b. Resource acquisition program _X_Yes ___ No
   c. Market Transformation Program_X_Yes ___ No

6) **Indicate the primary intervention strategies:**
   a. Upstream ___ Yes_X_ No
   b. Midstream ___ Yes_X_No
   c. Downstream _X_Yes ___ No
   d. Direct Install __ Yes _X_ No.
   e. Non Resource __ Yes _X_ No.

[6] Check all that apply

7) Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)

Flex Path Gas:	TRC 1.24	PAC 1.71
Multifamily Gas:	TRC 1.8	PAC 2.50

8) Projected Sub-Program Budget

Table 1 (Subprogram A): Projected Sub-Program Budget, by Calendar Year[7]

	Program Year		
SCG: Subprogram A	**2013**	**2014**	**Total**
Admin ($)	168,948	180,995	349,943
General overhead ($)	45,955	50,572	96,527
Incentives ($)	2,085,300	3,151,500	5,236,800
Direct Install Non-Incentives ($)	1,068,716	1,190,768	2,259,484
Marketing & Outreach ($)	459,776	492,044	951,820
Education & Training ($)	332,851	268,881	601,732
Total Budget	**4,161,546**	**5,334,759**	**9,496,306**

9) Sub-Program Description, Objectives and Theory

a) **Sub-Program Description and Theory:**

The LA County team is currently implementing a number of innovative pilot programs through a U.S. Department of Energy Efficiency and Conservation Block Grant (EECBG) and a Better Buildings Program (BBP) grant. The purpose of these grants is to test program designs that are intended to drive demand for

IOU core programs and advance market transformation for whole house upgrades. The EECBG and BBP pilot programs will be in place until at least June, 2013.

LA County is proposing to expand these resource and non-resource pilot programs throughout the SoCal REN region in support of Energy Upgrade California. The programs offer a unique opportunity to avoid the time and cost associated with program design and implementation by simply expanding existing, successful programs with an implementation infrastructure that is already in place.

A1: Continue locally tailored marketing and outreach programs - $1,184,623

Marketing & Outreach - $787,500

Program Description

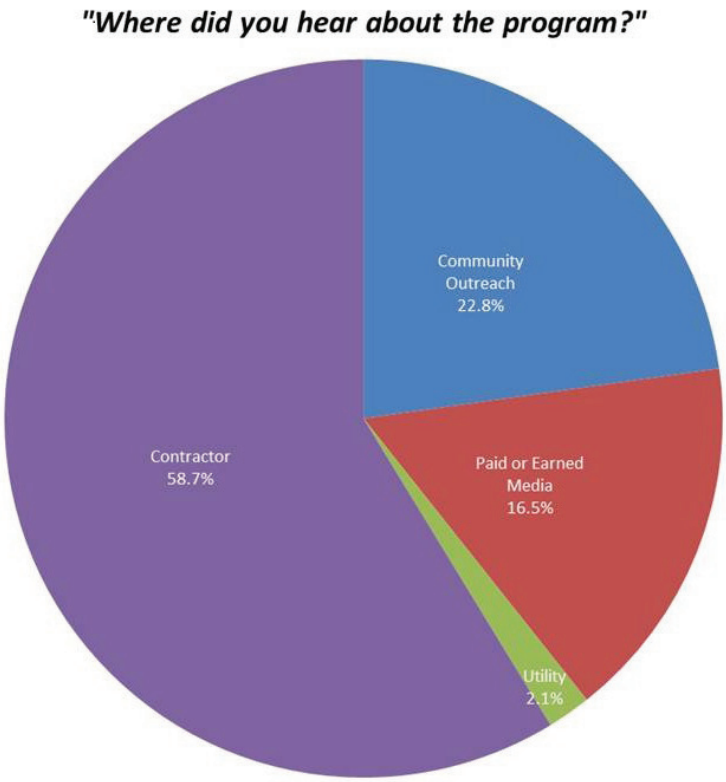
An essential part of transforming the whole building retrofit market includes increasing awareness of energy efficiency and whole-house building retrofits. To do this, a comprehensive marketing and outreach program was implemented in Los Angeles County with ARRA funds and in conjunction with the IOUs. Under the SoCalREN, marketing and outreach activities will be expanded to include all of the IOU service territory. Please see Exhibit A2 for examples of marketing materials developed for EUCLA.

Following are descriptions of a variety of locally tailored marketing and outreach programs implemented by LA County. Because it would be cost prohibitive, not all of the activities undertaken to date in LA County will be replicated. Instead, the most cost-effective methods for promoting the EUC brand through the SoCalREN will be implemented, based on lessons learned.

- Market analysis developed by EUCLA program partners based upon housing stock, demographic, and energy use patterns, including:
    - Target audiences
    - Key messaging
    - “Hot spot” maps
- Countywide and local marketing and outreach plans
- Countywide marketing materials and media buys (broadcast, outdoor, and online)
- Countywide and local public relations campaigns
- Countywide developed marketing collateral templates
- Locally customized marketing materials, media buys (including broadcast, outdoor, print, and online), earned media, and social media campaigns (Facebook, twitter, texting campaign)
- Multi-ethnic outreach and marketing including PR, media buys, and in-language support provided in person, by phone, and print materials
- Environmental Information Centers (portable, stand-alone booths placed throughout areas of the County)
- Environmental Service Centers (physical locations where residents can have customer service and learn about energy efficiency and sustainability)
- LA Hotline toll free phone number
- Extensive local outreach directed by countywide marketing plans/analysis, including:
    - Presentations/workshops with key partners/stakeholders (e.g., building department staff, realtors)
    - Community event tabling
    - Canvassing (door hangers, brochures, flyers and homeowner engagement)
    - Homeowner presentations (e.g., through community, business, and civic groups)
    - Homeowner workshops
    - Participation in a variety of events (expos, concerts in the park, green fairs, etc)
    - Providing outreach materials for cities to use (pull-up banners, canopies, posters, tabletop displays)
    - Family Stories videos providing relatable testimonials and completed upgrades
    - PSAs using local celebrities used for advertising and as a sales tool for contractors
    - Assessment vouchers and promo code coupons aimed at tracking where leads come from

    - Customer Resource Management database and email marketing campaign for homeowners that signed up for our database
    - Industry support newsletters and eblasts aimed at engaging stakeholders and inspiring affiliates
    - City stakeholder presentations to maintain engagement by local government leaders
- Energy Upgrade Roadshows consists of an Energy Upgrade logo wrapped van that drives to an event and provides homeowner outreach by explaining how their displays operate (energy efficient model home, lighting display, and window display), answering questions about the program, and dispersing program materials and brochures to homeowners
    - Trigger event marketing to capture energy efficiency upgrade opportunities through trigger events (furnace or hot water heater replacement, remodels and renovations, etc.), such as:
        - Realtor-client outreach materials and trainings as outlined below
        - Program collateral and educational materials maintained within building departments
        - Implementing retailer outreach programs that provide in-store training and marketing displays to local home improvement retailers
        - Online ads aimed at catching homeowners searching for solar, HVAC, energy, or home improvement, sending them to Energy Upgrade California Website first
        - Additional stakeholder engagement activities
- Implementing corporate outreach programs with companies such as Northrop Grumman, Jet Propulsion Laboratory, Kaiser Permanente, Disney, Toyota, Parsons, Dreamworks, Yahoo, AeroVironment, and employees of the County of Los Angeles

Figure 1 (Subprogram A): Successful Marketing & Workforce Activities Driving EUCLA Participation



The following outreach activities will be continued to promote Energy Upgrade:

- EUC Workshops (50/year): Staff will leverage local partner relationships with Cities/COGs, Building Industry Professional/Realtor networks, community organizations (including Energy Champions), neighborhood/property owner associations, corporations and other affiliates to identify opportunities to organize dedicated EUC Workshop events in which the Assessment Vouchers will be given away in an opportunity drawing to interested homeowners that join a mailing list to receive more information about the various programs. At these events, staff will communicate the method by which a homeowner can benefit from the Assessment Vouchers as it relates to EUC. By design, staff will lead with the benefits of an upgrade to a captive audience of eligible homeowners, provide materials to help educate homeowner decisions, and expose them to EUC Participating Contractors, and generate leads for those contractors.

- EUC Presentations (75/year): Staff will satisfy requests and seek out opportunities to present to key program stakeholders and captive audiences of eligible homeowners to communicate the method by which a homeowner can benefit from entering to win an Assessment Voucher as it relates to EUC. By design, staff will lead with the benefits of an upgrade to a captive audience of eligible homeowners, provide materials to help educate homeowner decisions, and generate interest and leads for Participating Contractors. At these events, if appropriate, staff will secure participation by EUC Participating Contractors.
- Exhibit booths at existing events (125/year): Since 2010, the EUCLA Staff has built a wide network of relationships with event producers. The team will continue negotiating cost effective requests and seek out opportunities to educate the public at community and private events to increase participation and awareness of the benefits of entering to win an Assessment Voucher as it relates to EUC. The LA County team will describe the benefits of an upgrade to a captive audience of eligible homeowners, provide materials to help educate homeowner decisions, and generate leads for all of the program components. At these events, if appropriate, staff will secure participation by EUC Participating Contractors.
- Secure attendance at Outreach Events: In order to touch the maximum amount of consumers, attendance will be secured using event promotion tactics such as leveraging established electronic communication channels of local partners, local and online ad placement, door hangers/flyer canvassing, door-to-door canvassing, engaging with a media/PR agency to reach out to main stream and multi-ethnic media to secure earned media coverage for these events. Additionally, the local partners listed above will be utilized to assist in event attendance and promotion and given electronic, print and display materials to communicate with their networks.
- Provide effective marketing collateral materials and templates: Collateral and templates will continue to be utilized to help inform the public about the benefits of EUC and the whole-house approach. These materials will be distributed at events and electronically. Multi-ethnic materials and support will also be available
- Be available for homeowner follow-up: Staff will continue to be available to the public through the LA Call Center, Live Chat website feature, and email should any consumers have questions related to the Assessment Vouchers or how the voucher program relates to EUC. Multi-ethnic support will also be available

- Maintain follow-up email marketing campaigns: Staff will continue to manage a homeowner and stakeholder database to continue program component email marketing campaigns for individuals that signed up for our database either through event attendance, presentations, the call center, or website. This will allow for all individuals to be updated on upcoming events and to learn more about the variety of programs offered to the public.
- Website: In collaboration with the statewide EUC implementer, LA County intends on continuing and expanding locally customized pages of the Energy Upgrade California website www.EnergyUpgradeCA.org/LACounty, including:
    - Promotion of Contractor/Rater, Rebates/Incentives, and Financing directories
    - Promotion and updating of News and Events within Local Info county pages
    - Maintenance of training calendar on contractor page
    - Promotion of "Family Stories" web pages which focused on homeowner testimonials and case studies
    - "Overview of the Assessment" web page demystifying the assessment for the homeowner
    - Rotating box on homepage acting as a web "billboard"
    - Live chat feature specifically on LA-specific pages
    - Case studies resulting from the Home Energy Makeover Contest
- Environmental Service/Information Centers: One key communications strategy of bringing awareness to the Energy Upgrade program by LA County was to establish the Environmental Information Center Program which is made up of 11 kiosks, free-standing portable booth that have built-in literature racks, and a touch screen which links to the Energy Upgrade website activated by the user. During sleep mode, the flat screen plays a looped slide show of photos from outreach events and a video called "Family Stories", a production video highlighting six homeowners that had their homes upgraded by Participating Contractors during the Energy Upgrade process. An online map will be made available showing homeowners the locations of the kiosks which can be printed out and on display at public buildings, libraries, as well as handed out at the peer-to-peer outreach events, workshops, and presentations if relevant.
- Social Media: EUCLA uses Facebook as a social media outlet to inexpensively reach target audiences. By scheduling regular posts twice daily the team is able to educate homeowners about the program, encourage program event participation, disperse energy-saving tips and environmentally friendly news, and helps build a sustainable connection between contractors and

participants. This medium is also used to feature success stories, testimonials, share upgrade and event photos, and answer questions that Facebook fans post. The advantage Facebook has over traditional media is its ability to tap into a user's social network. Each time someone "likes" EUCLA on Facebook, each of his or her friends is given the opportunity to follow EUCLA on Facebook, giving the program an ever expanding reach. EUCLA has capitalized on this multiplier effect by purchasing inexpensive, targeted Facebook ads that link to either the program website, or our Facebook page. Since ads began running at the end of March, 2012, EUCLA's Facebook fan base has tripled to 600 followers, and over 1,200 clicks have been directed to the program website. By capitalizing on existing Facebook fans' social networks, Facebook ads have proven to be a highly successful way of introducing the program to new viewers; our Facebook page's weekly reach of 7,500 people expands to over 140,000 people during a Facebook ad campaign. By complementing our traditional media and other outreach efforts, Facebook has helped keep new and existing followers connected to the program, and has contributed to increased brand recognition and program participation.

Creating and managing new Facebook pages for regions that do not currently have program Facebook pages (such as Orange County, San Bernardino County, and Ventura County) is vital towards developing a peer to peer following in those regions and increasing program participation, as a result. Hootsuite can be utilized to easily schedule Facebook posts on multiple Facebook pages in several regions at one time. Facebook ads are recommended in all regions to continue to grow followers and increase program participation.

Besides Facebook ads, Google AdWords is another valuable social media advertising vehicle that has successfully driven traffic to EUCLA's website. At the end of May 2012, EUCLA launched a highly targeted Google AdWord campaign, which generated over 5,000 clicks to the website and over 8 million impressions. Over 83 percent of clicks to the EUCLA website from AdWords were from new visitors. Through strategic keyword, content, and display network targeting, our Google AdWords campaign reached a new audience who did not yet know about the program, but who were already actively searching for components of the program online (i.e. tankless hot water heaters, insulation, air conditioner or window replacements, energy rebates, home remodeling

ideas, or local contractors, etc.) Google AdWords helps provide effective program targeting to reach a new and uninformed pool of participants.

Lastly, mobile texting is a cutting-edge social media outlet for reaching new program participants. In mid-April, EUCLA launched a mobile texting campaign as part of our online and radio ads. EUCLA's mobile texting campaign has resulted in more than 500 subscribers. Ad viewers or listeners subscribe to EUCLA program texts by texting the word "Energy" in order to receive program information. Subscribers are sent event reminder texts for local EUCLA homeowner workshops. Mobile texting has resulted in increased attendance to EUCLA homeowner workshops and has resulted in visits to the website.

In addition to marketing and outreach directed at homeowners, *EUCLA* marketing and outreach activities also targeted contractor and realtor groups.

- Contractor-focused marketing and outreach activities included:
    - Online Resource library containing marketing materials and Print-on-demand capability
    - Free lawn signs
    - Co-brandable collateral templates specifically for contractor use
    - Contractor case studies on the contractor website aimed at demonstrating successful business models for other contractors
    - Sales presentations and webinars
    - Program manuals and "How to market Energy Upgrade" toolkits
    - "Heat maps" for contractors to use in their own advertising campaigns.
    - Workshops with Participating Contractors on how to use/leverage Energy Upgrade California logos, branding, messaging, and collateral templates
    - Sharing of developed "hot spot" maps based on housing stock, demographic, and energy-use patterns
    - Support to contractors so they could be appropriately listed in www.EnergyUpgradeCA.org directories

- Realtor-focused marketing and outreach activities included:

- Online resource library containing affiliate advocacy information
- Presentations, newsletter articles, and web buttons available for Real Estate professionals to be able to touch their market
- Realtor focused workshops and trainings to educate realtors on whole building retrofits
- Working groups to address potential implementation of time-of-sale energy conservation ordinances
- Realtor-client facing materials for program outreach
- Networking events with Participating Contractors

EUCLA implemented, and coordinated with, various countywide and IOU rebate programs. These programs and associated metrics are summarized in Figure 2 below.

Figure 2 (Subprogram A): EUCLA Summary of Marketing and Outreach Methods as of June 2013

General Marketing Activities	
Total Media Impressions (Paid and earned)	414,818,985
Total Website Page Views (Energy Upgrade California/local portals as appropriate)	894,349
Targeted Communications	
Direct mail	5775
Email sign ups (homeowner, contractors, city/COGs, Real Estate Professionals):	7,616
Individual emails	~33,000
Hangers/canvassing	375,000
Events, including public/homeowner-facing workshops, information sessions and sector-specific (for realtors, building officials, city council, etc.)	
Number of Events	716
Number of touches	101,250
Energy Upgrade Call Center	
Number of Email Tickets	245

Assessment Voucher – $74,641

The Assessment Voucher program was created as a marketing tactic used to overcome the reluctance of homeowners to pay for home energy audits which determine potential energy savings and costs of home energy improvements. The vouchers aimed at reducing the upfront cost of entry to the Energy Upgrade program for homeowners, thereby resulting in more upgrade projects for Participating Contractors. Homeowners were provided with a $300 voucher to significantly reduce, if not eliminate, the cost of the whole house audit. This voucher was distributed to contractors to use as a sales tool at events in addition to being given to homeowners who win an opportunity drawing at events. Participating Contractors attending such events would leverage the voucher prize as an opportunity to talk more in depth with that homeowner about scheduling an in-home assessment.

As an incentive to make use of these vouchers, Los Angeles County gave contractors an additional voucher for every one redeemed. If an Assessment Voucher led to a retrofit, the contractor was rewarded with two additional vouchers. This was done to further encourage contractors to move projects from assessments to retrofit projects wherever possible. Thus, contractors who targeted customers most likely to move forward with a retrofit would be rewarded. This was done to discourage contractors from making a business solely from audits without an eye toward selling a whole house retrofit.

The $300 vouchers were designed to look like banknotes. Each voucher had a single identifying code, which allowed the team to track the exact event a homeowner won a voucher all the way to the Participating Contractor who turned it in. The $300 was paid to contractors once they submitted a paid invoice for the audit that showed the $300 EUCLA discount and included the homeowner's information. This information was used to track whether these audits turned into a project and, if so, what type of incentive path was chosen.

Evaluation

The Assessment Vouchers have been an effective marketing tactic for Participating Contractors overall with 174 redeemed assessment vouchers out of 871 assessment vouchers given to those contractors. This means $52,400 in incentives have been awarded as a result of the assessment vouchers. Of the 47 active Participating Contractors (those who have submitted advanced path projects), 24 have redeemed their assessment vouchers resulting in a 51% utilization rate by active Participating Contractors. Out of the 124 assessment vouchers given to homeowners attending Energy Upgrade events, 19 were redeemed reflecting a 15% utilization rate by homeowners attending EUCLA events. This data supports the use of assessment vouchers going forward at events and during face-to-face interactions.

Energy Upgrade Coupon - $46,482

Program Description

Energy Upgrade Coupons were designed to be administered during homeowner-facing events to incentivize homeowners to move forward with EUC retrofit projects by increasing the total amount of money that a homeowner is reimbursed. Los Angeles County Incentive applicants were allowed to use up to two of these $200 coupons per retrofit project. The coupons themselves are intended to add an additional incentive to help offset project costs for LA County homeowners, and more importantly, to track program marketing efforts. This effort allowed the total Los Angeles County Incentive amount to be increased by up to $400. The coupons were, for the most part, distributed directly to homeowners. Methods of delivery included giving homeowners a coupon for attending an event, as a reward for signing up to receive the EUC newsletter, and as a general handout during face-to-face engagement opportunities.

Coupons are customized by marketing type and efforts are measured based on coupon redemption. Each Coupon has an identifying code on the coupon and an expiration date. Instructions written on the back of the coupon guide homeowners to include the coupon code on their EUC application,

crediting the marketing source for resulting in an upgrade, and rewarding the homeowner for their participation in this exercise in the form of an additional incentive.

Coupons will be distributed at EUCLA events in order to engage homeowners in a discussion about EUC and the benefits of a whole-house approach energy upgrade. Homeowners will be asked to sign up for the EUC database in order to receive continued communications in exchange for a coupon that offers them an additional $200 incentive for an Advanced Path project only.

Evaluation

The distribution of Energy Upgrade Coupons at events and other face-to-face engagement opportunities has proven to be an effective marketing tool for Participating Contractors and the EUC program to reach homeowners. 19% of the *active* Participating Contractor's (those submitting Advanced and Basic Energy Upgrade projects in SCE territory) have applications that include LA County Energy Upgrade Coupons.

The goals and budgets for marketing the Coupon program are only for the redesign of the coupon to reflect the current program, customizing, printing, and distribution to the marketing teams. All distribution of the coupons to the public through peer-to-peer outreach channels has been included in the Marketing and Outreach section.

Energy Champions - $276,000

Energy Champions (ECs) is a pilot that tested whether or not qualified, non-profit community organizations who utilize their own outreach networks, community activities, and other resources to promote the benefits of EUCLA are an effective tool to convince homeowners to implement an EUCLA upgrade. In return, and with verification from the homeowner that the Energy Champion was responsible for the upgrade commitment through the online Homeowner Action Form, the Energy Champion is provided an incentive ($100 for a Basic or Flex Path project, $500 for an Advanced Path project).

The Energy Champions are prequalified through an application process by which applications are submitted to the program administrator through the EUCLA website and vetted through a selection committee. After acceptance, organizations are trained, designate one point person from their organization to lead efforts and act as a liaison with the program administrator, and are given a training guide and access to a password protected online website portal housing project information and marketing resources.

Energy Champions are provided with access to EUCLA support staff to assist them with program questions, for feedback/support with outreach activities, to obtain customized marketing materials, coupons, and assessment vouchers for use in their own peer-to-peer outreach as well as leveraging the implementation team events, workshops, and presentations as outlined in the Assessment Voucher Program section. Energy Champions rely on implementation team assistance to help connect them to local resources such as Participating Contractors to help promote their EC efforts. Furthermore, Energy Champions have regular communication from the Energy Champions program administrator to keep them up to date on the latest program details regarding the EC program and EUCLA program.

To date,

- 88 organizations have been trained in-person and/or by webinar to become active participants in the program.
    - 103 organizations applied and were pre-qualified for participation; however, due to leadership changes and impacted workloads some organizations were unable to move forward with the program.
- 80 of HAFs have been submitted designating 20 EC organizations.
- Better than 10% of all Advanced Projects in LA County are attributed to EC efforts.
- $13,200 in incentives have been paid with $24,400 in the pipeline.
- The reach of the 89 organizations through their networks accounts for approximately 24,500 individuals according to their application submissions.
- Over 300 Energy Upgrade events, have involved Energy Champions either through presentations, meetings, workshops, exhibit booths.

- 11 EC Promotion code coupons have been paid through the LA County incentive process, which is 6% of total coupons (199) paid.

A2: Continue and expand implementation of EUCLA Green Building Labeling Pilot program which includes Realtor training, MLS advocacy, assessment incentives, and homeowner education and outreach - $603,000

Market Description

The home purchase/sale trigger event is a key leverage point to educate homeowners on the value of whole house energy efficiency retrofits. A review of DataQuick home sales data shows more than 170 thousand homes sold in the four counties of Los Angeles, Riverside, Orange, and San Bernardino in 2011. This segment represents a substantial pool of energy upgrade candidates because the Joint Center for Housing Studies estimates that home buyers spend more than $6,000 per year on home improvements in the first two years after buying homes. In subsequent years, the annual average outlay drops to $2,500.[8] This initiative expands the pool of qualified real estate professionals who are able to match contractors with prospective clients. Key market actors are as follows:

- Real Estate Professionals are a key community for the promotion of green building decision criteria at time of sale and purchase. California Association of Realtors counts 113 local chapters and approximately 160,0009 members statewide. Many Realtors have a significant database of current customers to whom they communicate on a regular basis. Anecdotal evidence suggests that many may have 1000–2000 contacts, with whom they correspond regularly outside of real estate transactions.

[8] Joint Center for Housing Studies of Harvard University (2011), *The State of the Nation's Housing: 2011*, http://www.jchs.harvard.edu/research/state_nations_housing

[9] http://www.calculatedriskblog.com/2010/10/california-number-of-licensed-real.html

- Home Inspectors: Statewide, there are approximately 6,000 inspectors with most belonging to a national or statewide membership association[10]. Home inspectors typically develop close working relationships with Realtors, on whom they rely heavily for inspection referrals. The general inspection represents an ideal opportunity to assess opportunities for energy efficiency improvements in the course of an inspection that is already a core part of the transaction process.
- Appraisers can provide added value to buyers and sellers by evaluating the green features in a home based on industry standards and methods. According to the Office of Real Estate Appraisers, 12,812[11] appraisers are licensed in California.
- Loan officers play a critical role in assisting home buyers through the process of accessing energy-efficient mortgages, 203k loans, and other sources of financing. Lenders also control the selection of the appraiser.

Market Characterization

The green real estate market is impeded by at least four key market barriers:

- Lack of consumer awareness. Green features are largely invisible and their benefits become apparent only through experience.
- Lack of industry expertise. Real estate professionals do not understand the value of green features, how to evaluate them, or how to communicate them.
- Lack of credibility. Home buyers do not know which sources of information to trust as credible and which to discount as potentially biased.
- High evaluation costs. The cost of evaluating a home's environmental features and benefits to a credible standard currently ranges from $1,500 to $2,000, which is considered cost-prohibitive in the context of a home sale transaction.

The Green Real Estate Initiative will pursue at least three opportunities to reduce market barriers and promote energy-efficient upgrades:

[10] http://www.inspectionpro.com/

[11] http://www.orea.ca.gov/pdf/Weekly%20Pie.pdf (http://www.orea.ca.gov/)

1) Time of purchase: Realtors and home inspectors are well positioned to help their clients assess the energy performance of potential home purchases, identify energy upgrade opportunities, and connect with the financial and technical resources needed to make the improvements.
2) Past clients. Realtors and loan officers maintain large contact lists of prior clients and regularly look for opportunities to reconnect with them in ways that spur referrals and repeat business. Information about Energy Upgrade California rebates and associated financing opportunities can provide such an opportunity.
3) Time of sale: Research has demonstrated a measurable sales price premium for green homes. However, capturing the property value benefit at time of sale is complicated by the lack of a credible mechanism for differentiating green homes from conventional homes. The Green Real Estate Initiative fills this gap by establishing a definition for a "green home," supported by a robust mechanism for third party verification.

Proposed Interventions

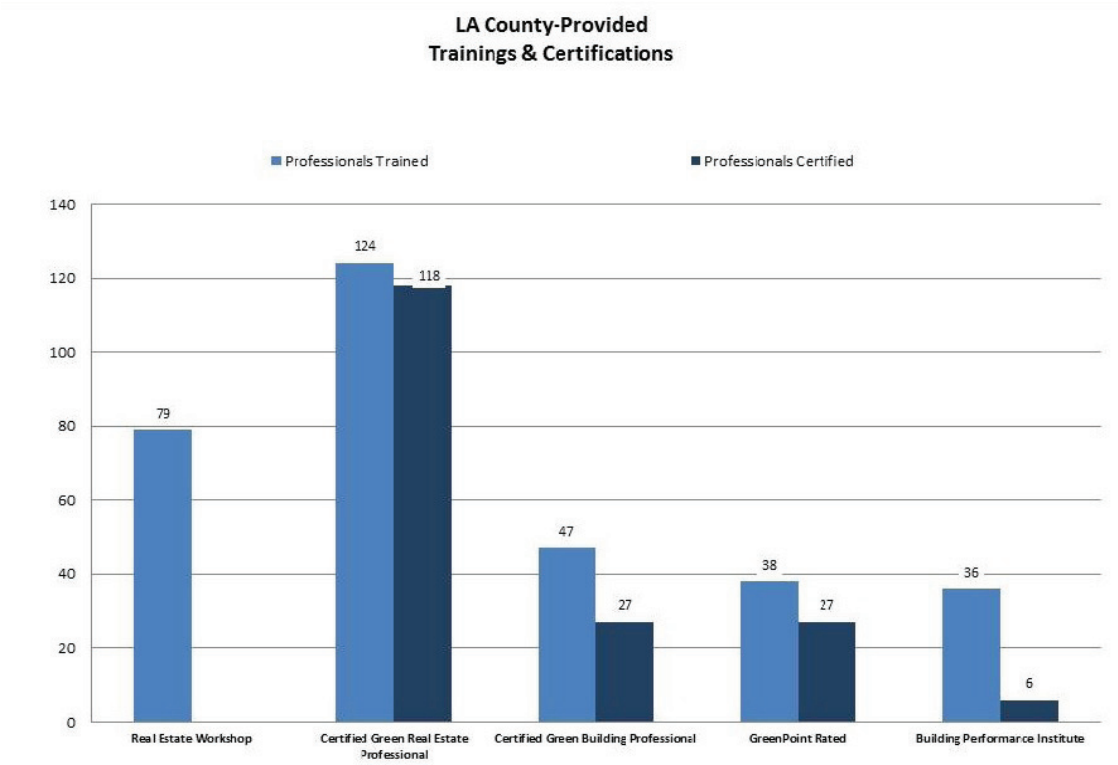
The Green Real Estate Initiative builds on prior investments the County of Los Angeles has made in this arena.

- The County provided training for 158 real estate professionals via three Certified Green Real Estate Professional training events since August, 2011. The training equips the real estate professional with critical knowledge and understanding needed to advocate for and assist consumers in participating in Energy Upgrade California. It demonstrates how the overall cost of homeownership (mortgage, taxes, insurance and utility costs) can be reduced using the incentives and financing available as well as the potential for increased home values.
- The County funded advocacy efforts to MLS systems, including dissemination of Guideline for Greening an MLS in California. Green fields are now incorporated into CRMLS, which serves ten counties and 31 Associations of Realtors in Los Angeles, Butte, Almador, Lake, Madera, Mariposa, Merced, Orange, Riverside, and Tehama counties.
- The County offers two incentives through its Green Labeling pilot program: an incentive to homeowners to offset the cost of a green building label and a referral incentive to professionals (e.g., contractor, real estate agent) who refer projects into the program. Up to 200 homeowners will receive either a $1,000 incentive or a $2,000 incentive depending on the improvements they made.

The County also offers an additional $200 referral incentive to the real estate professional who refers the homeowner to the program.

- The County completed valuation studies on the acceptable appraisal methodology to justify increased value of a green home when the most traditional form of attributing value in the residential market (comparables) is not available.

Figure 3 (Subprogram A): LA County-Provided Trainings and Certifications



For 2013-2014, the Green Real Estate Initiative will develop the real estate market for energy-efficient homes via three key interventions:

Intervention	Barriers Addressed
In-depth training for Realtors, home inspectors, appraisers, and loan officers	Lack of industry expertise High evaluation costs
Assessment incentives and inclusion of label information on MLS systems	Lack of credibility
Home buyer education and outreach	Lack of consumer awareness

Services will combine both energy and carbon labeling through GreenPoint Rated, in conjunction with the California Energy Commission's Home Energy Rating System (HERS II). By combining an energy rating and green label, the initiative aligns with the full spectrum of home performance considerations, including energy and water bills, health and safety, comfort, and durability.

The Green Real Estate Initiative seeks to accomplish six outcomes by the end of 2014:

1) Establish and/or disseminate industry best practices for assessing environmental performance in the course of time-of-sale inspections.
2) Establish and/or disseminate industry best practices for appraising green features.
3) Train and certify 750 green real estate professionals, 50 home inspectors, 100 appraisers, and 100 loan officers by the end of 2014
4) Assess and label 2,000 homes by the end of 2014. Offer a $500 assessment for homes that receive an energy efficiency assessment as part of a general inspection and $1000 assessment incentive for homes that get either a HERS or GreenPoint Rated assessment. Offer $200 referral incentive to professionals (e.g., loan officers, real estate agents) who refer clients to either the Green Labeling or Flex Path programs
5) Incorporate green labels, including GreenPoint Rated and HERS Score, into 5 MLS systems, representing the primary MLS systems serving Southern California
6) Establish 10% brand awareness for GreenPoint Rated and HERS ratings among prospective and recent home buyers

The Green Real Estate Initiative supports achievement of the CPUC's Energy Efficiency Strategic Plan, which calls for deployment of energy or carbon labeling programs at time of sale and inclusion of home energy ratings in real estate sales listing information.

Evaluation Plan

The proposed evaluation plan will support program tracking and reporting for the following Market Transformation Indicators:

- Number of trained real estate professionals, including Realtors, home inspectors, appraisers, and loan officers
- Homebuyer awareness of Energy Upgrade California, HERS scores, and green labels
- Number of green inspections and HERS ratings associated with home sales or purchases
- Number of Energy Upgrade jobs completed within two years of home purchase
- Number of green appraisals
- Number of green homes listed on MLS listing services
- Documented premium for green labeled homes

Evaluation activities associated with each implementation activity are summarized below. Performance benchmarks will be established for all evaluation elements and program performance will be compared to those benchmarks.

1) Train and certify 1,000 Green Real Estate Professionals (CG-REPs)
    a. Track training pipeline on a monthly basis, including number of prospects, number of enrollees, and number of certified graduates.
    b. Invite all trainees to complete evaluation surveys, including questions about satisfaction and communication channels they used to learn about the program.
    c. Conduct quarterly surveys of certified CG-REP Realtors to determine:
        i. Number of seller's agents who marketed a green-labeled home in the prior quarter
        ii. Number of homes for sale that may have qualified for a green label, both absolute numbers and as a share of the overall market
        iii. Proportion of qualifying green homes that were actually labeled and marketed as green homes
        iv. Opportunities and challenges encountered in marketing green homes
        v. Opportunities and challenges encountered in providing green Realtor services to buyers
        vi. Number of buyers who implemented green upgrades subsequent to purchase
    d. Track number of GreenPoint Rated homes that are verified by a home inspector as part of the inspection process.

e. Conduct annual surveys of certified CG-REP home inspectors to determine price points for GreenPoint Ratings conducted as part of home inspections

f. Conduct annual focus groups with CG-REPs and other industry stakeholders to review program accomplishments

2) Roll out a consumer education campaign around green building benefits, the GreenPoint Rated label, and the HERS Rating index.

   a. Conduct quarterly internet surveys of visitors to the GreenPointRated.com to determine:

      i. Number of visitors who are actively shopping to buy residential real estate or who have shopped for real estate in the prior three months

      ii. Number of real estate shoppers who sought the service of a Certified Green Real Estate Professional

      iii. Shopper awareness of the GreenPoint Rated label and HERS Rating index

      iv. Importance of green benefits (energy and water efficiency, comfort, durability, indoor environmental quality, and community benefits) in shoppers' real estate purchase decisions

      v. Shopper willingness to pay for green benefits

      vi. Shopper confidence in the GreenPoint Rated label and/or HERS Rating index as trustworthy symbols of green benefits

      vii. Number of real estate purchasers who invested post-purchase home improvement funds in green upgrades

3) Green 5 MLS systems, serving key metropolitan markets in California.

   a. Track number of homes that receive an assessment rebate

   b. Track number of green labeled homes listed on MLS by month; sales price in absolute terms and as a percentage of asking price; and time-on-market. Compare to market statistics to determine market share for green-labeled homes and relative performance in terms of sales price and time-on-market.

   c. Conduct quarterly surveys of certified CG-REP Realtors to determine:

      i. Number of seller's agents who listed a green-labeled home on the MLS in the prior quarter

      ii. Number of seller's agents whose clients made green improvements prior to sale in order to enhance green score and/or market value

iii. Number of buyer's agents who used green fields in MLS listings to help identify candidate properties for their clients

4) Conduct quarterly surveys of certified CG-REP Appraisers to determine:
   a. Number of green-labeled homes appraised
   b. Average adjustment to appraised values due to green features
   c. Number of green comps identified to support adjusted values

A3: Continue, enhance and expand EUCLA "Flex Path" Incentive Program which supplements the under-performing EUC Basic Package and is more attainable for most low-moderate income households and for EUC contractors. - $2,816,691

Flex Path is a new and innovative Energy Upgrade option developed and administered by the LA County team. This pilot program provides more flexibility than the Basic Path, and uses the same list of eligible Basic and Advanced Path measures in a user-friendly, prescriptive, point value menu format. The program is intended to test market acceptance of a simple, flexible prescriptive approach in terms of engaging both homeowners and contractors. EUCLA provides a $1,500 incentive for a Flex Path project, and homeowners may also qualify for individual measure utility incentives. Flex Path is scheduled to run through June of 2013.

LA County is requesting funding from the CPUC to continue the Flex Path pilot as a third party implementer in the 2013-14 transition period throughout IOU service territory. This will serve to extend what is a successful pilot while the IOU's and the CPUC conduct the necessary due diligence to finalize a modified Basic path. In addition, continuing the Flex Path pilot will provide significant data for evaluation and program design going forward. With the help of the IOUs, LA County can track actual energy usage of Flex Path participants. The success of Flex Path and its approval by the U.S. Department of Energy and the California Energy Commission regarding design and achievement of program savings objectives, clearly

demonstrates that a government entity is perfectly capable of designing, developing, and implementing a successful energy efficiency incentive based program.

Flex Path augments the under-utilized Basic Path to put homeowners on the path toward a whole house energy upgrade and provides contractors with a simple introductory offer that can be used to upsell a homeowner to a more comprehensive, Advanced Path retrofit. This feature will be tested during 2013-14. The program also encourages more contractors to become active in EUC with the goal of expanding their participation over time and bringing the EUC program to scale. Flex Path is a contractor delivered program and therefore does not require a large marketing and outreach budget.

To participate in Flex Path, two or more qualifying retrofit measures with a combined point total of one hundred or more must be installed using a EUC participating contractor. Flex Path motivates contractors and homeowners to consider higher levels of efficiency (beyond code) when selecting new equipment or upgrading building shell systems. LA County proposes to add an energy assessment component to the program delivery, creating a roadmap and priority of Flex Path projects that can be done over time or providing the justification for moving to an Advanced Path project.

Flex Path is marketed to homeowners primarily through contact with EUC participating contractors. By educating all EUC contractors and targeting specialty building service companies, the workforce is able to sell the program directly. Through June, 2012 there are 46 contractors actively participating in the Flex Path pilot. The fact that only 15 of these contractors have delivered both an Advanced and Flex Path project demonstrates that this simple approach is getting more EUC contractors off the sideline and into the game. Since there are many different combinations of retrofit measures that can make up a Flex Path project, the program structure allows each contractor to develop a business model that works for them, or partner with other contractors to provide a wider array of upgrade options. Another delivery channel is the Flex Path webpage, www.energyupgradeca.org/LAflex on the EUC Los Angeles web site. This webpage encourages contractors and homeowners to participate in the program using Frequently Asked Questions, a Qualifying

Measures list, information about Supplemental Utility Rebates, an Online Application, and the Project Completion Form.

Flex Path projects receive an incentive of $1,500. The incentive amount cannot exceed project cost. The average cost of a Flex Path project is $4,700. Modeled energy savings predict an average energy savings of 15 percent for a typical home in a typical LA County climate zone. This level of energy savings, along with an estimation of average project cost, was used to determine the incentive amount of $1,500. Once a completed application is received, the incentive funds are reserved for 60 days. When installation is complete, the contractor must submit an online Project Completion Form that includes uploading required supporting documentation. Required supporting documentation includes an itemized paid invoice and, if applicable, before and after photos, specification sheets, diagnostic test-in/test-out results and proof of a combustion safety test conducted by a BPI certified analyst.

The program administrator uploads customer and project data into a secure, closed-loop program tracking database (energyOrbit) and monitors progress throughout the application process. When any of five status codes changes on a Flex Path project, the tracking system automatically sends an email notification to both the homeowner and contractor. If all program requirements have been met after a review of the Project Completion Form, required supporting documentation, and Quality Control on-site inspection, a Flex Path project is approved and a check request is processed.

Flex Path Quality Assurance includes a one hundred percent desktop review of the Utility Service Account Holder and Participating Contractor information, the project application, and Project Completion Form and supporting documentation. Once a Flex Path project completes a desktop review of the Project Completion Form and required supporting documentation, the project may be selected for an onsite post-installation inspection. The sampling rate for Flex Path Quality Control post-installation inspections follows the Home Performance with ENERGY STAR inspection guidelines. LA County proposes and overall on-site post-installation inspection rate of 20 percent. The on-site visit includes a visual inspection of the measures

installed, verification that any mechanical equipment installed matches submitted specification sheets and program requirements, and a brief oral survey with the homeowner regarding overall program and contractor satisfaction. If a test-out is required for any of the installed measures, this triggers an inspection that includes the BPI certified Quality Control professional witnessing the diagnostic testing performed.

The LA County team will work with the CPUC staff to determine reasonable measure level savings values, QA and QC requirements, and EM&V data collection objectives. Flex Path offers an excellent opportunity to continue testing this flexible approach in the residential marketplace, refine kWh savings, kW demand reduction, and therm savings numbers by measure, vintage, and climate zone. LA County is proposing a 5,000 project pilot for the 2013-14 transition period, with estimated energy savings of 5,200,000 kWh based on savings values found in the DEER database and CPUC review methodology as shown below.

Figure 4 (Subprogram A): Flex Path Proposed Energy Savings

Resource Acquired	2013	2014	Total
kWh Energy Savings	2,953,637	4,437,956	7,396,593
Peak kW Demand Reduction	2,800	4,200	7,000
Therm Savings	202,860	304,290	507,150

Program Successes through June 12, 2012

In nearly five months of operation, the number of Flex Path projects has surpassed the number of Advanced and Basic Path projects in LA County. This is significant because the IOU program has been available to homeowners for 15 months. It should be noted that Flex Path has not been featured in the County's marketing media campaign and promotion has been limited to training contractors and distributing flyers at community events. Flex Path is a contractor delivered program, and there are now 46 enthusiastic

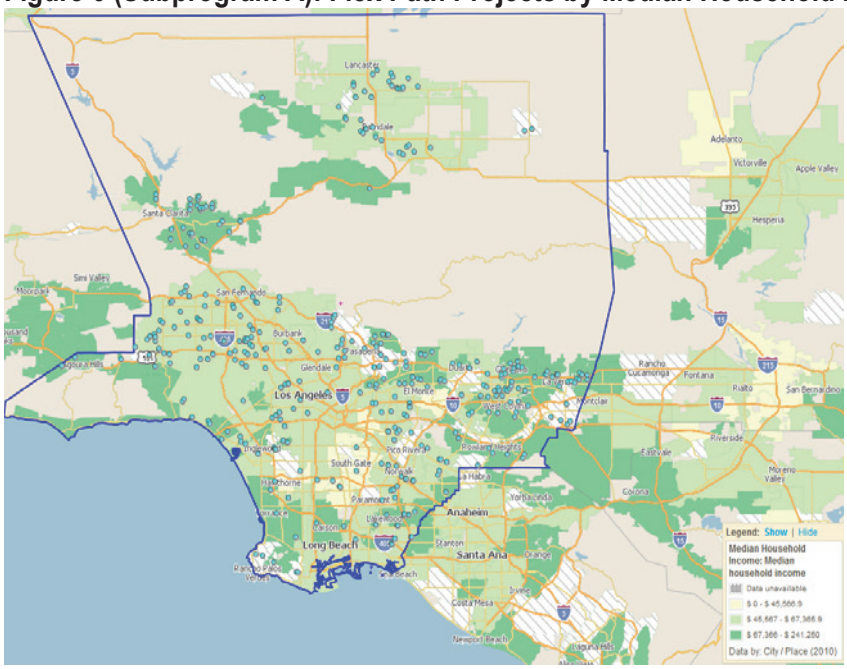
contractors actively participating in the program. The table below compares important metrics for Advanced, Flex, and Basic Path options in LA County.

Figure 5 (Subprogram A): Breakdown of EUCLA retrofit projects through June 12, 2012

Retrofit Project Type	% of Total LA County Projects	# of LA County Projects	Average Savings	Average Cost	Rebate Amount
Advanced Path	44%	456	27%	$12,882	$5,110
Flex Path	**55%**	**570**	**17%**	**$4,700**	**$1,500**
Basic Path	1%	16	10%	$4,198	$2,000

Perhaps one of the most exciting successes of Flex Path to date is the clear indication that the program is making great strides in penetrating the middle-income homeowner market. This is essential for scaling up EUC to transform the market, reaching California Long Term Energy Efficiency Strategic Plan goals, and creating much needed new jobs. The map below shows the distribution of Flex Path projects in LA County overlaid with median household income census data.

Figure 6 (Subprogram A): Flex Path Projects by Median Household Income in LA County



Contrary to the narrow demographic adoption of Advanced Path, Flex Path has achieved an impressive penetration across LA County, particularly in middle-income communities. LA County proposes to target marketing and outreach to these communities and assist contractors in focusing Flex Path sales on middle-income homeowners.

A4: Continue EUCLA contractor outreach and training programs. - $843,834

Heating, Ventilation and Air Conditioning (HVAC) Contractor Incentive Pilot - $161,784

Pilot Overview

Currently, EUCLA contractor participation is limited to those contractors that have completed EUC contractor training and received Building Performance Institute (BPI) certification (as required by the California Public Utilities Commission). The County has implemented an HVAC Contractor Marketing and Training Incentive pilot program to motivate non-EUCLA certified contractors (through incentives, training, and other resources) to convert typical HVAC equipment replacement, service or maintenance events into EUCLA projects. HVAC contractors are provided with the tools and training to assess and implement more comprehensive measures under EUCLA as part of routine equipment work. The HVAC Contractor Incentive Pilot provides free manual J,D, S equipment and duct sizing software to HVAC contractors ($1,000 value), EUCLA certification tuition reimbursement for up to two company technicians, and a $500 incentive for each EUCLA upgrade completed. Under the 2010-12 program, up to 200 homes were targeted for retrofits, 20 Wrightsoft software licenses were made available at no cost for distribution, and 30 EUCLA participating contractors were recruited to accomplish advanced HVAC design through LA County.

Under the proposed 2013-14 program, LA County strives to continue the success of the existing program and also align this HVAC Pilot program with the Final Decision direction on HVAC Incentives Programs in four focus areas:

1) Add incentives aimed at increasing the participation of HVAC contractors in the Energy Upgrade California program;
2) Streamline review procedures for converting or "upselling" HVAC emergency replacement jobs into full whole house Energy Upgrade California jobs;
3) Require that contractors represent and warrant that all applicable permits have been obtained for the HVAC upstream incentive and Energy Upgrade California programs,
4) Energy savings will be attributed to the delta between the EUC program minimum modeling requirements (EnergyPro) for duct and equipment sizing and the equipment and ductwork sized by using more advanced calculations of the manual J, D, and S. Reductions in both ductwork and equipment can contribute to overall energy savings in a single family residence that may not be realized as recognized by the EnergyPro software limitations.

Planned Approach

1) Ensure existing and new contractors are equipped to deliver quality whole house retrofits:
    a. Ensure at program cycle launch that existing EUCLA Participating Contractors and SCE QI Certified Contractors have opportunities to receive dual certifications in both programs.
    b. Continue the existing capacity building program for contractors where SCE QI Program training and certification opportunities are subsidized and Wrightsoft software licenses are provided at no cost.
    c. Encourage contractors to educate homeowners about HVAC operations and maintenance to ensure long-lived energy savings.
    d. Provide a $500 incentive for submitting Wrightsoft or Elite QI calculations that properly size the project ductwork and equipment based on the project's post-upgrade load requirements.
2) Provide adequate information to contractors to influence the early adoption of HVAC technologies and value added whole house upgrades:
    a. Work with the Assessment Voucher Program to connect HVAC Contractors with opportunities to upsell whole house projects.

b. Hold quarterly product knowledge in person and/or webinars on emerging technologies that are delivered in partnership between IOU Emerging Technologies and product manufacturers that deliver practical knowledge about the latest technologies available on the market. Topics may include: Hot/Dry AC Systems, Evaporative Cooling, Ductless Air Conditioning, Water-Cooled Heat Exchangers, and Residential Night Ventilation Cooling (as identified in the 2011 Potential Study conducted by Navigant Consulting on behalf of the CPUC). Part of these trainings shall also include information on product financing available from the manufacturers.

c. Recruit HVAC contractors into the EUC program using the pilot program and incentive as enticement.

3) Empower local governments and non-utility actors to embed HVAC best practices in their communities.

   a. Require documentation of relevant permits to be produced for all HVAC projects.

   b. Work with the Code Compliance program to encourage local governments to adopt fast track and lowered permit fees for EUCLA jobs.

Evaluation

- Calculated annual energy Savings in kWh, kW and Therms that result from Wrightsoft and/or Elite enhanced HVAC design on Flex Path and EUC Advanced Path projects.
- Number of EUCLA PCs completing SCE QI training
- Number of SCE QI contractors becoming EUCLA PCs
- Gather, by survey, number of reported non-EUC or SCE QI jobs performed by contractors
- Number of HVAC Pilot Jobs and value-added upgrades performed towards whole house retrofits
- Number of product trainings offered
- Number of HVAC Emerging Technologies installed
- Number of case studies, tours and presentations
- Number of software licenses offered
- Filtered Opportunity Metrics may include:

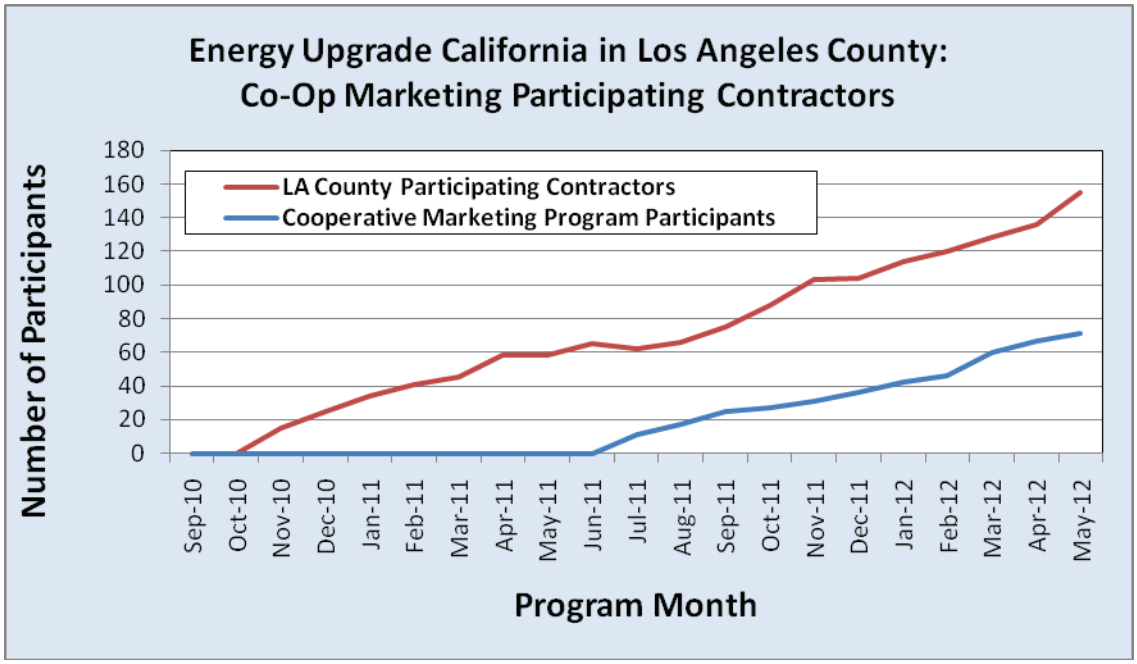
- Change in HVAC permits pulled in cities
- Number of fast track and subsidized permitting fee policies established
- Number of funneled IOU programs such as Summer Discount Plan and 10 for 10 programs enrolled

Contractor Co-op Marketing - $142,500

The County has made grant funds available to EUCLA Contractors to offset the cost of their own customized marketing and outreach materials. This program was created in response to input from contractors that although the overarching EUCLA media campaign was successful in raising awareness, they needed to supplement it with advertising for their individual companies in order to drive demand. The Co-op Marketing program provides 50% matching funds (up to $40,000 per contractor) as reimbursement to contractors who submit invoices for marketing materials and advertising. Eligible materials must meet program guidelines and must be preapproved by program staff. They must include the EUCLA logo and be used within the County of Los Angeles. This program, combined with other marketing tools and training provided to Participating Contractors, allows them to differentiate their company and increase the number of upgrades performed.

From the program inception in July of 2011 to June of 2012, nearly $110,000 in matching funds has been distributed to contractors. That means that Co-Op Marketing has stimulated nearly $220,000 in contractor marketing endeavors toward promoting EUCLA. Nearly half of participating contractors in Los Angeles County are actively using Co-Op Marketing to promote their EUC business as shown below.

Figure 7 (Subprogram A): EUCLA Contractor Co-op Marketing Participation



The uniquely high level of participation in Co-Op Marketing is stimulated by pro-active marketing and support to contractors. The keys to our success are:

- PERSONAL COMMUNICATION: Fewer mass emails, more phone calls and personal emails.
- LEVERAGE OPPORTUNITIES: Take every opportunity (community events, training sessions, phone inquiries, etc.) to remind contractors of the program and discuss how it can benefit their business.
- SAVE TIME: Offer pre-designed materials at low cost or no cost.
- SIMPLIFY: Offer concise Program Guidelines that are brief and easy to understand. Forms should be simple and short.
- BE AVAILABLE: Offer a single point of contact or a single email to which Co-Op Marketing communication should be sent.
- SET EXPECTATIONS: Clearly outline design requirements in the Guidelines, and adhere to them.
- BE FLEXIBLE: Be available for rush approvals or design exceptions on an as-needed basis.

- FOLLOW UP: Call contractors quarterly to follow up on pending projects, or to discuss ideas they may have.
- GET INPUT: Contractors know best what contractors need. Be open to suggestions or ideas for uses of Co-Op Marketing Funds.
- GIVE EXAMPLES: Offer specific examples of how funds can be used in order to pique a contractor's interest, or give them ideas they may not have previously considered.

The categories of promotional items that contractors typically design and produce include:

- Print On Demand (free customized brochures, flyers, etc.)
- Auto Wraps
- Signage
- Small Print Materials
- Canvassing/Distribution
- Apparel
- Trade Show Fees/Expenses
- Print Media
- Electronic Media
- Other, Miscellaneous

Contractor Training, Scholarship and Support - $539,550

Market Description

While strides have been made in training contactors in home performance, additional workforce training and support is needed to further penetrate the existing building market and drive participation in Energy Upgrade California (EUC) and its pilot programs. The preponderance of single and multifamily contractors are sitting on the sidelines as the nascent home performance industry develops; there are over 22,000 general contractors in Los Angeles County alone, but only 110 participating contractors in all of Southern California Edison service territory, representing enormous growth potential. Contractors and raters require training to properly advise their customers on and install energy efficiency measures. Certifications have been established as requirements to participate in state-wide retrofit programs. The Contractor Training, Scholarship and Support initiative will provide the suite of training and support services needed to

expand the pool of qualified contractors who can promote and deliver EUC and its pilot programs. Key market actors are as follows:

- **Single-family contractors** are the cornerstone of EUC and its pilot programs. A well trained and supported contractor base is critical to growth. Contractors are key in influencing consumers' decision-making at time of retrofit or remodel. Contractors must not only be comfortable with the technical and program administration requirements of the program, but selling the program as well. The County is well positioned to build on its successful training and support programs to give contractors the information they need to further integrate EUC into their business model and expand program participation.
- **Multi-family contractors** and raters provide a high leverage point to bring a large volume of projects into EUC. The four counties of Los Angeles, Riverside, Orange and San Bernardino have an aging multifamily building stock that would benefit from a whole-building performance based approach. Contractors and raters who work on multifamily buildings are familiar with complex, technical projects but still need training and support to integrate the whole building approach into their business. The County can readily expand its successful multifamily pilot program, which consists of 19 buildings totaling 734 units, by training and supporting these professionals.
- **Content Developers** such as the BPI and CalCERTs have developed trainings for certifications such as BPI Building Analyst, Whole House Home Energy Rater, and Building Performance Contractor that are required or recommended for participation in state-wide programs, including EUC.
- **Training providers**, including non-profit and for-profit, specialize in training delivery and have the infrastructure in place to deliver training to hundreds of building professionals each year.

Market Characterization

The single-family and multi-family markets are impeded by at least five barriers:

- **Lack of technical skill.** Home performance is a new industry. A significant amount of technical training is needed for both new and existing participating contractors to properly install energy-efficiency measures.

- **Lack of soft skills.** While some contractors have developed strong technical skills, they often lack the soft skills to sell and administer programs, which inhibit scalability.
- **Lack of start-up capital.** The start-up costs associated with integrating home performance into a contractors business, including training, discourages program participation.
- **Lack of connection among workforce.** The complete pipeline of workforce actors involved in home performance, from trained installers to contractors to associated industries, have not been connected to one another, inhibiting program growth.
- **Need for ongoing technical support.** Contractors require access to ongoing technical support to ensure training is being properly translated into projects and to address the unique challenges regularly found in existing buildings.

The Contractor Training and Support Initiative will pursue opportunities to reduce market barriers and promote energy-efficiency upgrades:

- **Time of retrofit/remodel.** With proper training and support, contactors are well positioned to help their clients assess the energy performance of their homes, identify energy upgrade opportunities and connect them with incentive programs needed to make the improvements.
- **Time of multifamily retrofit.** Multifamily contractors and raters are familiar with complex projects and technical programs. They are well positioned to advise their clients on how performance based, whole building upgrades can be integrated into their retrofits to the benefit of them and their tenants.
- **Time of HVAC change-out.** HVAC contactors and change-outs represent a prime opportunity to promote energy efficiency retrofits to homeowners. HVAC contractors come in regular contact with their existing clients through service contracts, positioning them to educate homeowners during peak heating and cooling months. In addition, the U.S. Census estimates 3% of HVAC units fail each year. Each HVAC change-out event provides an opportunity to perform an energy efficiency retrofit, spec a smaller replacement unit and save energy.
- **Existing training infrastructure.** Existing training organizations are well positioned to promote training opportunities to their clients and the financial resources available to offset the cost of that training.

Proposed Interventions

The Contractor Training, Scholarship and Support Initiative builds on prior investments the County of Los Angeles has made in this arena. The County has provided technical training for over (150) attendees since June, 2011. Training has included Building Performance Institute Building Analyst training to provide entry into the programs, green building training to help contractors address the water-energy nexus in their projects and targeted workshops such as EnergyPro modeling for single and multifamily buildings.

- The County has provided soft skills training on sales and marketing to over (140) contractors since February, 2012. This training provided information on how contractors can effectively integrate marketing techniques and sales messaging tailored for EUC into their outreach.
- In order to ensure an adequate base of trained and certified contractors, raters, and skilled labor, the County created a Contractor Training Scholarship Program to offset the cost of training and certifications necessary to participate in EUC. Scholarship amounts were offered as a reimbursement of $500 or $1,000. Since July 2011, (240) scholarships have been distributed to building professionals.
- In February 2012 a job fair was held in Los Angeles with 10 participating contractors and 58 pre-screened job seekers in attendance; nearly 50% of attendees found work when 25 job offers were made at the event. A complimentary online job board has also been created as a lasting resource.

For 2013-2014, the Contractor Training and Support Initiative will develop the market for EUC and its pilot programs via four key initiatives:

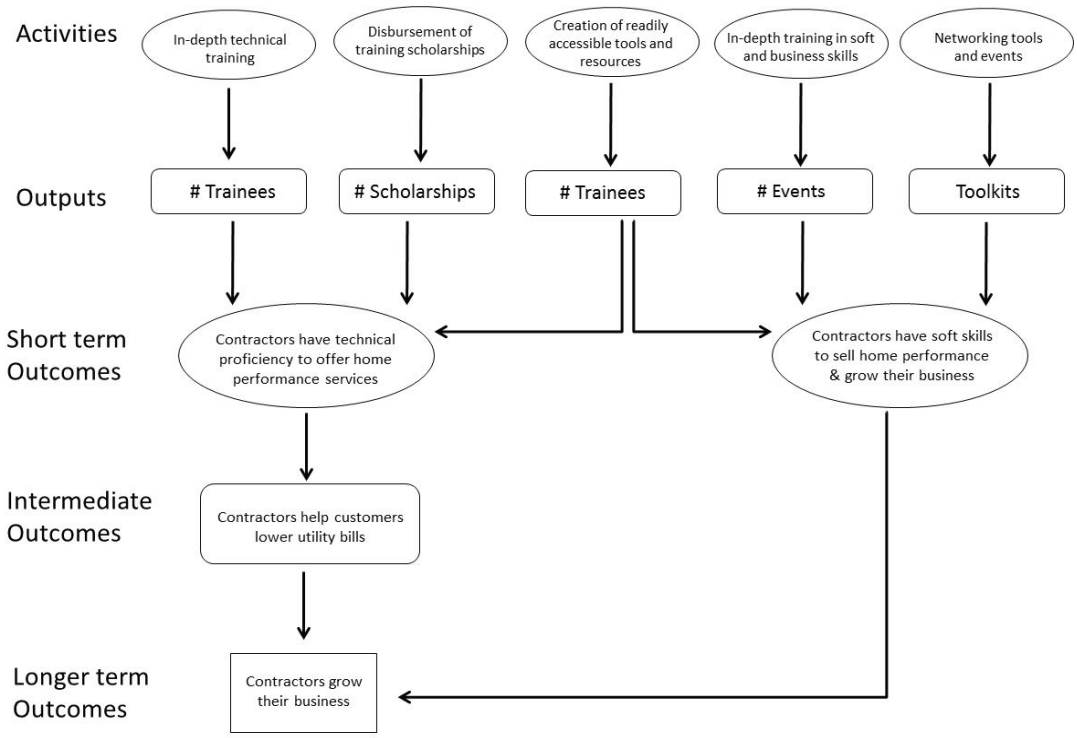
Intervention	Barriers Addressed
In-depth technical training for contractors, raters and their staff	Lack of technical skill
Disbursement of training scholarships at time of certification	Lack of start-up capital

Creation of readily accessible tools and resources	Need for ongoing technical support
In-depth training in soft and business skills	Lack of soft skills
Networking tools and events for building professionals	Lack of connection among workforce

Services will address the diverse needs of the different market actors participating in EUC and pilot programs. The Contractor Training and Support Initiative seeks to accomplish seven outcomes by the end of 2014:

1) Train and certify (600) building professionals on technical skills for single and multifamily buildings by end of 2014.
2) Provide ongoing training to (400) building professionals through continuing education workshops on specific technical topics by the end of 2014.
3) Train (300) building professionals on program administration and soft skills by end of 2014.
4) Facilitate the training and certification of (500) building professionals by disbursing scholarships of $500 or $1000.
5) Develop and deploy contractor tool kits that provide readily accessible, easy to use resources that help contractors access EUC and its pilot programs.
6) Hold four job fairs to connect contractors looking to expand their workforce with work ready individuals familiar with the residential energy efficiency retrofit market.
7) Disseminate networking tools and hold events that connect building professionals familiar with energy efficiency retrofits with one another.

Figure 8 (Subprogram A): Logic Model



Evaluation Plan

The proposed evaluation plan will support program tracking and reporting for the following Marketing Transformation Indicators:

- Number of building professionals who participate in technical training for single and multifamily buildings
- Number of multifamily building operators trained
- Number of energy consultants trained in California Utility Allowance Calculator tool
- Number of building professionals who participate in program administration and soft skills training
- Number of building professionals receiving certification with scholarship assistance
- Number of contractors that access program tool kits
- Number of work ready individuals who secure jobs with participating contractors through job fairs
- Number of building professionals that use networking tools or participate in networking events

Evaluation activities associated with each implementation activity are summarized below. Performance benchmarks will be established for all evaluation elements and program performance will be compared with those benchmarks:

1) Provide training to (1300) attendees on technical and soft skills for single and multifamily buildings.
    a. Track training on a monthly basis, including number of past and upcoming trainings, number of enrollees and number of certified graduates.
    b. Invite all trainees to complete evaluation surveys, including questions about satisfaction and communication channels they used to learn about the program.
    c. Conduct quarterly surveys of certified building professionals to determine:
        i. Opportunities and challenges encountered in incorporating technical training into their business
        ii. Additional training and support needs
    d. Conduct annual focus groups with building professionals and other industry stakeholders to review training programs

1) Facilitate the training and certification of (500) building professionals by disbursing scholarships of $500 or $1000.
    a. Track scholarship pipeline on a monthly basis, including number of applications submitted, number of applications approved and amount of funds distributed
    b. Track contractors on a monthly basis to determine how many that have received scholarships have submitted projects to EUC and its pilots
    c. Conduct quarterly surveys of scholarship applicants to evaluate effectiveness of program to support EUC and pilot programs
    d. Conduct quarterly surveys of training providers to evaluate effectiveness in relieving cost barrier

2) Develop and deploy contractor tool kits that provide readily accessible, easy to use resources that help contractors access EUC and its pilot programs.
    a. Track number of building professionals who access tool kits.
    b. Conduct quarterly surveys to determine the effectiveness of tool kit resources to assist in accessing programs
    c. Conduct annual focus group with building professionals and other industry stakeholders to review tool kit content

3) Hold four job fairs to connect contractors looking to expand their workforce with work ready individuals familiar with the residential energy efficiency retrofit market.

a. Track number of contractors who participate in job fairs
b. Track job seekers that receive job offers from contractors

4) Disseminate networking tools and hold events that connect building professionals familiar with energy efficiency retrofits with one another.
    a. Track number of visitors to online networking resources
    b. Track number of attendees at networking events
    c. Invite all attendees to complete evaluation survey, including the effectiveness of the networking event and communication channels they used to learn about it

A5: Expand EUCLA multifamily pilot incentive program - $3,058,158

Market Description

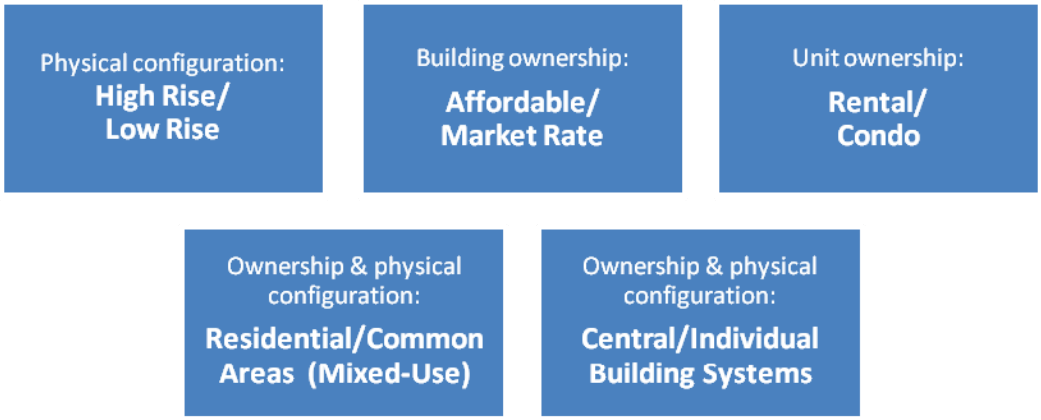
The existing multifamily housing sector holds great potential for energy savings in addition to other resultant economic and environmental benefits from a robust energy efficiency industry. Market study estimates[12] have shown over 1.0 million multifamily units in Southern California Edison's service territory located in over 145,000 multifamily buildings. This unique customer segment warrants specific, focused attention and effort in order to motivate property owners and managers to actively participate in whole building energy efficiency programs. In the multifamily sector, energy savings and social equity are intertwined challenges. Eighty-eight percent of multifamily building residents are renters, and many of these are low-income households. Compared to higher income homeowners, lower income renters spend a disproportionate amount of their income on energy, and yet they typically do not have the financial resources or ownership rights to make energy efficiency investments in their homes. Well-coordinated upgrade

[12] The California Energy Commission's "2003 Residential Appliance Saturation Survey (RASS)" database

programs targeted at the multifamily and affordable housing sector can make a big difference in individual's lives while also helping achieve the state's ambitious energy and climate change goals.[13]

The multifamily sector encompasses a range of building sizes, system types and configurations of dwelling units and nonresidential areas. These configurations generally fall into the categories shown in Figure 9 below. When multifamily buildings undergo energy efficiency and green upgrades, these occupancy mixes and physical configurations affect how technical protocols, codes and standards (such as the residential vs. commercial versions of Title 24) are applied.

Figure 9 (Subprogram A): Multi-family configurations



Market Characterization

In IOU service area, the multi-family market sector has a consumption base well over 2 billion annual kilowatt hours generated by over 680,000 multifamily service accounts[14] (in buildings of five or more

[13] California Home Energy Retrofit Coordinating Committee (2010), *Improving California's Multifamily Buildings: Opportunities and Recommendations for Green Retrofit & Rehab Programs*

[14] (See footnote 1)

units). Assuming the age of the multi-family housing stock in the IOU service territory mirrors the age of the overall housing stock, up to 70% of the multifamily buildings were built pre-1980[15], representing a large opportunity to improve efficiency within this segment of housing.

Despite the potential for energy savings, there are significant barriers to participation for property owners including but not limited to:

- **Split Incentives.** Rental property owners have inadequate incentive to make green improvements because the improvements accrue to the tenants, while tenants have no incentive to make permanent improvements to the property because they have no equity stake and their tenure in the building is too short to realize a return on investment.
- **Lack of Information.** Lack of well-documented business case information and standardized analytical methodologies leaves property owners ill-equipped to evaluate the technical and economic potential for retrofitting their properties
- **Lack of access to affordable capital** limits retrofitting opportunities, particularly in the affordable housing sector.

Despite the challenges, various initiatives sponsored by a variety of industry stakeholders are underway to address the above stated barriers, including increased property owner/manager outreach and workforce development, and financing and incentive programs that help property owners complete comprehensive rehabilitations of their properties. In particular, the Los Angeles County Multifamily Pilot Program provided for $425,000 in property owner incentives and additional funds for Program Administrator outreach. This Pilot program is currently fully subscribed well before program expiration, with nine projects representing 19 buildings and 734 units; six of the nine projects are affordable housing. The momentum generated by this and similar initiatives in southern California creates a positive environment for further action which this proposal aims to satisfy.

[15] 2005 American Community Survey, US Census

Proposed Interventions

Incentive programs that deliver energy and green upgrade services for single-family homes typically rely on contractors to serve as the conduit for participating in the program and providing services such as diagnostics, verification and documentation. This contractor-based approach, however, is unlikely to be successful for California's diverse and professionalized multifamily and affordable housing sector, for a variety of reasons, including the fact that developer/owners prefer to work with contractors with whom they have long-established relationships rather than with program-designated contractors. For these reasons, Existing Multifamily Energy Efficiency Initiative will adopt the recommendation of the Home Energy Retrofit Coordinating Committee (HERCC) for a rater / consultant program model.

For 2013-2014, the Existing Multifamily Energy Efficiency Initiative will build upon the Los Angeles County Multifamily Pilot Program's progress to-date for energy-efficient multifamily units. The proposed interventions comprise the program approach toward reducing the identified market barriers:

Proposed Intervention	Intended Result/Outcome	Barrier Addressed
Outreach and Education – inform property owners of the potential benefits and savings	• Increase property owner motivation and demand for whole building energy efficiency	(1) Information
Assessment Incentives – cash payments to property owners to cover the costs of property energy assessment & simulation	• Increase property owner demand • Reduce upfront assessment costs • Increase property owner/manager knowledge & awareness	(1) Information (2) Access to capital
Improvement Incentives – performance based rebates for installing energy efficiency measures and going beyond minimum standards	• Increase property owner demand • Reduce improvement costs	(1) Split incentives (2) Information (3) Access to capital
Technical Assistance – Single Point of Contact to assist multifamily property owners in evaluating energy efficiency opportunities and access financial resources, including available On-Bill Repayment mechanisms	• Reduce complexity and knowledge gap • Streamline program processing time • Create a pool of trained professionals	(1) Split incentives (2) Information (3) Access to capital

Proposed Intervention	Intended Result/Outcome	Barrier Addressed
	• Creation of a robust quality assurance / field verification program • Optimize program incentive dollars by Increasing property owner access to other financing and incentives	

The Existing Multifamily Energy Efficiency Initiative is designed specifically to motivate the multifamily property owner/manager to install whole building energy efficiency measures with incentives, information, and outreach that help alleviate the split incentive, confusion, and technical hurdles that currently exist.

Figure 10 (Subprogram A): Multi-family Incentive Structure

Assessment Incentives	
<50 units	$5,000
50 units	$10,000
Improvement Incentives*	
10% improvement	$200
15% improvement	$400
20% improvement	$700
25% improvement	$950
>30% improvement	$1,200

*There is a cap of $100,000 for the Improvement Incentive

In addition to the incentives for energy conservation, there would be an added incentive available for projects that achieve the GreenPoint Rated or LEED labels. By providing incentives for both energy and green upgrade projects, the initiative aligns with the full spectrum of home performance considerations, including energy and water bills, health and safety, comfort, and durability.

Figure 11 (Subprogram A): Green Building Label Incentive Structure

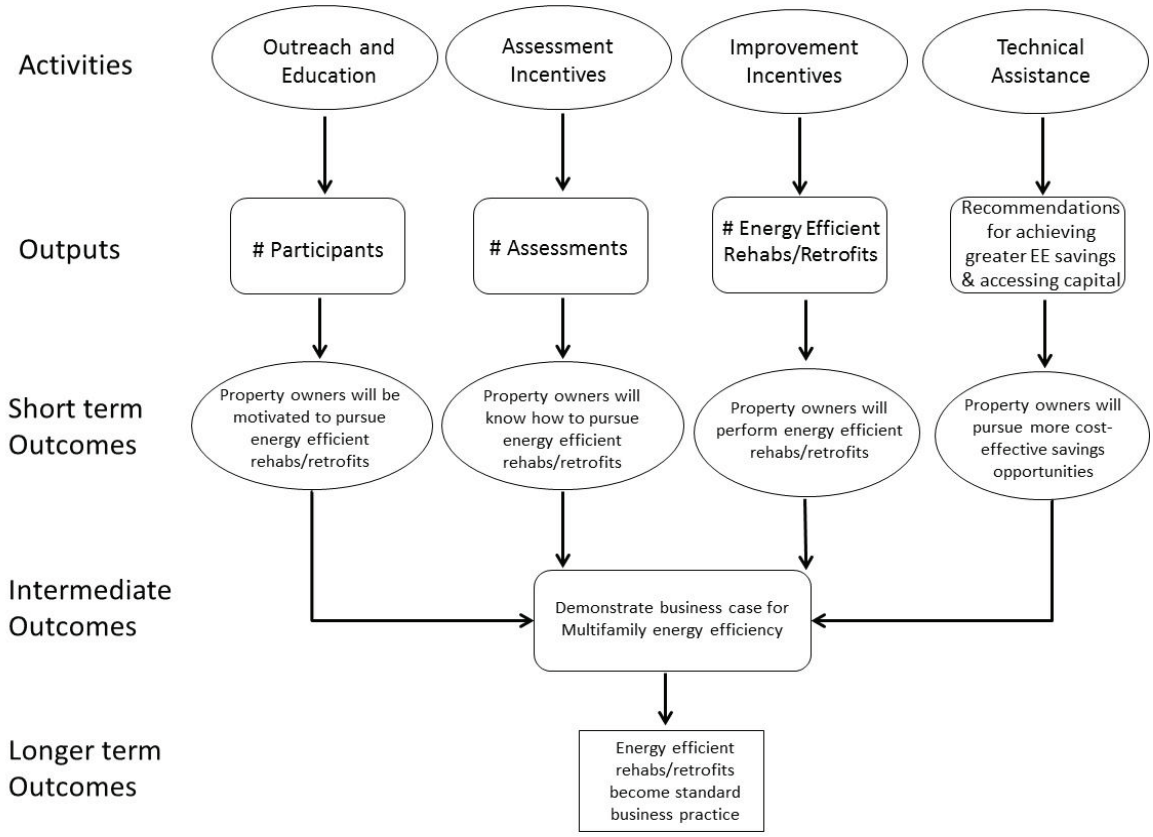
Green Building Label	Bonus Incentive
GreenPoint Rated Elements or LEED EBO&M	$4,000 per project, plus $50/unit over 20 units
GreenPoint Rated Whole Building or LEED NC	$4,000 per project, plus $100/unit over 20 units

Logic Model

Having implemented and achieved the interventions and outcomes above, the Existing Multifamily Energy Efficiency Initiative aims to transform the multifamily energy efficiency market in the following ways:

1) Help 180 multifamily property owners perform significant upgrades (e.g. beyond basic cosmetics or minor repairs)
2) Property owners will realize measurable economic benefits from energy and green upgrade projects
3) Tenants will prefer and seek out multifamily buildings with energy efficiency and green improvements and/or labels.
4) Lenders will encourage and/or require energy efficiency and green improvements with commensurate benefits
5) Raters and contractors comprise a highly skilled workforce for the multifamily sector.

Figure 12 (Subprogram A): Logic Model



Evaluation Plan

The Existing Multifamily Energy Efficiency Initiative will also adopt the following metrics as leading or proximate indicators of success:

Outreach Evaluation

1) Number of participants
2) Annual survey of participants and non-participants

Performance and Incentive Evaluation

3) Number of energy upgrades completed
4) Level of energy efficiency improvement in energy upgrades
5) Energy Savings: kWh, therms, and KW
6) Technical Assistance
7) Quality Assurance Reporting: number of field verification and results, corrective actions taken

8) Number of technical assistance consultations in each region/county
9) Number of housing and upgrade financing entities adopting program design elements in their program funding award criteria

A6: Promote and support Community Development Commission (CDC) programs to achieve greater energy efficiency, distributed renewable generation and green building practices in the development, redevelopment and rehabilitation of low-income multi-family and residential projects - $420,000

Low Income Development Projects

Local and regional CDC programs being implemented by various local governments and local housing agencies in Southern California are promoting sustainability policies in the rehabilitation and redevelopment of existing multifamily and residential projects as well as in new development projects. Measures including thresholds for exceeding Title 24 requirements, achieving Green Building Labels, installing renewable distributed generation systems for electricity generation and water heating, installing water efficient fixtures and water conservation systems and other sustainable building practices are being piloted in various jurisdictions throughout Southern California. These measures are being implemented and tested using Community Redevelopment Agency funds and federal tax credits for multi-family new development and existing multi-family project rehabilitation and through Community Development Block Grants for single family residential upgrades.

By providing incentives through direct rebates and financing subsidies, EUCLA can establish scalable models for Community Development programs to implement standard performance and prescriptive requirements for energy efficiency, renewable energy and general green building development practices. These incentives and subsidies will also help projects achieve a variety of pilot program requirements that include achieving 20 to 30% beyond Title 24 energy savings and Green Building Rating

certifications. These will also leverage existing federal and state funding made available through tax credits and rehabilitation credits provided under existing federal assistance programs. In the wake of the elimination of California Redevelopment Agency funds, these requested energy-related incentives can provide a transition mechanism to maintain low-income multi-family and single family development and redevelopment compliance with pilot policies that include a focus on energy efficiency and resource efficiency, renewables and green building standards. Success of these initial pilot programs will provide a strong impetus toward the establishment of these types of green standards as a guiding principle in Community Development and Redevelopment programs throughout the State. This program initiative will achieve high levels of coordination and collaboration among all of the participating public agencies in the Southern California region.

A table proposing a tiered incentive structure for low-income, multifamily housing development and rehabilitation is provided below. Up to $200,000 in incentives will be provided per large, multi-family development and rehabilitation project. Currently 10 projects have requested County Public Housing Agency funding. These projects range in size from $500k to $1.8 million for rehabilitation and $2 million to $6 million for new construction or substantial rehabilitation. These increased incentives are far more substantial, and far less restrictive, than similar incentives that these projects may also qualify for under the IOU-administered California Advanced Homes Partnership and Savings by Design.

The tiered incentive is available up to $200,000 to projects that commit to deep energy efficiency. In addition, the project shall be certified under any one of the following programs: Green Communities Criteria, Multifamily GreenPoint Rated or LEED. Due to differences in Title 24 methodologies between building types, there are two scales for energy performance

Figure 13 (Subprogram A): Two Scales of Energy Performance for Enhanced EE Incentive

	Title 24 for Residential Buildings	
	Low Rise	High-Rise

Incentive Amount	(1-3 floors)	(4-6 floors)
Minimum Building Performance	15%	15%
Baseline: $100,000	30%	20%
$125,000	35%	25%
$150,000	40%	30%
$175,000	45%	35%
$200,000	50%	40%

Based on past project results under this program, initial individual project results show that savings per project (i.e., the kwh, kw, therm savings per project per % below T24) are approximately 1.5kWh/sq.ft and about 0.03therm/sq.ft. at 20% better than T24 and 0.5 kWh/sq.ft. for every 10% additional increment better than T24. The average project application under this program in 2011 between 20,000 to 50,000 square feet and included 20-50 family units.

The benefits of this incentive are multiple:

- The incentive would be provided up-front and it ensures adequate engineering is done to achieve the savings and compliance goals – apparently this has been a program challenge in the past. Funds would be returned for non-achievement of savings levels.
- There is significant benefit in meeting the other green building certifications (water/energy, renewable, EV-readiness, ratings acceptance, education, market transformation, etc).
- This is a pilot and incentives would be reduced/phased out as developers get comfortable with program requirements.
- Tenants must also get enrolled in CARE.

In conclusion, these cost-effective community development projects will build upon existing work already established by LA County's CDC/PHA in unincorporated areas as well as in over 30 participating cities while clearly demonstrating that local governments are ideally positioned to deliver energy efficiency

into low income communities. These projects will incorporate EUC while leveraging other green building elements into low-income programs.

Low Income Single Family Rehabilitation

Energy Upgrade California Advanced, Basic and Flex-Path projects will be integrated into low-income, single family residential rehabilitation programs administered by the County Public Housing Authority in a number of jurisdictions. Using CDBG funding, these agencies rehabilitate abandoned or foreclosed properties for re-sale to low-income families. The programs incorporate energy efficiency and renewable measures which overlap EUC programs. Where cost effective, EUC packages will be integrated into this work, EUC rebates applied, and remaining EUC project costs will be financed under a special program for low-income families. It may be that ratepayer funding will be used to subsidize the finance rate (e.g., to a level where utility savings exceed the monthly finance payment). The County Public Housing Agency refurbishes about 300 homes per year and it is assumed that all homes can be upgraded with an Advanced or Flex Path package. The program objective is to provide subsidized financing to these homeowners to cover the incremental EUC package.

1) Integrate EUC Advanced/FlexPath and Financing Packages into Public Housing Single-Family Home Rehabilitation Programs
    a. Goal is to integrate EUC packages into existing rehab programs and offer loans to cover the incremental cost of EUC (no rebate beyond EUC)
    b. Implement 110 advanced and 200 flex projects:
    c. Subsidize the loan interest rate to something near 2%
    d. Two-year pilot program to integrate EUC into other Low Income programs and to coordinate the multiple program requirements with EUC program requirements

Figure 14 (Subprogram A): Proposed Administration Costs for Incorporating EUC

Programs		Energy Efficiency Increment	Location	Est. Number of Homes		
				2013	2014	Total
1	HOME Single-Family Rehabilitation Loan Program ($25-$30K loan)	EUC: Advanced Path or Flex Path	Unincorporated & Participating City	30	30	60
			Countywide (standalone EUC)	200	200	400

2	Residential Sound Insulations (Grant) Program (RSI)	EUC: Advanced Path (small pilot)	Unincorporated Inglewood	25	25	50
3	CDBG Single-Family Rehab Loan Program ($10K loan)	EUC Basic Path or Flex Path	Unincorporated & Participating City	100	100	200
			Countywide (standalone EUC)	50	50	100
4	Mortgage Credit Certificate with Energy Efficiency (MCCEE)	Feasibility study to examine viability of establishing and administering this program regionwide and develop a loan program	**Countywide**			

The HOME Single Family Rehabilitation Loan Program has no energy efficiency component and will integrate either the EUC Advanced or Flex Path upgrade to provide comprehensive energy efficiency assessments and upgrades. The EUC project costs will be integrated into the loans offered under the HOME program; EUC incentives will be applied to reduce the size of the loans.

The Residential Sound Insulation program provides insulation and window treatment to impacted homes (those impacted by airline take-off and landing path noise levels) and will incorporate EUC Advanced Package into that program work; this will be done on a limited, pilot basis to assess the ease of integrating EUC measure into sound insulation work.

The Community Development Block Grant Rehabilitation Loan program does include energy efficiency measures and will incorporate either EUC Basic and Advanced Packages and their incentives into the program loans.

Under all of these programs, qualifying contractors will be encouraged to go through the training and certification process to become participating EUC contractors. CDC staff serves as the homeowners' representative in each of these programs and will engage with the program contractors to integrate EUC packages.

The Mortgage Credit Certificate for Energy Efficiency (MCCEE) feasibility study would include research on current jurisdictions that are administering MCCEEs which are federally administered tax credits

available to residential property owners who undertake energy efficiency measures. The tax credits are available on an allocation basis by states, requested and administered by local redevelopment agencies, and coordinated with residential lenders. The LA County CDC will solicit participating, private lenders, establish operating procedures and guidelines, calculate the energy efficiency retrofit loan, and promote EUC Advance Path incentives. The MCCEE program would be available to all homeowners and would provide an alternative financing program.

A7: Implementation of the "Smart Tech Path" household energy management pilot – $570,000

The "Smart Tech Path" pilot is an integrated, comprehensive consumer-facing program that educates smart meter utility customers to become smart energy managers. The primary goal of the program is to foster enduring behavioral changes in residential customers by increasing their understanding of how to actively manage and reduce their energy use. This is accomplished in three main ways: (1) by providing homeowners with simple and direct education and information about ways to reduce energy use with little or no out-of-pocket cost, (2) providing one-stop access to bundled information on core EE program offerings and rebates, and (3) providing easy to use online energy management tools.

Residential customers with smart meters will become aware of their energy use patterns and implement positive changes, even in the absence of time-of-use pricing, that will result in energy and utility bill savings. The pilot will help build a foundation for a 'culture of efficiency' within these households.

Program Description

Key Elements

The Smart Tech Path pilot will engage residential smart meter customers to actively manage and reduce their energy use through the following:

- Customer engagement

    - Targeted identification and engagement of selected smart meter households to participate in the pilot
- Promotion of and easy access to bundled utility energy efficiency programs
    - Participating customers will be the audience for promotion of bundled core program offerings to maximize smart energy management potential in their homes, including Energy Upgrade California, appliance replacement and plug load reduction, and HVAC QI programs which, when combined, will produce deeper and more reliable energy savings and higher rebate levels.

Education and Information

- Smart meter customers will learn how to access and use newly available information from innovative tools to understand their energy usage patterns and how to cost-effectively change them. Customers will receive ongoing information, advice, suggestions, incentives and recommendations for ways to reduce energy use based on their actual profile and experience. Through this process, residential customers will learn to take charge of their energy management behaviors and understand the tangible benefits that result.
- Installation of data tracking and display capabilities
    - Online energy management tools and training will be provided to selected smart meter residential customers to enable them to readily compile and view their actual energy usage on a more real time basis and use that information effectively to adjust their energy use. The technologies to be utilized will include notification alerts and other communication channels to assist the homeowner in monitoring and adapting energy use. The different types of displays and notifications to be piloted will provide various portals for accessing the data on a variety of mobile and stationary communication devices.
- Reward mechanism for achieved savings
    - Customers will receive incentive payments up to $200 per year if sufficient energy is saved from the established prior year baseline.
- Monitoring, tracking and oversight reporting

- Energy use in participating households will be monitored and tracked so that it can be compared and contrasted to households that have received smart meters but are not participating in the pilot.

Rationale

The most extensive smart meter installation program in the U.S. is underway in California. With more than 15 million smart meters in total slated to be installed statewide over the next few years, now is the perfect time to formulate and test programs that can create an effective nexus between the enhanced real-time energy information available from smart meters and changing energy behavior within smart meter households.

Currently, utilities are installing smart meters with success measured largely by the number of devices installed. There is little intervention at present to influence what happens with the customer AFTER the smart meter is installed. Because customers are not receiving adequate assistance on how to harness and benefit from the data available through their smart meter and from other sources, significant behavioral change opportunities and energy savings are being missed.

Learning how to better manage and reduce energy consumption using smart meter data and other persuasive information that can be readily provided could prove to be a significantly important factor in empowering utility customers to avoid the 'sticker shock' that may hit them when time of use residential tariffs are phased in.

The Smart Tech Path pilot aligns closely with the California Energy Efficiency Strategic Plan (CEESP) and other CPUC policy directives in several areas. First, it addresses the issue of consumer behavior change with a goal to encourage customers to take responsible actions to manage energy wisely and cost-effectively. CPUC Commissioners have expressed concern that no strategic focus is being placed on incorporating behavior change and experimental design concepts to proactively improve IOU program design. In addition, the pilot will focus on plug loads and appliances as a primary source of potential

residential energy savings. This is in keeping with the CPUC's call for a more intensive focus on plug loads and appliances within residential households (where they represent a majority of the total electricity load) as well as a more effective merging of the various appliance/plug load programs by the IOUs.

Core Program Coordination

Residential customer education and awareness to better manage and reduce residential energy loads will include coordination with IOU core programs. The bundling of core program offerings along with energy management education and tools provided by the Smart Tech Path pilot will enable participating customers to benefit immediately from easy to achieve energy savings with little or no out of pocket cost. This integrated technology and education approach will also likely lead customers to upgrade their home's fixed systems, thereby supporting the CEESP's goals for comprehensive whole house efficiency retrofits, and drive greater participation in Energy Upgrade California, HVAC QI, and other core home upgrade programs.

Target Audience

The target audience is residential customers (single family detached and condominiums) that already have smart meters installed. The pilot will include a mix of housing types, income levels, energy load, and other factors. The pilot will reach approximately 2,000 households over two years.

Implementation Strategy

The key implementation steps include the following:

- Identify and solicit target households
    - Housing types, location, income level, previous participation in IOU programs, etc.
    - Application process for target households
- Install monitoring and tracking software/equipment and train customers on their use
- Benchmark the customer's energy usage
- Educate and inform customers on how to understand, use and apply the data to drive energy savings

- Evaluate, survey and monitor behavior and other changes and measure energy savings
- Provide customer incentives to reward for energy reductions over prior year bills

Program Outcomes/Objectives

Residential customers participating in the pilot are expected to achieve an average 10% overall annual energy savings (electricity and natural gas combined) solely from energy management behavior changes within their household.

Other anticipated outcomes include:

- Increased participation in core efficiency programs resulting in additional energy savings
- Additional energy use reductions by participants during peak energy demand events
- Increased understanding and acceptance of benefits of smart meters and smart meter technologies
- Testing and verification of effective residential behavior change program approaches
- Reduced water use and related embedded energy savings tied to water savings
- Utility bill savings for participants and reinforcement of a conservation ethic
- Identification of ways to scale Smart Tech Path program to a statewide platform

Market Transformation

Market transformation occurs when residential customers routinely take active control over and assume accountability for their energy use, access available cost-effective energy saving programs and modify their energy consumption patterns on an ongoing basis. Through development and testing of a program model to integrate smart meter technology with customer-facing monitoring tools combined with better education and information, greater acceptance of the benefits from smart meters can be realized. If successful, the model can be easily scaled up at a reduced cost, further accelerating market transformation and achieving a cost effective use of rate-payer funds.

Barriers

The key barrier is lack of awareness in households about their energy use and how to manage it. Installation of the smart meter alone does not address this problem, and may in fact compound it. The Smart Tech Path pilot will overcome this barrier through the use of innovative technology and communication tools

in conjunction with effective education and information that will drive awareness of the various benefits from reduced energy use (as well as reduced resource use more broadly). This will also result in a number of additional actions by the participating households to achieve deeper retrofits through changes to their appliances, lighting, HVAC and water heating systems.

Innovation

The Smart Tech Path Pilot is an integrated, holistic approach that fills a significant programmatic gap re: customer behavior change and customer interface with smart meters. The pilot will demonstrate that coupling in-home energy management technologies and consumer awareness education and training as a corollary action with smart meter installation can produce more cost effective outcomes for rate-payers.

The pilot integrates education and information regarding multiple energy resources. The residential customers will receive the ancillary value of integrated information on how to reduce energy use and reduce use of other resources, and decrease total greenhouse gas emissions as they relate to electricity, natural gas, water, transportation and solid waste. The pilot will provide participating households with a carbon calculator to enable residents to measure their overall household carbon footprint before and after project participation thereby contributing to a more complete understanding and mitigation of GHG emissions.

Summary

The Smart Tech Path pilot will demonstrate how the integration of user friendly monitoring tools and energy awareness education with smart meter installation will drive greater energy savings, create enduring consumer behavior change and provide residential customers with a way to mitigate future “sticker shock” when time of use electricity pricing is instituted.

END OF DESCRIPTION OF SUBPROGRAM A: EUC

b) **Sub-Program Energy and Demand Objectives**

Table 2 (Subprogram A): Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

	Program Years		
	2013	**2014**	**Total**
Subprogram A: Energy Upgrade			
GWh	6.7	10.0	16.7
Peak MW	3.4	5.1	8.5
Therms (millions)	0.46	0.69	1.15

c) **Program Non-Energy Objectives**:

SMART non-energy objectives of Subprogram A:

- During the period 2013−2014, the average cost of an energy efficiency project, including all Advanced Package, Basic Package, and Flex Path jobs, will be reduced by 25 percent.
- During the period 2013–2014, the number of contractors registered as Energy Upgrade Participating Contractors participating in the six-county Southern California Area will increase by 20 percent.
- During the period 2013–2014, marketing and outreach activities will create at least 300 million impressions.
- During the period 2013–2014, 500 individuals will be trained in one of the following: sales and customer relations, small business best practices, marketing and messaging, and job sequencing.

Average project costs and rebates for IOU Basic and Advanced Packages have been provided to LA County by SCE/SCG, based upon completed projects to date.

Statistics on Energy Upgrade Participating Contractors are provided by SCE, and the total number of Participating Contractor in a county is available at www.energyupgradeca.org.

Table 3 (Subprogram A): Quantitative Subprogram Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	2,000	3,000
Number of units incented or rebated	3,200	4,800

d) **Cost Effectiveness/Market Need**: What methods will be or have been used to determine whether this program is cost-effective?[16] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

i. In order to determine the energy savings expected with the Flex Package program, we adapted the calculation methodology recommended by the Commission reviewer during work paper development for the 2010-2012 Whole House Retrofit Program (now the Whole-House Upgrade Program). The Whole House Retrofit Program is similar to Flex Package in that multiple measures are to be completed under each retrofit project, and thus, the interactive effects of the measures need to be taken into account, use of EnergyPro to determine the modeled energy savings, provided that the simulation model of a pre-retrofit house could be shown to generate energy usage similar to that of a corresponding home in the DEER database. Once such a model was created for a given vintage and climate zone, we could apply values from the statewide Residential Appliance Saturation Survey (RASS) database for the target population in each climate zone and vintage expected to participate.

[16] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

ii. An EnergyPro model was created for each climate zone and vintage range (pre-1978 and 1978-1992), and calibrated against the DEER database specifications for such single family homes. The kWh, therms, kW, and overall BTU percent savings were determined for each retrofit measure.

e) **Measure Savings/ Work Papers**:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc). Can provide Title 24 Compliance Reports for past, implemented multifamily new development and rehabilitation projects. These reports require contractors to quantify energy savings beyond baseline requirements (Title 24). Single family rehabilitation project savings will utilize EUC program savings metrics.

iii. In order to determine the energy savings expected with the Flex Path and Multi-family program, the calculation methodology recommended by the Commission reviewer during work paper development for the 2010-2012 Whole House Retrofit Program (now the Whole-House Upgrade Program) was adopted. The Whole House Retrofit Program is similar to Flex Path in that multiple measures are to be completed under each retrofit project, and thus, the interactive effects of the measures need to be taken into account, use of EnergyPro to determine the modeled energy savings, provided that the simulation model of a pre-retrofit house could be shown to generate energy usage similar to that of a corresponding home in the DEER database. Once such a model was created for a given vintage and climate zone, values from the statewide Residential Appliance Saturation Survey (RASS) database for the target population in each climate zone and vintage expected to participate were applied.

iv. An EnergyPro model was created for each climate zone and vintage range (pre-1978 and 1978-1992), and calibrated against the DEER database specifications for such single family homes. The kWh, therms, kW, and overall BTU percent savings were determined for each retrofit measure.

b. Indicate work paper status for program measures:

Table 4 (Subprogram A): Work Paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
	FLEX PATH			
1	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-0 to R-38)		X	
2	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-5 to R-38)		X	
3	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-11 to R-38)		X	
4	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-19 to R-38)		X	
5	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
6	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
7	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
8	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
9	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
10	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
11	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
12	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
13	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-0 to R-38)		X	
14	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-5 to R-38)		X	
15	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-11 to R-38)		X	
16	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-19 to R-38)		X	
17	HVAC 0.80 AFUE/AC 10 SEER - Wall Insulation (R-0 to R-13)		X	
18	HVAC 0.80 AFUE/AC 10 SEER - Building leakage		X	
19	HVAC 0.80 AFUE/AC 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
20	Heat Pump 10 SEER - Attic Insulation (R-0 to R-38)		X	
21	Heat Pump 10 SEER - Attic Insulation (R-5 to R-38)		X	
22	Heat Pump 10 SEER - Attic Insulation (R-11 to R-38)		X	
23	Heat Pump 10 SEER - Attic Insulation (R-19 to R-38)		X	
24	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	

25	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
26	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
27	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
28	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
29	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
30	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
31	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
32	Heat Pump 10 SEER - Cool Roof (R-0 to R-38)		X	
33	Heat Pump 10 SEER - Cool Roof (R-5 to R-38)		X	
34	Heat Pump 10 SEER - Cool Roof (R-11 to R-38)		X	
35	Heat Pump 10 SEER - Cool Roof (R-19 to R-38)		X	
36	Heat Pump 10 SEER - Wall Insulation (R-0 to R-13)		X	
37	Heat Pump 10 SEER - Building leakage		X	
38	Heat Pump 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
39	Replace gas-fired furnace and AC (0.92 AFUE. 15 SEER 11 EER)		X	
40	Replace gas-fired furnace and AC (0.95 AFUE. 15 SEER 11 EER)		X	
41	Replace gas-fired furnace and AC (new HVAC: HP 8HSPF & 15 SEER. 11 EER)		X	
42	Replace furnace (new furnace: 0.95 AFUE)		X	
43	Replace AC (new AC: 15 SEER 11 EER)		X	
44	Replace Heat Pump (new HVAC: 8 HSPF. 15 SEER 11 EER)		X	
45	Duct sealing (28% to 6%)		X	
46	Duct sealing (28% to 10%)		X	
47	Duct sealing (28% to 15%)		X	
48	Duct insulation (R-2.1 to R-8)		X	
49	Duct insulation (R-4 to R-8)		X	
50	Duct replacement (R-4, 28% to R-8, 6%)		X	
51	Crawlspace Insulation		X	
52	DHW (gas-fired 0.525 EF to 0.620 EF)		X	
53	DHW (gas-fired to 0.525 EF to tankless 0.88 EF)		X	
54	Replace Thermostat		X	
	MULTI-FAMILY			
1	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-0 to R-38)		X	
2	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-5 to R-38)		X	
3	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-11 to R-38)		X	
4	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-19 to R-38)		X	
5	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
6	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
7	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	

8	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
9	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
10	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
11	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
12	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
13	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-0 to R-38)		X	
14	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-5 to R-38)		X	
15	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-11 to R-38)		X	
16	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-19 to R-38)		X	
17	HVAC 0.80 AFUE/AC 10 SEER - Wall Insulation (R-0 to R-13)		X	
18	HVAC 0.80 AFUE/AC 10 SEER - Building leakage		X	
19	HVAC 0.80 AFUE/AC 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
20	Heat Pump 10 SEER - Attic Insulation (R-0 to R-38)		X	
21	Heat Pump 10 SEER - Attic Insulation (R-5 to R-38)		X	
22	Heat Pump 10 SEER - Attic Insulation (R-11 to R-38)		X	
23	Heat Pump 10 SEER - Attic Insulation (R-19 to R-38)		X	
24	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
25	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
26	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
27	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
28	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
29	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
30	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
31	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
32	Heat Pump 10 SEER - Cool Roof (R-0 to R-38)		X	
33	Heat Pump 10 SEER - Cool Roof (R-5 to R-38)		X	
34	Heat Pump 10 SEER - Cool Roof (R-11 to R-38)		X	
35	Heat Pump 10 SEER - Cool Roof (R-19 to R-38)		X	
36	Heat Pump 10 SEER - Wall Insulation (R-0 to R-13)		X	
37	Heat Pump 10 SEER - Building leakage		X	
38	Heat Pump 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
39	Replace gas-fired furnace and AC (0.92 AFUE. 15 SEER 11 EER)		X	
40	Replace gas-fired furnace and AC (0.95 AFUE. 15 SEER 11 EER)		X	
41	Replace gas-fired furnace and AC (new HVAC: HP 8HSPF & 15 SEER. 11 EER)		X	
42	Replace furnace (new furnace: 0.95 AFUE)		X	

43	Replace AC (new AC: 15 SEER 11 EER)		X	
44	Replace Heat Pump (new HVAC: 8 HSPF. 15 SEER 11 EER)		X	
45	Duct sealing (28% to 6%)		X	
46	Duct sealing (28% to 10%)		X	
47	Duct sealing (28% to 15%)		X	
48	Duct insulation (R-2.1 to R-8)		X	
49	Duct insulation (R-4 to R-8)		X	
50	Duct replacement (R-4, 28% to R-8, 6%)		X	
51	Crawlspace Insulation		X	
52	DHW (gas-fired 0.525 EF to 0.620 EF)		X	
53	DHW (gas-fired to 0.525 EF to tankless 0.88 EF)		X	
54	Replace Thermostat		X	

10) Program Implementation Details

a) **Timelines:** List the key program milestones and dates. An example is included below.

Table 5 (Subprogram A): Subprogram Milestones and Timeline

Milestone	Date
Project Initiation Meeting	1/15/2013
Regional Marketing Strategy Developed	2/15/2013
Regional Flex Path Program Launch	2/15/2013
Regional Marketing and Outreach Launch	4/1/2013
Smart Path Program Launch	4/1/2013
Community Development Program Launch	4/1/2013
Contractor Trainings Initiated	5/1/2013
Installations Completed. All Incentives Closed to New Applications	10/31/2014
Final Incentives Issued	12/8/2014
Conclude Program	12/31/2014
Quarterly Progress Reports	3/31/2013 – 12/8/2014

b) **Geographic Scope**: List the geographic regions (e.g., CEC weather zones) where the program will operate

Table 6 (Subprogram A): Geographic Regions Where the Subprogram Will Operate

Geographic Region	Energy Upgrade Subprogram
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

c) Program Administration

Table 7 (Subprogram A): Program Administration of Program Components

Program Name	Subprogram Component	Implemented by IOU staff (X = Yes)	Implemented by contractors to be selected by competitive bid process	Implemented by contractors NOT selected by competitive bid process	Implemented by local government or other entity (X = Yes)
Energy Upgrade Expansion	A1: Energy Upgrade marketing and outreach				X (LA County)
	A2: Green Building Labeling				X (LA County)
	A3: Flex Path				X (LA County)
	A4: EUCLA Contractor outreach and training				X (LA County)
	A5: Multi-family				X (LA County)
	A6: Community Development				X (LA County)
	A7: Smart Tech Path				X (LA County)

d) Program Eligibility Requirements:

i. **Customers:** List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Table 8 (Subprogram A): Customer Eligibility Requirements

Customer Eligibility Requirement	SCG
Green Building Labeling: Property must be located in IOU service territory.	X
Flex Path: Property must be located in IOU service territory. Single-Family Detached Housing.	X
Multi-family: Property must be located IOU service territory. Multi-Family Housing (defined as 5+ units). May require a test-in/test-out and a combustion safety test. Post-installation inspection.	X
Community Development: Low-Rise or High-Rise. Property must be located in IOU service territory.	X
Smart Tech Path: Property must be located in the IOU service territory. Single-Family Detached Housing with smart meter.	X

ii. **Contractors/Participants:** List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

Table 9 (Subprogram A): Contractor/Participant Eligibility Requirements

Contractor Eligibility Requirement	SCG
Green Building Labeling: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required. Other TBD.	X
Flex Path: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required. Other TBD.	X
Multi-family: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required. Other TBD.	X
Community Development: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required. Other TBD.	X

e) **Program Partners:**

a) **Manufacturer/Retailer/Distributor partners:** For upstream or midstream incentive and/or buy down programs indicate:

Table 10 (Subprogram A): Manufacturer/Retailer/Distributor Partners (Not Included)

Manufacturer/Retailer/Distributor Partner Information	SCG
Manufacturers enrolled in program	None
Manufacturers targeted for enrollment in program	None
Retailers enrolled in program	None
Retailers targeted for enrollment in program	None
Distributors enrolled in program	None
Distributors targeted for enrollment in program	HVAC

b) **Other key program partners**:

Other key program partners include the following:

- Los Angeles Department of Water and Power
- Los Angeles Regional Collaborative (LARC)
- City of Los Angeles
- University of California Los Angeles Institute of Environment and Sustainability
- Long Beach Gas & Oil
- Pasadena Water & Power
- Glendale Water & Power
- Azusa Light & Water
- City of Vernon Light & Power
- Anaheim Municipal Utility District
- Moreno Valley Electric Utility
- City of Corona Department of Water & Power
- City of Riverside Public Utilities
- Metropolitan Water District
- Irvine Ranch Water District
- Santa Ana Watershed Project Authority
- Southern California Association of Governments (SCAG)
- Southern California Air Quality Management District (SCAQMD)

f) **Measures and incentive levels**: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

Flex Path incentives are based on a variable mix of measures, both electric and gas, which are selected from a menu of options by the property owner.

The Multi-family incentives are tiered based on energy savings.

Table 11 (Subprogram A): Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group (measure combinations based on actual Flex Path projects)	Market Actor Receiving Incentive or Rebate	IOUs	
		Incentive Level	Installation Sampling Rate
wall insulation + attic insulation + air sealing	Homeowner or Contractor	$1,500	20%
attic insulation + air sealing + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
wall insulation + replace windows	Homeowner or Contractor	$1,500	20%
replace furnace + replace A/C + thermostat	Homeowner or Contractor	$1,500	20%
replace furnace + thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%

wall insulation + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
crawlspace insulation + attic insulation + air sealing	Homeowner or Contractor	$1,500	20%
crawlspace insulation + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
air sealing + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
attic insulation + air sealing + windows	Homeowner or Contractor	$1,500	20%
attic insulation + attic radiant barrier + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
wall insulation + duct insulation & sealing + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
duct insulation & sealing + pipe wrap	Homeowner or Contractor	$1,500	20%
wall insulation + low-flow fixtures + lighting fixtures	Homeowner or Contractor	$1,500	20%
replace furnace + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
replace furnace + replace A/C	Homeowner or Contractor	$1,500	20%
wall insulation + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
attic radiant barrier + windows	Homeowner or Contractor	$1,500	20%
replace furnace + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
crawlspace insulation + replace DHW	Homeowner or Contractor	$1,500	20%
Multi-family measures (Please refer to Table 4 and Exhibit A1)	Building Owners	Varies by Project	100% desktop, 15% field

g) **Additional Services:** List additional services that the sub-program will provide, to which market actors.

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.

Table 12 (Subprogram A): Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	IOU
Assessment Vouchers	Contractors	$300
Energy Upgrade Coupon	Homeowners	$200
Energy Champions (Basic or Flex Path/Advanced Path)	NonProfit Organizations	$100/$500
Environmental Information Center	Homeowners	$0
Social Media	Homeowners	$0
Green Building Labeling (GB Elements/GB Label)	Homeowners	$1,000/$2,000
Flex Path Retrofit Program	Homeowners	$1,500
Heating, Ventilation, and Air Conditioning	Contractors	$500
Contractor Training Scholarship	Contractors	$500-$1,000
Contractor Co-op Marketing	Contractors	Up to $40,000

h) **Sub-Program Specific Marketing and Outreach:** Please describe, providing timelines (suggested word limit: 300 words)

A detailed description is provided in prior section on Energy Upgrade Marketing and Outreach in Subprogram A1.

Figure 15 (Subprogram A): Marketing and Outreach Timeline

Marketing and Outreach Timeline	Date
Marketing & Outreach Kickoff Meeting	2/1/2013
Develop comprehensive Regional Marketing Strategy to include all Energy Upgrade components, such as Flex Path, Smart Path, Assessment Vouchers, Coupons, Energy Champions, Social Media and Community Development Program, Green Building Labeling and Contractor Outreach	2/15/2013
Finalize Regional Marketing and Outreach Strategy	3/1/2013
Launch of Regional Marketing and Outreach Strategy	4/1/2013
Ongoing Implementation and Launch of Regional Marketing and Outreach Strategy	4/1/2013 – 9/30/2014
Ramp-down	10/1/2014
Conclude Program	12/31/2014

i) **Sub-Program Specific Training:** Please describe, providing timelines (suggested word limit: 300 words)

The success of the whole building upgrade industry and Energy Upgrade incentive programs depends upon Participating Contractors' ability to navigate and excel within an evolving marketplace and deliver high quality upgrades. This marketplace is being shaped by the IOUs, RENs, and other program partners, so wherever possible these partners should provide coordinated support to help Participating Contractors and have a clear and accessible entry point for contractors who wish to take on whole-house efficiency services.

Through the Whole House Program and other educational efforts, the IOUs have provided technical training offerings that familiarize contractors with the knowledge and technical skills needed to install energy efficiency upgrades and ensure client health and safety. In the ARRA period, SoCalREN partners coordinated with training organizations such as the California Building Performance Contractors Association, Build It Green, EnergyPro, and others to develop and deliver in-class trainings and field mentoring that addressed these gaps.

In 2013-2014, SoCalREN will expand the training and mentoring efforts started during the ARRA period and continue to collaborate with workforce and training organizations to identify training needs and use existing or new trainings to fill critical skills gaps. Trainings will be coordinated with IOU trainings, and announced through SoCalREN and IOU contactor outreach channels. Using this approach, SoCalREN will be able to train a minimum of 500 building professionals in the 2013–2014 period in the following areas:

- Quality Installations, Especially HVAC Installations
- Sales and Marketing
- Client Management Before, During and After a Project
- Business Management and Administration
- Energy Pro Modeling (Basic and Advanced classes)
- BPI Field Mentoring-job sequencing, proper equipment, use, customer interactions

j) **Sub-Program Software and/or Additional Tools:**

a. List all eligible software or similar tools required for sub-program participation.

This Subprogram A will continue to require Energy Upgrade-approved software in order to conduct energy assessments. As possible and appropriate, SoCalREN will consider promoting new technologies available to Participating Contractors to facilitate their energy modeling activities.

b. Indicate if pre and/or post implementation audits will be required for the sub-program.

Pre-implementation audit required X Yes ___ No

Post-implementation audit required X Yes ___ No

c. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

Table 13 (Subprogram A): Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
$300 Assessment Voucher	Customer or Contractor (Customer may sign incentive over to Contractor)
Up to $10,000 for Multifamily retrofit program	Customer or Contractor

k) Sub-Program Quality Assurance Provisions: Please list quality assurance, quality control, including accreditations/certification or other credentials

Table 14 (Subprogram A): Quality Assurance Provisions

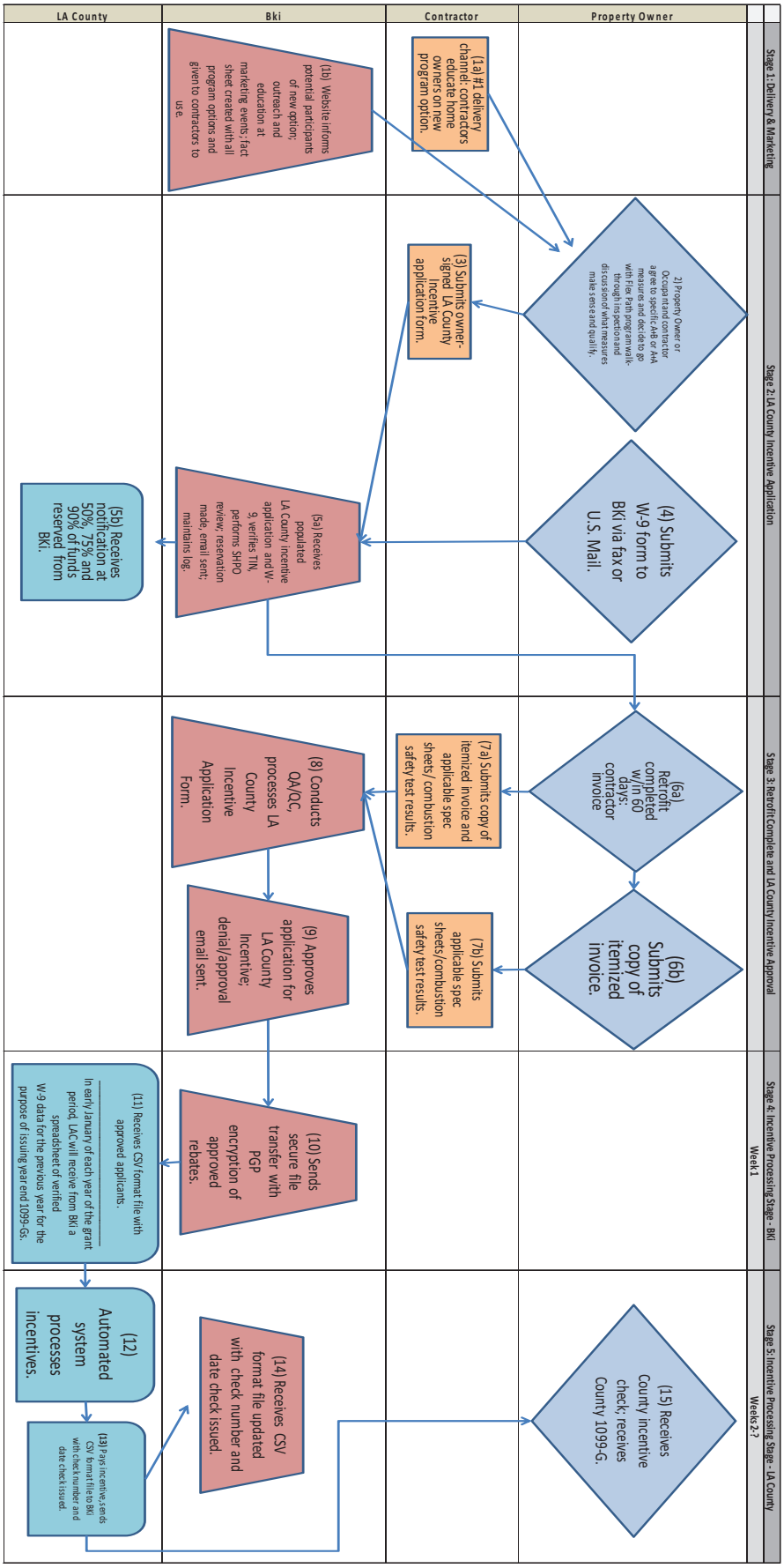
QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Flex Path Incentive Program : Property must meet eligibility requirements for measures installed.	20% Post Installation	BPI Analyst Certification
Multi-family : Property must meet eligibility requirements for measures installed.	100% Pre/20% Post Installation	BPI Analyst Certification
Community Development : TBD	TBD	TBD

l) **Sub-program Delivery Method and Measure Installation /Marketing or Training:** Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

m) **Sub-program Process Flow Chart:** Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.

Please see Figure 16.

Figure 16 (Subprogram A): Flow Chart



n) **Cross-cutting Sub-program and Non-IOU Partner Coordination:** Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[17] and frequency[18]:

Table 15 (Subprogram A): Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram A: Energy Upgrade California		
Other REN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Financing	Project referrals	As requested by contractor/homeowner
SoCalREC	Meetings, other regular communication	As needed to ensure consistency of message and increase efficiency of local government outreach
IOU Programs	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	Bi-Monthly
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Low-Income Weatherization Programs	Project referrals	As requested by contractor/homeowner
Non-SoCalREN Financing Programs	Project referrals, meetings, other regular communication	Quarterly or as needed
Local Workforce Investment Boards	Meetings, other regular communication	Quarterly or as needed
Building Trade Associations	Meetings, other regular communication	As needed as part of marketing efforts
Real Estate Associations	Association meetings, trainings	As needed as part of marketing efforts

[17] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

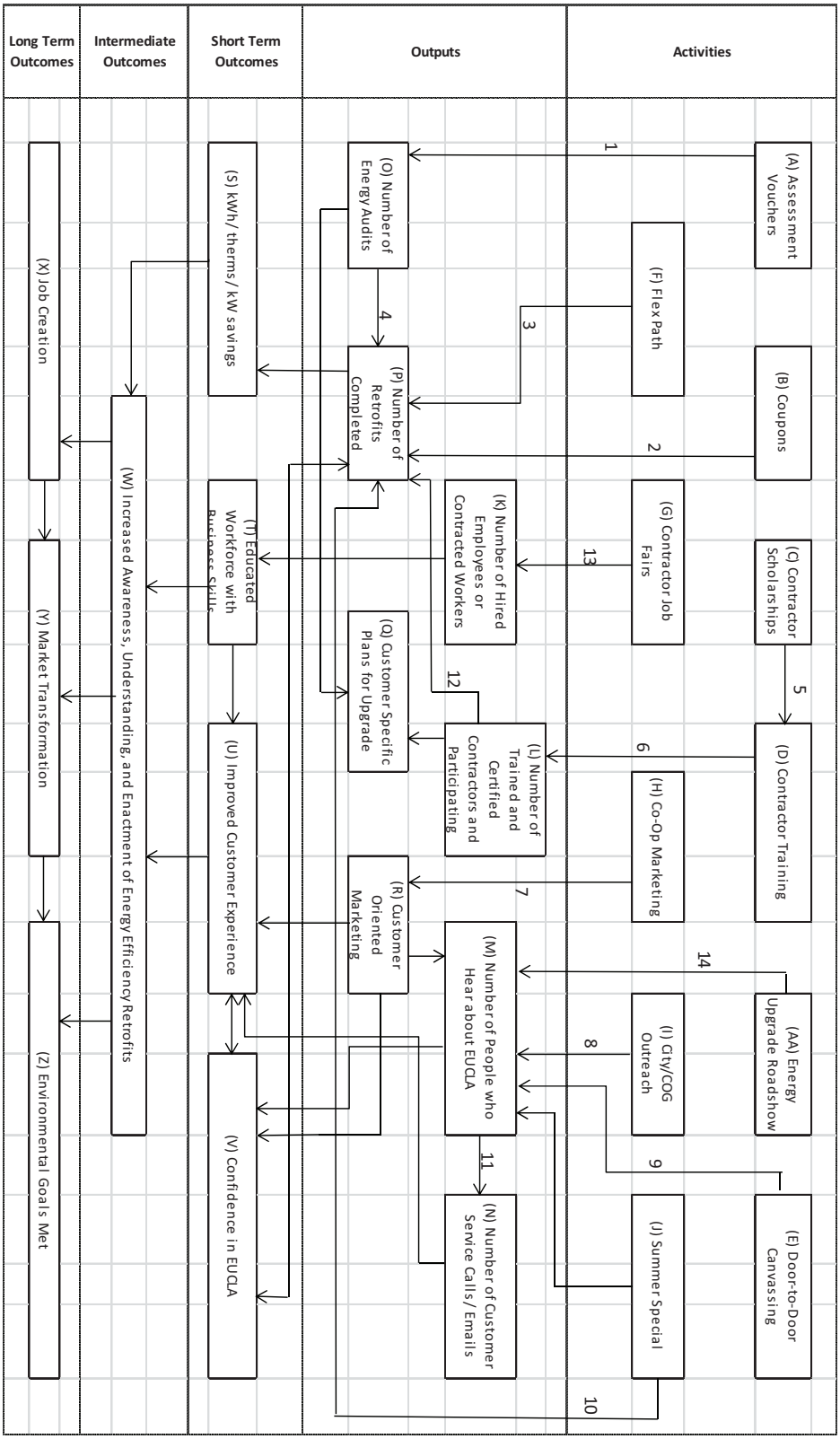
[18] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

Green Building Labeling Organizations	Meetings, other regular communication	As needed as part of marketing efforts
Local Retailers, Suppliers	Meetings, other regular communication	As needed as part of marketing efforts
Community Based Organizations, Religious Institutions, Educational Institutions	Meetings, other regular communication	As needed as part of marketing efforts

o) **Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).

Please see below. This logic model is also included as Exhibit A3.

Figure 17 (Subprogram A): Logic Model



11) Additional Sub-Program Information

a) **Advancing Strategic Plan Goals and Objectives**: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

Figure 18 (Subprogram A): Strategic Plan Alignment

SoCalREN Subprogram A Alignment with CA Long Term Energy Efficiency Strategic Plan		
Residential		
Strategy Number	Strategy	SoCalREN Subprogram A Strategy
1-5	Encourage local, regional, and statewide leadership groups to support pilots and foster communication among pioneering homeowners and builders	SoCalREN will conduct contractor, other building professional, real estate, and other trade outreach to spread brand awareness and facilitate dialogues among industry partners to support the program.
2-2	Promote effective decision-making to create widespread demand for energy efficiency measures	SoCalREN will conduct broad outreach and awareness campaigns to customers and provide support around decision making.
3-2	In coordination with Strategy 2-2 above, develop public awareness of and demand for highly efficient products	See strategy 2-2 above.
DSM Coordination and Integration		
Strategy Number	Strategy	SoCalREN Subprogram A Strategy
1-1	Carry out integrated marketing of DSM opportunities across all customer classes	SoCalREN marketing efforts will be coordinated with IOU Whole House Upgrade Program, Local Government Partnerships, Weatherization Programs, etc. Assessment Voucher will increase opportunities for homeowners to undergo no-commitment BPI audits as a basis to learn about energy saving opportunities.
Marketing, Education and Outreach		
Strategy Number	Strategy	SoCalREN Subprogram A Strategy
1-3	Use social marketing techniques to build awareness and change consumer attitudes and perceptions	SoCalREN marketing campaign will include use of community based organizations, schools, religious institutions and other organizations as drivers of energy efficient behaviors. Campaign will also use online social networking platforms such as Facebook.
1-5	Conduct public communications campaigns, alongside longer-term supporting school education initiatives to deliver the efficiency message	See 2-2 and 1-3 above. SoCalREN will coordinate with BBP Pilots that activate nonprofit organizations as “Energy Champions” to spread energy efficiency message to their constituents.
Local Government Goals		
Strategy Number	Strategy	SoCalREN Subprogram A Strategy
4-4	Develop local projects that integrate energy efficiency, DSM, and	Promote cross-resource DSM offerings and promote green labels (e.g. GreenPoint Rated Existing Home) as well as perform direct

	water/wastewater end uses	installations of water conservation measures.
5-2	Develop model approaches to assist local governments participating in regional coordinated efforts for energy efficiency, DSM, renewables, green buildings, and zoning	SoCalREN partners will engage local governments at multiple levels to support outreach campaigns and ensure local government is aware of SoCalREN and other DSM program offerings.

b) Integration

i. **Integrated/coordinated Demand Side Management**: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

Through efforts conducted during the ARRA period, SoCalREN partners began to develop relationships with water efficiency and green building programs to help cross-promote services and increase customer awareness of all efficiency options. These efforts will be expanded in the 2013–2014 period, as SoCalREN will continue to identify opportunities to promote indoor and outdoor water efficiency, green product rebates, and other programs to consumers. SoCalREN will also promote green building upgrades, which focus on additional concerns such as indoor air quality and resource conservation, as a viable long-term strategy for increasing property value and occupant health and quality of life.

SoCalREN will promote cross-program services through two efforts. First, the Environmental Information Center (EIC) services offered through SoCalREN will provide an integrated, one-stop service for homeowners to learn about all IOU, local government, water utility, and other DSM offerings. EIC and outreach staff will be well positioned to engage with customers when they are most receptive to hearing about how to improve their home, and will provide them with options for any upgrades they are interested in pursuing. In addition, a significant part of homeowner marketing will be cross promotion efforts by various DSM programs to ensure that, whether through media, collateral, or targeted

outreach, homeowners are made aware of all program options and provided opportunities to participate in all relevant DSM programs.

Table 16 (Subprogram A): Non-EE Sub-Program Information

Non-EE Subprogram	Budget	Rationale and General Approach for Integrating Across Resource Types
Water Programs	TBC	Cross promotion of brand, installation of products (e.g aerators) by EICs
Green Point Rated Existing Home	TBC	Cross promotion of label, incentives offered through BBP pilots

ii. **Integration across resource types** (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

Please see above for a description of cross-marketing efforts to be conducted by SoCalREN. In addition to marketing activities, contractor training opportunities will integrate cross-resource consideration and promote awareness amongst building professional of water conservation, air quality, and other consideration and customer offerings.

The Flex Path Incentive Program will include measures associated with non-energy savings, especially those related to indoor water conservation. Points will be awarded to measures including such water efficiency measures as low-flow showerheads, faucet aerators, high efficiency toilets, etc.

c) **Leveraging of Resources**: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.

In D 12-05-015, the Commission determined that a key role for local governments was to "Leverage additional state and federal resources so that energy efficiency programs are offered at lower costs to ratepayers." To that end, SoCalREN's Energy Upgrade Subprogram A leverages the following programs:

- Local government ARRA-funded programs (BBP Pilots)
- CPUC/CEC Energy Upgrade California Brand

- SCE/SCG Whole House Upgrade Program
- SCE/SCG Local Government Partnerships and Institutional Partnerships
- Water utility incentives and programs
- Other local government energy and sustainability efforts and campaigns
- Other local government agencies and bureaus, such as building, permitting and inspection departments

d) **Trials/ Pilots:** Please describe any trials or pilot projects planned for this sub-program

Flex Path pilots are currently being launched throughout the State using ARRA funds provided by DOE, and these pilots have demonstrated significant success. The County of Los Angeles is currently in the process of implementing a 500-project pilot, and has reached the 500-application goal in 5 months. In 2013–2014, LA County will continue this pilot and will take advantage of the lessons already learned.

Savings Path is a new pilot which has been described as component of Subprogram A in the prior section. Results from this pilot will inform marketing and other offerings to be conducted in 2014 and beyond.

e) **Knowledge Transfer:** Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program

SoCalREN staff and partners will regularly track challenges, lessons learned, and necessary adjustments for all technical, administrative, and marketing aspects of program implementation. These challenges will be transmitted to local government partners operating similar programs through regular meetings of the SoCalREN Governance Committee with local government forums (such as LGSEC, Local Government Commission), regional and institutional partners (e.g., Councils of Government, local government partnership program) and through program updates provided to Commission and program partners.

12) **Market Transformation Information**: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

Market Transformation Objectives

The market transformation objectives of the SoCalREN Energy Upgrade Program are the following:

- Increased general knowledge and awareness amongst homeowners of energy efficiency and green upgrade practices and benefits, and encourage a long-term transition towards energy efficient behaviors and purchases;
- High awareness of energy efficiency and green upgrades among relevant professional industries, including real estate, building trades, manufacturing/supply, and other industries;
- Streamlined coordination of DSM programs across IOUs, local governments, and other organizations;
- Development of a skilled and motivated professional building workforce that makes energy efficient and green upgrade best practices standard practice in service delivery.

Market Description

Market actors include:

- **Building Performance Contractors** — Deliver Energy Upgrades to Residential Property Owners, Participating Contractors in Energy Upgrade California
- **General Contractors** — Oversee delivery of residential remodels, other installation work; May perform direct installation or subcontract to specialty contractors May or may not be associated with whole house performance upgrades and Energy Upgrade California
- **Specialty Contractors** — Have specialty license in HVAC, Insulation and deliver installation. May also perform whole house and general contracting duties. May or may not be associated with whole house performance upgrades and Energy Upgrade California
- **Green Building Professionals** — Building professionals, including general and specialty contractors, who are trained in delivering or assessing technical work that incorporates additional green building concerns beyond energy efficiency, such as outdoor water efficiency, indoor air quality, resource conservation, and low-impact development/site water management. Serve as private contractors or on behalf of green building rating and incentive programs.
- **Single-Family Residential Property Owners**

- **IOUs** — Run energy efficiency incentive programs, such as Energy Upgrade California. Conduct contractor management, quality assurance, program administration for Energy Upgrade California.
- **Local Governments** — Set greenhouse gas emissions, energy savings, and other sustainability goals and implement programs to meet those goals. Support IOU energy efficiency programs through professional and customer outreach, coordination amongst local actors, enforcement of code. Pilot energy efficiency programs.
- **Other Energy Efficiency Programs** — IOU third party and local government partnership programs that implement direct install, weatherization, and other incentive programs.
- **Workforce Training Organizations** — Community colleges, professional training organizations, workforce investment boards, and nonprofit programs that provide job training and placement services for new professionals.
- **Non-Energy Efficiency and Conservation Programs** — Water utility, local government, green building, and other programs that promote and incent resource conservation, air quality, green products, and other non-energy efficiency efforts.
- **Other Relevant Professional Trades** — This includes all professional industries and associations that may affect property owner and building professional choices, including real estate professionals, product manufacturers and suppliers. These actors affect behavior of their clients through the services they offer and products they provide.

Market Characterization and Assessment

Many of the market barriers associated with the single-family energy efficiency and whole house markets are described above in the Subprogram Description and Theory. The following market characterization and assessment is adapted from the analysis in the *Recommendations for Energy Upgrade California in the Bay Area* report which can applied statewide to address Southern California's need as well.

i. Homeowner Awareness and Behavior

While the Energy Upgrade California website and local marketing campaigns have achieved an initial measure of homeowner education, most homeowners are not aware of how their

homes work or the economic and environmental benefits of energy efficiency. Building broader awareness and deeper knowledge will be a key to future program implementation and market transformation.

Homeowners vary in their motivations for undertaking energy efficiency work in their homes, including saving money, increasing comfort and health, and protecting the environment (among others). Given this, as well as demographic, geographic, economic, and ethnic diversity in the SoCal region, there is no one single marketing approach that will reach or resonate with everyone. There is a need to market to different segments with different strategies — social media, print, radio, TV, tabling events, workshops, etc. Such multi-faceted marketing should be employed in future programs. Additionally, marketing and outreach are inherently local, and marketing success in generating leads must leverage the character of a community, local events, and trusted messengers.

Currently, most marketing efforts for single-family energy upgrade programs are relatively uncoordinated, with IOUs providing limited direct marketing and Participating Contractors varying significantly in their messaging and focus, as well as the veracity of their information regarding program options and incentives. Additionally, awareness amongst other industry actors is relatively low, and energy efficiency considerations have not yet entered into standard business practice for any relevant market actors.

Additionally, market barriers as described in the Subprogram Description and Theory, including high cost, lack of adequate financing, program complexity, and customer distrust of the contracting community, have dissuaded many interested customers from participating in

Energy Upgrade California, and, as of yet, no simple coordinated solution has been provided to address many of these barriers.

ii. Professional Industry Awareness

Successful program implementation depends on a robust partnership between program administrators (IOUs or local governments) and those working in the industries related to those programs. Through the services these industries provide, they have a dramatic effect on homeowner and professional valuation of energy efficiency products and services. In D 12-05-015, the Commission directed the IOUs to take a strong role in engaging industry partners, especially those in the real estate industry. Local governments have been performing this work for several years, and stand poised to continue strengthening connections in these industries in partnership with the IOUs.

In 2011-2012, SoCalREN partners conducted concerted effort to make inroads into the real estate sector, and, to a lesser extent, the supplier market. Through the ARRA period, SoCalREN partners have engaged these actors, developed and delivered trainings for realtors, discussed approaches towards listing and valuation of energy efficient and green-labeled homes, coordinated on strategic marketing approaches with local retailers, and developed pilot approaches towards securing reduced costs for energy efficient and green products for Participating Contractors.

All of this work has created inroads into industries vital towards long-term market transformation. That said, energy efficiency and green upgrades are still tangential considerations by most professionals in these industries, and are not yet part of the central message conveyed to customers and clients. In order to ensure that opportunities created

within the last few years are not lost, local governments and IOUs must continue outreach and engagement, and develop models and messages that serve the core needs of these industries while promoting energy efficiency and other cross-resource conservation options. Through the Energy Upgrade Program, SoCalREN partners will continue to engage these actors through cross-promotion and marketing efforts so energy efficiency can be a core consideration of these actors.

iii. Coordination of DSM Programs

Similarly, the ARRA period dramatically expanded the role of local governments within energy efficiency, and provided an unprecedented opportunity for collaboration and streamlining between local government actors, IOUs and third-party program providers (third-party providers, water utilities, nonprofit advocates, etc.). The ARRA period was successful in more firmly establishing relationships between these actors, and led to some successes in collaboration and streamlining between actors, most notably through the use of a common program brand and statewide website.

That said, the ARRA period also demonstrated the significant challenges associated with coordination among large bureaucracies, and the confusion that this many actors can have in the marketplace. Notable examples include the coordination of marketing and outreach messages, coordination of incentive program offerings and messaging around those offerings, and sharing of program data amongst organizations for program evaluation. It is clear that continued coordination, and the long-term development of governance structures that can effectively manage such issues, is required to for the market to mature and effectively penetrate into professional and customer awareness.

iv. Professional Building Workforce

As the market has developed, it has become clear that, to successfully penetrate the market, Energy Upgrade California needs to provide a distinct advantage to the building industry professionals over business as usual. In its current program design, Energy Upgrade California fails to provide the convincing argument for professionals to provide energy efficiency services and develop the systems necessary to work with Energy Upgrade California. With this fundamental challenge, the efforts to recruit, train, and place new professionals have been impaired.

Energy Upgrade California's failure to provide a strong business case to building professionals has significant impacts that go beyond the success of the program. As identified by UC Berkeley in 2011[19], proper incentive program design is a key to increasing the overall quality of any installation in the residential sector (especially HVAC installations) and shifting the "low-road" environment of residential energy efficiency to one that values the quality of installations. In the energy efficiency sector, since the quality of installations affects the energy use of a building, it becomes vital to the long-term mission of the Commission to ensure that Energy Upgrade California and other incentive programs provide are attractive to residential building professionals.

To increase the business proposition of Energy Upgrade California, program implementers need to remove the market barriers that stand in the way of market penetration. This would

19 Zabin, C, et. al. California Workforce Education & Training Needs Assessment For Energy Efficiency, Distributed Generation, and Demand Response. Donald Vial Center on Employment in the Green Economy, Institute for Research on Labor and Employment, University of California, Berkeley. 2011.

include such coordinated actions as a re-evaluation of the program design and introduction of accessible upgrade packages, more effective marketing, strong consumer advocacy and support, targeted contractor support, introduction of viable financing mechanisms and reduction of other cost and process barriers.

If implementers are able to remove these barriers successfully in the coming years, then consumer demand will create a demand for qualified and trained professionals, which can be filled by trainers and other workforce actors, working alongside program implementers.

Proposed Interventions

Proposed interventions have been described throughout this program description. Along with Financing (Subprogram B), all proposed interventions are focused on reducing the technical, cost, and process barriers toward making Energy Upgrade California a successful program. A summary is provided in the table below.

Figure 19 (Subprogram A): Market Transformation Barriers and Interventions

Barrier	Proposed Intervention
Program design barriers-Required audit, program complexity	Assessment incentives, Flex Path incentive, Environmental Centers
Program cost barriers	Assessment incentives, Flex Path incentive, Financing (Subprogram B)
Lack of customer awareness	Broad and targeted marketing campaign, contractor sales training, Smart Tech Path
Lack of professional/industry awareness	Professional outreach as part of marketing campaign
Contractor skills gap	Contractor sales, administrative, installation and other technical trainings; Environmental Centers to support contractor sales

Market Transformation Indicators (MTIs) and Evaluation Plans

Resolution E-485 (December 2, 2010) Appendix B, lists adopted Market Transformation Indicators for the 2010-2012 Energy Efficiency Portfolio, which were then amended by Energy Division in 2011 at the direction of the Commission. To ensure consistency with adopted Market Transformation Indicators and Program Evaluation strategies, SoCalREN proposes the following

Market Transformation Indicators, based upon the proposed amended Whole House Upgrade Program and IDSM MTIs proposed by Energy Division in 2011:

- Whole-House MTI 1: Costs to customers of whole house upgrades, including costs of materials, equipment, and labor. Metric Type 3.
- Whole House MTI 2: The proportion of households that elect to perform comprehensive energy upgrades. Metric Type 3.
- Whole House MTI 3: The number of IOU customer households that undergo a deep upgrade (Advanced and/or IDSM) audit through IOU programs. Metric Type 3.
- IDSM MTI 2a: Percent of customers in the residential sector who have received an integrated audit.
- IDSM MTI 2b: Percent of integrated audit customers who have adopted one or more audit recommendations.
- IDSM MTI 3: Percent of customers in each customer classes who are aware of integrated programs or incentive opportunities.
- IDSM MTI 5: Water conservation, GHG, and waste reduction strategies are incorporated into integrated program offerings.

Program evaluation will be conducted in coordination with EM&V activities conducted on behalf of the Commission and IOUs. SoCalREN partners will participate as possible in all data collection and interpretation activities, as directed by the Commission.

13) **Additional information as required by Commission decision or ruling or as needed:** Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

Exhibit A1: Tables

Exhibit A2: EUC marketing collateral

Exhibit A3: Logic Model

Exhibit A4: E3 calculations – Due to file size, please download at either:

https://docs.google.com/folder/d/0BxZ0UPrSj7W8Wmw5bUdIcVFOSTA/edit or https://www.dropbox.com/sh/1z0nsjojgrjrorf/ayYjEUqZ_3

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2013-2014 Energy Efficiency Programs
Southern California Regional Energy Network
Program Implementation Plan

1) **Sub-Program Name:**

Sub-Program B: Develop and Launch Regional Public Agency Led Financing Programs for Energy Projects in Public, Commercial and Residential Buildings

2) **Sub-Program ID number: _____**
3) **Type of Sub-Program: __Core _X_Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve[20]:**
   a. _X_ Residential
      i. Including Low Income? _X_ Yes __ No;
      ii. Including Moderate Income? _X_ Yes __ No.
      iii. Including or specifically Multifamily buildings _X_ Yes __ No.
      iv. Including or specifically Rental units? _X_ Yes __ No.
   b. _X_ Commercial (List applicable NAIC codes: __All commercial NAIC codes__)
   c. _X_ Industrial (List applicable NAIC codes: __All industrial NAIC codes_____)
   d. __ Agricultural (List applicable NAIC codes: _____)

5) **Is this sub-program primarily a:**

   a. Non-resource program ___ Yes_X_ No
   b. Resource acquisition program _X__ Yes __ No
   c. Market Transformation Program ___ Yes _X_ No

6) **Indicate the primary intervention strategies:**

   a. Upstream ___ Yes _X_ No
   b. Midstream ___ Yes _X_ No
   c. Downstream _X_ Yes ___ No
   d. Direct Install __ Yes _X_ No.
   e. Non Resource __ Yes _X_ No.

[20] Check all that apply

7) **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)**

Gas TRC TBD PAC TBD

8) **Projected Sub-Program Budget**

Table 1 (Subprogram B): Projected Sub-Program Budget, by Calendar Year[21]

	Program Year		
Sub-Program B: Financing	**2013**	**2014**	**Total**
Admin ($)	48,370	48,370	96,741
General overhead ($)	54,061	54,061	108,122
Incentives ($)	0	0	0
Direct Install Non-Incentives ($)	951,473	951,473	1,902,945
Marketing & Outreach ($)	68,288	68,288	136,575
Education & Training ($)	15,934	15,934	31,868
Total Budget	**1,138,125**	**1,138,125**	**2,276,250**

9) **Sub-Program Description, Objectives and Theory**

a) **Sub-Program Description and Theory:**

B1: Establish and administer a regional public building loan loss reserve program - $375,000

The Southern California Regional Energy Center (SoCalREC) was formed during 2011 by Los Angeles County and the City of Huntington Beach as a pilot program funded through SCE Flight 5.6 grant funds and LA County EECBG funds. SoCalREC (Subprogram C) will be continued and expanded starting in 2013 to provide centralized technical support, project procurement services, project management and

[21] Individual utility specific information to be provided in this table

project financing for groups of public agency energy upgrade projects. This requested loan loss reserve program for public facility energy upgrade projects will facilitate a significantly increased level of private sector project financing activity to fund projects by local governments and other public agencies throughout the Southern California region. The requested loan loss reserve amount will be leveraged against LA County's ARRA funding that was used to develop, administer, promote and pilot the program. The County also plans to request loan loss reserve funding support from the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to maximize the overall benefit to ratepayers, but that process and potential receipt of funding is unknown.

Under the SoCalREC, an initial $20 million in potential municipal projects has already been identified as a potential target for financing. These projects have had to undergo more rigorous audits than provided under the Local Government Partnerships to be considered under the financing program.

The SoCalREC has also utilized a financial consultant to characterize the scope of the projects, prepare a solicitation for a program lender, and perform an evaluation of the bids. As of the writing of this proposal, negotiations were ongoing with a selected leasing broker that would provide low-cost financing from a variety of traditional lenders with an initial, minimum funding commitment of $20 million, minimum financing amount of $250,000 and terms of 5 to 15 years. Rates offered were market based and based on current market indicators, finance rates of between 2.5 and 3.0% were offered by the three bidders. The selected leasing broker will also offer a standard agreement that could be used by all participating local governments.

These results highlight the benefits of a regional, municipal financing program that could not be achieved by most individual jurisdictions:

- Technical and financial expertise to run a financing solicitation,
- Development of a financing agreement that is vetted by local government interests,

- Financing at low interest rates due to aggregation of projects,
- Capital that is provided upfront, as opposed to reimbursed after project completion (e.g., On Bill Financing, CEC Local Government Revolving Loan Program),
- Financing available for projects as low as $250,000 and terms as high as 15 years.

SoCalREC financing may be made available to municipalities that are served by the Gas Co. but have municipal electric utilities (Los Angeles, Glendale, Burbank, Pasadena) and Long Beach which is served by SCE and by a municipal Gas utility. The SoCalREN will determine how to design a credit enhancement program around these scenarios while making the program available to all cities.

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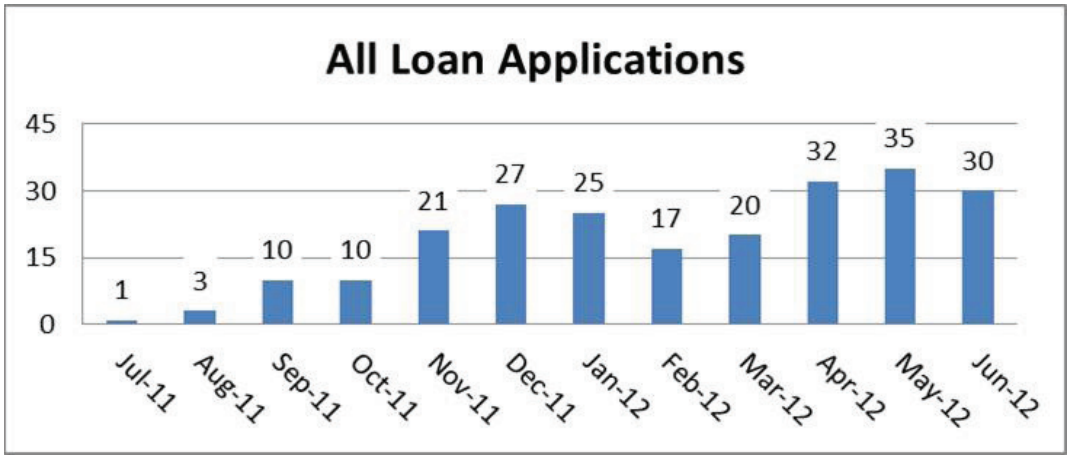
B2: Continuation and expansion of a residential loan loss reserve program in support of Energy Upgrade California projects and expansion of a private sector, integrated demand-side management financing program that builds off of a model being led by the City of Santa Monica. - $521,250

In September 2011, Los Angeles County entered into a contract with Matador's Credit Union in which a loan loss reserve (LLR) was created using ARRA funds to provide credit enhancements for loans financing EUC retrofits and CSI qualifying renewable energy systems. The LLR provides 90% default coverage for each qualifying loan, thereby lowering the interest rates on the loan product since the default risk is mitigated. Without the LLR, the interest rate for an unsecured loan is approximately 170 basis points higher. The funds requested would enable the LA County program to be expanded throughout the Southern California region and would facilitate private sector financing for approximately 1,500 energy upgrade loans worth approximately $25 million.

Figure 20 depicts statistics to date on EUC loans in LA County, include demand, count, total loan value, and average terms.

Figure 20 (Subprogram B): Statistics to date on EUC Loans in LA County



EUCLA Loan Summary

	Count of Applications	Total Loan Value
Closed Loans	67	$863,471.48
Pending Loans	47	$765,525.98
Total	**114**	**$1,628,997.46**

	Count of Applications	Average Interest Rate	Average Terms (months)	Average Monthly Payment	Average Loan Application	Average Days to Funding
2% Loans	126	2.00%	60	$262.47	$14,930.06	61
Other Unsecured Loans	8	8.24%	98	$241.82	$12,993.39	72
Defaulted Loans	0	-	-	-	-	-

EUCLA already works with municipal utilities in LA County to coordinate municipal incentives with ratepayer funded EUCLA incentives – especially on FlexPath. Ratepayer supported LLR financing may be made available to municipalities that are served by the Gas Co. but have municipal electric utilities (Los Angeles, Glendale, Burbank, Pasadena) and Long Beach which is served by SCE and by a municipal Gas utility. The SoCalREN will determine how to design a credit enhancement program around these scenarios while making the program available to all cities.

B3: Establish a multi-family building energy upgrade financing loan loss reserve program - $225,000

LA County launched a multi-family (MF) EUC retrofit pilot in August 2011. It encourages a whole building approach to multifamily building upgrades by providing technical assistance and incentives to building owners who undertake deep energy efficiency retrofits. The County has already launched a marketing and outreach campaign and has received applications covering over 1,000 MF units. The County proposes to develop a financing program for MF projects that can utilize LLR funds in two ways.

PACE Option: The County can offer PACE financing for larger MF projects that are not associated with FNMA or FMAC financing using the existing, non-residential PACE program once this LLR is established. The existing MF retrofit program will be leveraged to reach out to interested qualified MF property owners. This will be limited to larger MF projects for which PACE is more attractive.

Non-PACE Option (Proposed): For smaller MF projects, the County can assist MF property owners in finding private financing which can utilize the same LLR fund. The County proposes to solicit financial institutions interested in MF financing and can negotiate with Matador's Credit Union to expand their existing loan product. The LLR account managed by the County can be used for these transactions.

These program funds will be used for credit enhancement, further program development and program administration.

B4: Promotion, administration and Debt Service for already established non-residential PACE programs - $705,000

LA County launched a non-residential PACE program using a private financing model in 2011. Under the County's PACE program and using a CEC SEP grant, LA City created a Debt Service Reserve (DSR) for LA City non-residential property owners. The DSR is managed in the County Treasury Pool but ownership is retained by the City. A similar DSR account that can benefit all County property owners can be easily established for the rest of the County. The LA County PACE program has publicly committed to the

“open market” model which allows property owners to negotiate their own financing arrangements and, importantly, requires primary mortgage holders to authorize the placement of the PACE lien superior to their loan position. This model, also supported by City/County of San Francisco and the CA State Community Development Authority (CSCDA) PACE programs, takes a conservative approach to developing PACE in order to mitigate any risk to property owners. Currently, the County has received 12 non-residential PACE applications totaling over $25 million in potential projects. Discussions with ESCOs and financing companies working with property owners in LA County have shown over $100 million in potential projects.

PACE programs are operating in the City of Palm Desert and Riverside County. PACE programs are being contemplated in Orange and Ventura Counties. This DSR request will also be used, as needed, in other PACE jurisdictions in the region. PACE financing may be made available to municipalities that are served by the Gas Co. but have municipal electric utilities (Los Angeles, Glendale, Burbank, Pasadena) and Long Beach which is served by SCE and by a municipal Gas utility. The SoCalREN will determine how to design a credit enhancement program around these scenarios while making the program available to all jurisdictions.

Activities will be undertaken by the LA County team to build on the existing program administration and initiate efforts to promote PACE, educate stakeholders and move projects forward, track results, and improve operational efficiency and scale by transitioning to a web-based model. Program enhancements will also include resources to follow up on leads generated through enhanced marketing efforts and activities undertaken by financing entities and engineering companies that are working to develop projects under the “open market” model. The proposed web enhancements will include:

- Expanded directory of capital providers and contractors
- Automated project financing clearing-house (PACE, OBR, ESA)
- Web-based energy audits
- Introduction of financing options to “sell” the concept to management
- Collection and sharing of data to help investors gain comfort

- Developing a web-based "clearing-house" to facilitate project financing
- Expansion & Enhancement of a Directory of Capital Providers

Program Benefits

A Debt Service Reserve will offer, in theory, an ability for private PACE financers to further reduce their risk, translating to a lower interest rate for the property owner. Final terms and conditions on owner-arranged financing deals will have to be examined to determine the debt service reserve impact on interest rates. Debt Service Reserve funds are particularly important in PACE programs to forestall potential foreclosure activities in the event a property tax payment (and PACE assessment payment) is missed or is late. The Reserve fund can provide the lender and the property owner time to resolve the missed/late payment and will assure the primary mortgage holder that the property will not be foreclosed in the event of a single missed payment. This should help in obtaining mortgage holder authorization to accept the PACE lien.

Private properties and multi-family greater than 5 units are eligible for non-residential PACE financing. In order to leverage and maximize the benefit from use of ratepayer funds, the County will also submit proposals to CAEATFA and the CPUC requesting funds to support this financing program. The County's proposal will include funds for DSR, program development and administration. A calculation showing typical DSR needed is depicted below in Figure 21.

Figure 21 (Subprogram B): Cost Scenario

This figure assumes that LA County will fund 2 years of principal plus interest.* An average loan of $1,000,000 for a 20 year term at an interest rate of 5% is assumed.

Avg Loan Amount	Principal for 2 yrs	Interest for 2 yrs	Total LLR
$1,000,000	$61,274.59	$97,115	**$158,389.38**

* To fund $10,000,000 worth of loans in a one year period approximately $1.6 million is needed to fund the LLR. It is recommended that the LLR be funded for a minimum of 2 years; in this scenario $3.2 million is needed.

B5: Establishment of public agency energy upgrade revolving loan fund program - $450,000

The proposed formation of the Southern California Regional Energy Center (SoCalREC) will provide centralized technical support, project procurement services, project management, and project financing for groups of municipal building projects. The establishment of a revolving loan fund would significantly accelerate the implementation of public facility energy efficiency projects in the region and would create a project funding platform which could transition into a sustainable source of project funding over time as the aggregated energy savings from completed projects replenish the loan reserve funding pool.

Revolving Loan Funds are especially critical to public agencies that are not experienced in financing energy projects. Public agencies and especially local governments are not fully participating in programs like On-Bill Financing (OBF) and CEC Local Government Low-Interest Loans because they lack the experienced resources to understand the nuances of energy project financing and its relationship to government accounting principles, debt limitations, and utility budgeting practices. RLF programs provide an easy to understand and implement, "first step" for local governments to implement projects with upfront capital and pay back the obligation using utility savings. A significant limitation of OBF for local governments is that it is not an up-front project funding mechanism because project funds are only provided on a reimbursement basis after the projects are completed. RLF capital, on the other hand, can be used as "take-out" financing to provide project implementation funds and OBF funds could then be used to replenish the RLF pool after the projects are completed.

As LA County has already developed a revolving loan fund program to finance projects in its own facilities, the templates and methodologies developed under the County program will serve as a model for the region-wide program. Under the RLF, the most meritorious and comprehensive energy efficiency projects will be selected for funding based on an analysis and evaluation managed by SoCalREC to verify

project costs and energy savings. Participating public agencies will repay the costs of the projects from the utility savings realized; these payments will replenish the RLF pool for implementation of additional projects.

Revolving Loan Funds are a proven, successful program for providing public agencies for environmental and energy related projects. Examples include: U.S. Environmental Protection Agency Clean Water State Revolving Loan Fund, California State Water Resources Control Board Revolving Loan Fund, CEC Local Government Low Interest Loan Program. Challenges with existing RLF programs include: jurisdictions achieving necessary project scale, burdensome qualification and application requirements, funds reimbursed after project completion and no source of initial funding (i.e., On Bill Financing, CEC Local Government Program),tight restrictions on the types of projects that can be financed, limited funding (i.e., CEC - $25 million annually). A locally run RLF Pilot program can demonstrate that these challenges may be overcome, small jurisdictions will be able to participate, integrated and comprehensive projects can be implemented, and greater savings will be achieved over the longer term (i.e., greater than typical credit enhancements which are limited in their leverage).

Additionally, the RLF can be leveraged with the Public Building Loan Loss Reserve Program to further enhance that program. For example, the RLF could be used to partially subsidize project financing to rates lower than those offered by the program lender – in order to convince a local jurisdiction to move forward with the project. Existence of a RLF pool can increase the amount of available private financing in the program. The RLF may also be used as a “project performance guarantee” reserve which may also be needed by certain jurisdictions to move forward with projects and may be replenished within financing costs.

Both the DOE and the CEC accept RLF as viable financing programs for use with ARRA funding. LA County utilizes a $5MM RLF received from the CEC under ARRA funding. In accepting the funding, the County identified and projected over $18 million in utility savings over a ten-year period using the initial $5MM investment. The RLF allows the County to move forward with very cost effective projects that were

not being implemented due to internal funding and financing restrictions. Other jurisdictions in the SoCalREN region more than likely face similar challenges.

b) **Sub-Program Energy and Demand Objectives** - If this sub-program has energy and demand objective, please complete Table 2.

Table 2 (Subprogram B). Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year[22]

	Program Years		
	2013	**2014**	**Total**
Sub-program B : Financing			
GWh	TBD	TBD	TBD
Peak MW	TBD	TBD	TBD
Therms (millions)	TBD	TBD	TBD

c) **Program Non-Energy Objectives**:

This Subprogram B achieves the Guidance Ruling on 2013-2014 Energy Efficiency Portfolios Order (No. 22) requiring continuation of successful financing programs that were originally supported by ARRA funding in 2011 and 2012 and implemented by third parties, local governments, and/or via the California Energy Commission; and development of a set of new financing programs to be designed in 2012, and then offered consistently on a statewide basis, in pilot form in 2013, and on a larger scale in 2014.

This Subprogram B will help achieve the Guidance Ruling on 2013-2014 Energy Efficiency Portfolios Order (No. 23) requiring the IOUs to propose financing programs that include: a credit

[22] Individual utility specific information to be provided in this table

enhancement strategy for single family residential market, a financing program strategy designed specifically for the multi-family residential market, and a credit enhancement strategy for the small business market.

This Subprogram B will also help achieve the Guidance Ruling on 2013-3014 Energy Efficiency Portfolios Order (No. 21) requiring the IOUs to hire an expert financing consultant to design new pilot financing programs for 2013-14 and to convene working groups on program design and data collection needed to support scalable financing programs in the future. This Sub-program will help to develop loan and project performance data and experience to share with larger capital market players to ensure their confidence in both debt repayment behavior and the cash flow profile of energy savings associated with the projects

Table 3 (Subprogram B): Quantitative Subprogram Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	TBD	TBD
Number of units incented or rebated	TBD	TBD

d) **Cost Effectiveness/Market Need**: What methods will be or have been used to determine whether this program is cost-effective?[23] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

Guidance Ruling on 2013-2014 Energy Efficiency Portfolios Order No. 29 instructs the IOUs to address a strategy for maximizing portfolio cost-effectiveness by offering financing programs in coordination with rebate/incentive programs, either by offering financing in lieu of rebates and/or by lower incentives where financing is also provided. The SoCalREN will provide comments on the IOU strategy relative to the programs proposed here.

[23] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

If Subprogram B: Financing is determined to be a non-resource program, the need for financing programs in the State are described in the paper created under CPUC guidance: Energy Efficiency Financing in California: Needs and Gaps (July 2011); Harcourt, Brown and Carey.

e) **Measure Savings/ Work Papers**:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc).

- CPUC approved customized and DEER measures.
- R.09-11-014 Order 30: In their 2013-2014 energy efficiency program portfolio applications, Pacific Gas & Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company shall propose a methodology to estimate incremental savings delivered by the statewide financing programs towards their energy savings goals, while avoiding double-counting of savings from other programs.
- R.09-11-014 Order 31: In 2013-2014 statewide financing programs, Pacific Gas & Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, and Southern California Gas Company shall not require that all measures supported by financing programs be part of another utility incentive program.

b. Indicate work paper status for program measures:

Table 4 (Subprogram B): Work Paper Status

#	Workpaper Number/Measure Name	Approved	DEER Value or Workpaper Pending Approval	Submitted but Awaiting Review
1	TBD			
2				

10) Program Implementation Details

a) **Timelines:** List the key program milestones and dates. An example is included below.

Table 5 (Subprogram B): Sub-Program Milestones and Timeline

Milestone	Date
Kickoff Meeting	1/15/2013
Complete guidelines	4/1/2013
Issue RFPs	6/1/2013
Develop Marketing materials	6/1/2013
Conclude Subprogram B	12/31/2014
Quarterly Progress Reports	3/31/2013 – 12/8/2014

b) **Geographic Scope**: List the geographic regions (e.g., CEC weather zones) where the program will operate

Table 6 (Subprogram B): Geographic Regions Where the Program Will Operate

Geographic Region	Subprogram B: Financing
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X

CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

c) Program Administration

Table 7 (Subprogram B): Program Administration of Program Components

Program Name	Program Component	Implemented by IOU staff (X = Yes)	Implemented by contractors to be selected by competitive bid process	Implemented by contractors NOT selected by competitive bid process	Implemented by local government or other entity (X = Yes)
Financing Portfolio Program	B1: Public Building Loan Loss Reserve				X (LA County)
	B2: Energy Upgrade Loan Loss Reserve				X (LA County through contractor)
	B3: Multifamily Loan Loss Reserve				X (LA County through contractor)
	B4: Non-residential PACE Loan Loss Reserve				X (LA County)
	B5: Public Agency Revolving Loan Fund				X (LA County through contractor)

d) Program Eligibility Requirements:

i. **Customers:** List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Table 8 (Subprogram B): Customer Eligibility Requirements

Eligibility Requirements	SCE/SCG
Public Building LLR: Located in IOU service territory. Others TBD.	X
EUC-LLR: Single-Family Detached Home. Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Others TBD.	X
Multi-Family LLR: Multi-Family Building of at least 4 Units. Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Others TBD.	X
Non-residential PACE LLR : Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Meets Definition of "Commercial" Building/Facility. Others TBD	X
Public Agency RLF: Located in IOU service territory.	X

ii. **Contractors/Participants:** List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

Table 9 (Subprogram B): Contractor/Participant Eligibility Requirements (Joint Utility Table)

Contractor Eligibility Requirement	SCE/SCG
Must be an SCE/SCG Energy Upgrade California Participating Contractor, including meeting all license and certification requirements. Others TBD.	X

e) **Program Partners:**

a. **Manufacturer/Retailer/Distributor partners:** For upstream or midstream incentive and/or buy down programs indicate[24]:

Table 10 (Subprogram B): Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Partner Information	SCE/SCG
Manufacturers enrolled in program	N/A
Manufacturers targeted for enrollment in program	N/A
Retailers enrolled in program	N/A
Retailers targeted for enrollment in program	N/A
Distributors enrolled in program	N/A
Distributors targeted for enrollment in program	N/A

b. **Other key program partners**: Indicate any research or other key program partners:

Other key program partners include the following:

[24] Provide in a consistent format for all IOUs. Indicate program partners across all IOU territories in one table or spreadsheet.

Append to end of PIP.

- Los Angeles Department of Water and Power
- Los Angeles Regional Collaborative (LARC)
- City of Los Angeles
- University of California Los Angeles Institute of Environment and Sustainability
- Long Beach Gas & Oil
- Pasadena Water & Power
- Glendale Water & Power
- Azusa Light & Water
- City of Vernon Light & Power
- Anaheim Municipal Utility District
- Moreno Valley Electric Utility
- City of Corona Department of Water & Power
- City of Riverside Public Utilities
- Metropolitan Water District
- Irvine Ranch Water District
- Santa Ana Watershed Project Authority
- Southern California Association of Governments (SCAG)
- Southern California Air Quality Management District (SCAQMD)

f) **Measures and incentive levels**: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

Table 11 (Subprogram B): Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	IOU	
		Incentive Level	Installation Sampling Rate
TBD	TBD	TBD	TBD

a. Use a single excel spreadsheet to indicate the eligible measures for the program across all IOUs. Indicate the expected incentive level by measure or measure grouping for each IOU, making clear where these vary.
b. For each incented or rebated measure, indicate the market actor to whom this will be provided.

g) **Additional Services:** List additional services that the sub-program will provide, to which market actors.

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.

Table 12 (Subprogram B): Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	IOU
TBD	TBD	TBD

h) **Sub-Program Specific Marketing and Outreach:** Please describe, providing timelines (suggested word limit: 300 words)

This Subprogram is included in order to overcome market barriers represented by a lack of credit and financing options, combined with marketing, outreach and education (ME&O) for specific stakeholders and partners in residential, commercial and industrial sectors.

Under SoCalREN, ME&O will be targeted to lenders (conventional, credit union, and foundational) who operate in all three sectors to assure them that SoCalREN has undertaken to drive and increase demand, facilitate streamlined (electronic) processes for loan application and enrollment, and has designed a financing program of multiple options which may cross-cut and leverage each other. ME&O will also target public agency energy managers, building managers, accounting and finance staff and administrative executives to promote the benefits and advantages associated with financing energy projects – especially those that result in utility savings.

Specifically, the Energy Upgrade ME&O will promote: increased inclusiveness under a diversity of Southern California area program options; social and environmental benefits (e.g., improved indoor air quality and improved healthy spaces) as well as economic ones (decreased costs, higher building performance, governmental incentives relating to plan review, permitting and inspection, and new valuations on energy efficiency such as Green MLS ratings); accessible and regionally consistent Financing Portfolio options and contractor/supplier incentives; and energy efficiency achieved through improvements under the water-energy nexus.

Under the Multi-Family and Non-residential PACE options, SoCalREN will implement an ME&O campaign targeted to building owners, operators and managers. Commonly, owners are reluctant to pay for building improvements that appear to only benefit tenants. However, the SoCalREN ME&O program will address this market barrier with a campaign that communicates and advocates for the value of co-benefits and advantages of whole building upgrades that build energy efficiency, financing options and incentives, as well as further demonstrates the possibilities for cash-neutral or cash-positive outcomes.

i) **Sub-Program Specific Training:** Please describe, providing timelines (suggested word limit: 300 words)

The Financing Portfolio Subprogram will engage skilled consultants, contractors and implementers, and will not require independent training.

j) **Sub-Program Software and/or Additional Tools:**

a. List all eligible software or similar tools required for sub-program participation.

TBD.

b. Indicate if pre and/or post implementation audits will be required for the sub-program.

TBD.

Pre-implementation audit required ___ Yes _X_ No
Post-implementation audit required ___ Yes _X_ No

c. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

Table 13 (Subprogram B): Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
TBD	TBD

k) Sub-Program Quality Assurance Provisions: Please list quality assurance, quality control, including accreditations/certification or other credentials

Table 14 (Subprogram B): Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
EUC-LLR: Property must meet eligibility requirements.	TBD	TBD
EUC-LLR: Property Owners Must Meet Responsible Lending Criteria	TBD	TBD
EUC-LLR: Contractor holds valid license and meets eligibility requirements (Energy Upgrade Participating Contractor or participant in other qualified program)	TBD	TBD
EUC-LLR: Project meets requirements of program	TBD	TBD
EUC-LLR: Field Verification of Measures Installed	TBD	TBD
EUC-LLR: Field Verification of Combustion Safety Test for Air Sealing (relevant projects)	TBD	TBD
Other financing QA requirements	TBD	TBD

l) **Sub-program Delivery Method and Measure Installation /Marketing or Training:** Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

m) Sub-program Process Flow Chart: Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the

application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.

Please see below for a depiction (both narrative and visual – Figures 21 & 22) of LA County's processes for financing programs.

SoCalREC Financing Program Process Description (in lieu of Flow Chart):

The Internal Services Department of Los Angeles County ("County") has issued the challenge to develop a regional, energy efficiency resources program ("Program") for multiple local governments within the Southern California Edison service territory. This endeavor has precedent-setting importance and the potential to drive significant energy efficiency actions at the local level. The anticipated structure for the Program's primary financing source will be loans made directly to the municipal agency through the Master Lease facility. The Program has created an administration group that is working collaboratively with the County of Los Angeles and the City of Huntington Beach to establish and define parameters for a regional effort under the name Southern California Regional Energy Center ("SoCalREC").

SoCalREC engaged an administration team comprised of The Energy Coalition, as Program Manager, Willdan Energy Services as Program Engineer, and Public Financial Management (PFM), as Program Financial Advisor. The SoCalREC team, engaged at the end of 2011, has spent the first part of 2012 identifying eligible projects and engaging the interest of local agencies throughout the region.

Projects identified to date include over 100 "shovel ready" projects in 42 different cities throughout the region. Currently, additional assistance is being provided to establish standardized procurement documents and conformity of information related to project costs, expected savings and available incentives. Identified projects range in cost from approximately $2,000 to over $3.2 million and cover a wide range of energy efficiency improvement projects. Program projects will be submitted for funding to Master Lease provider upon completion of a savings analysis to assure savings in excess of anticipated lease payments.

Energy projects will consist of equipment and services that reduce energy consumption or operating costs. Projects may include, but are not limited to: streetlight replacements, insulation, windows and doors, glazing, automatic energy control systems, including related hardware, improvements or retrofits to electrical lighting and auxiliary systems, heating ventilating and air conditioning (HVAC) system modifications or replacements, energy recovery systems, cogeneration systems, renewable

energy systems, devices that reduce water consumption, professional and non-professional services relating to the design, installation, training and monitoring of such equipment or systems, and subject to the Lessor's approval.

This Request for Proposals ("RFP") (included as Exhibit C4) is intended to identify lessor(s) capable of providing a Master Lease facility to Program participants for energy projects that meet Program qualifications. Program project qualifications are further detailed herein. Evaluation criteria for selection of Program Lessor(s) will include funding capacity, pricing, terms and any additionally required underwriting criteria. Depending upon availability of funds and terms provided by the proposing lessors, the Program reserves the right to select a single provider, multiple providers or no providers.

The Program's initial Master Lease Agreement is requested for (i) a period commencing July 1, 2012 through December 31, 2013; and (ii) for an initial amount of $25,000,000. Upon mutual agreement of the parties, extensions may be granted for subsequent one year periods and additional $20,000,000 increments under the terms of the original Master Lease Agreement.

The Program's financing structure is intended to outline specific Subprogram project criteria for loans made to the agencies that want to fund projects. The individual agencies, at the time of their loan, will enter into a Lease Agreement in order to evidence the specific terms of borrowing and repayment for their project(s). Respondents submitting proposals must describe their capacity to provide the services defined herein and explicitly state their ability to enter into an agreement with the County, as authorizing lessor.

Figure 22 (Subprogram B): Private Financing, Residential LLR Program

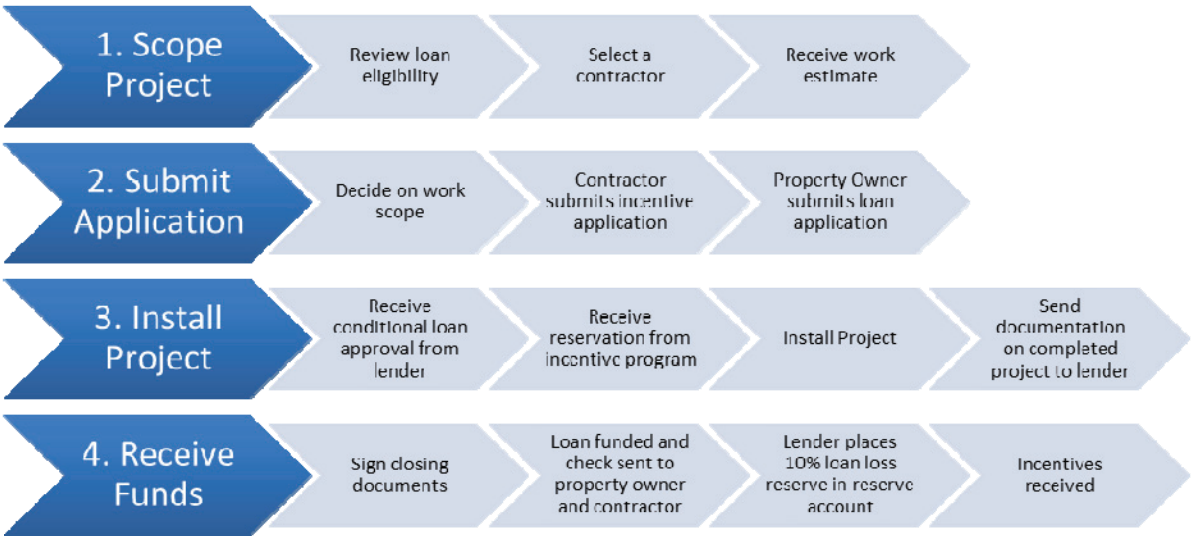


Figure 23 (Subprogram B): PACE Flow Chart

n) **Cross-cutting Sub-program and Non-IOU Partner Coordination:** Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[25] and frequency[26]:

[25] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

[26] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

Table 15 (Subprogram B): Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram B: Financing Portfolio		
Other SoCalREN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Flex Path	Project referrals	All potential projects
Advanced Path	Project referrals	All potential projects
Multi-Family	Project referrals	All potential projects
SoCalREC	Project referrals	All potential projects
IOU Program Name	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	At least bi-monthly
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Lenders	Meetings, communication	Ongoing, as needed.
Local Financing Programs (City of Santa Monica, etc.)	Meetings, communication	Ongoing, as needed.

o) **Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).

TBD.

11) Additional Sub-Program Information

a) **Advancing Strategic Plan Goals and Objectives**: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

Figure 24 (Subprogram B): Strategic Plan Alignment

Local Government Goal 1: "Reach" codes		
Strategy Number	Strategy	
1-4	Create assessment districts or other mechanisms so property owners can fund EE through local bonds and pay back on property taxes; develop other local EE financing tools.	The SoCalREN Financing Subprogram directly advances this strategy by developing regional EE financing tools for property owners.
Local Government Goal 3: Lead by Example		
3-3	Improve access to favorable financing terms that create positive cash flow from energy efficiency/DSM savings	The SoCalREN Financing Subprogram directly advances this strategy by developing regional EE financing tools for property owners and local governments.
3-4	Promote local government adoption of policies for a budget line item for energy management or other options that allow energy efficiency cost savings to be returned to the host facility or department and/or as a revolving loan fund for additional energy projects.	The SoCalREN Financing Subprogram directly advances this strategy by developing regional revolving loan fund for local governments.
Local Government Goal 4: Community Leadership		
4-1	Local governments commit to clean energy/climate change leadership.	By establishing a regional energy efficiency Financing Portfolio, and cross-leveraging efficiency subprograms with financing subprograms, SoCalREN will create a dynamic regional energy efficiency infrastructure, with benefits that support the sustainability and climate change objectives of local governments.
4-4	Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses	The SoCalREN Financing Subprogram directly advances this strategy by developing financing programs that will integrate energy efficiency, DSM, and water/wastewater end uses
Local Government Goal 5: Local Government Energy Efficiency Expertise		
5-1	Create a menu of products, services, approved technologies and implementation channels to guide local governments that currently lack deep expertise in energy efficiency	The SoCalREN Financing Subprogram directly advances this strategy by developing a menu of financing products, services, approved technologies and implementation channels for local governments.
5-2	Develop model approaches to assist local governments participating in regional coordinated efforts for energy efficiency, DSM, renewables, green buildings, and zoning.	The SoCalREN Financing Subprogram directly advances this strategy by creating a regional approach that will coordinate local government efforts for energy efficiency, DSM, renewables, and green buildings.

b) Integration

i. **Integrated/coordinated Demand Side Management**: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

Table 16 (Subprogram B): Non-EE Sub-Program Information

Non-EE Subprogram	Budget	Rationale and General Approach for Integrating Across Resource Types
Water Programs	TBC	Cross promotion, integration into Financing

ii. **Integration across resource types** (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

Please see above for a description of cross-marketing efforts to be conducted by SoCalREN. Marketing activities and materials will promote awareness of water conservation, air quality, and other customer offerings such as those related to indoor water conservation and water efficiency.

c) **Leveraging of Resources**: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.

This Subprogram intends on leveraging all available financing tools and templates that would benefit customers.

d) **Trials/ Pilots:** Please describe any trials or pilot projects planned for this sub-program

e) **Knowledge Transfer:** Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program

a. Case studies developed and disseminated
b. Assist cities to set up a revolving account and take a portion of saved funds to pay for a high profile project/highlight success
c. Highlight major success stories through media
d. Draft news and journal articles on city energy savings
e. Presentations and participation in conferences to share success/best practices/lessons learned

Please see Exhibit C2 for sample collateral such as newsletters, website screen shot, etc.

12) **Market Transformation Information**: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

i. A summary of the market transformation objectives of the program.
ii. A description of the market, including identification of the relevant market actors and the relationships among them;
iii. A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies;
iv. A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address;
v. A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results[27];
vi. Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model.

Not applicable.

13) **Additional information as required by Commission decision or ruling or as needed:** Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

Exhibit B1: Tables

Exhibit B2: E3 calculations – Due to file size, please download at either:

https://docs.google.com/folder/d/0BxZ0UPrSj7W8Wmw5bUdIcVFOSTA/edit or
https://www.dropbox.com/sh/1z0nsjojgrjrorf/ayYjEUqZ_3

[27] If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

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2013-2014 Energy Efficiency Programs
Southern California Regional Energy Network
Program Implementation Plan

1) **Sub-Program Name:**

Subprogram C: Continue and Expand the Southern California Regional Energy Center (SoCalREC)

Pilot to the entire Southern California Region

2) **Sub-Program ID number: _____**
3) **Type of Sub-Program: __Core X__Third Party __Partnership**
4) **Market sector or segment that this sub-program is designed to serve[28]:**

   a. __ Residential
      i. Including Low Income? __ Yes __ No;
      ii. Including Moderate Income? __ Yes __ No.
      iii. Including or specifically Multifamily buildings __ Yes __ No.
      iv. Including or specifically Rental units? __ Yes __ No.
   b. _X_ Commercial (List applicable NAIC codes: _ All Municipal codes__)
   c. __ Industrial (List applicable NAIC codes: _____)
   d. __ Agricultural (List applicable NAIC codes: _____)

5) **Is this sub-program primarily a:**
   a. Non-resource program ___ Yes__ No
   b. Resource acquisition program _X_ Yes ___ No
   c. Market Transformation Program ___ Yes ___ No

6) **Indicate the primary intervention strategies:**
   a. Upstream ___ Yes ___ No
   b. Midstream ___ Yes ___ No
   c. Downstream _X_ Yes ___ No
   d. Direct Install __ Yes __ No
   e. Non Resource __ Yes __ No

[28] Check all that apply

7) **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)**
Gas TRC 1.04 PAC 2.34

8) **Projected Sub-Program Budget**

Table 1 (Subprogram C): Projected Sub-Program Budget, by Calendar Year[29]

	Program Year		
Sub-Program C: SoCalREC	**2013**	**2014**	**Total**
Admin ($)	126,000	126,000	252,000
General overhead ($)	59,250	59250	118,500
Incentives ($)	0	0	0
Direct Install Non-Incentives ($)	1,103,017	1,103,016	2,206,033
Marketing & Outreach ($)	26,250	26,250	52500
Education & Training	13,500	13,500	27000
Total Budget	**1,328,017**	**1,328,016**	**2,656,033**

9) **Sub-Program Description, Objectives and Theory**

a) **Sub-Program Description and Theory:**

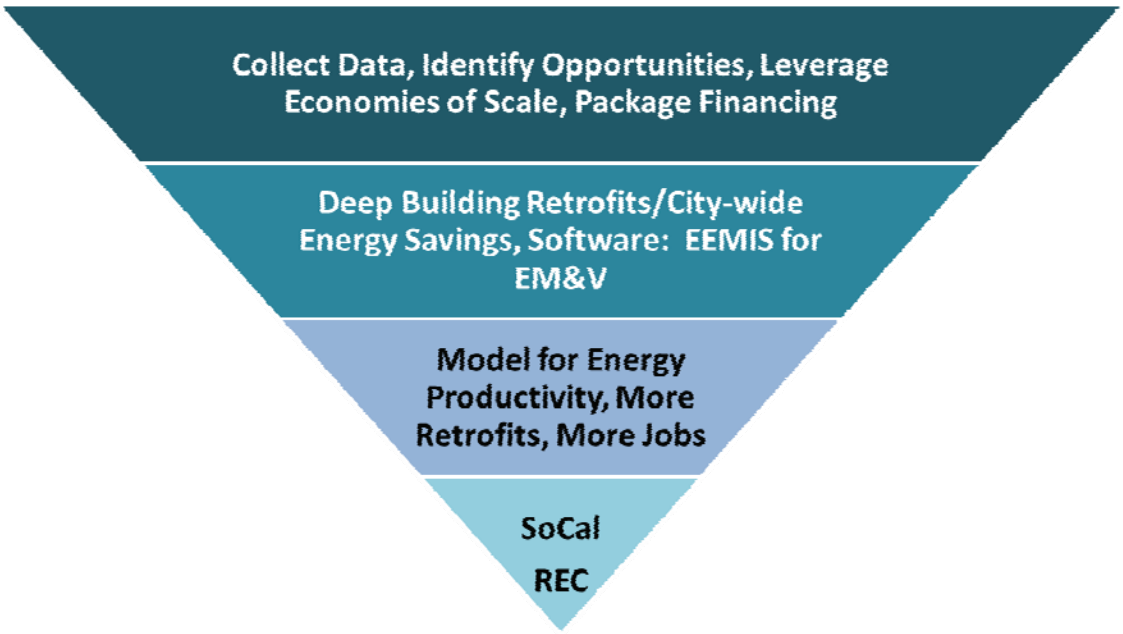
The Southern California Regional Energy Network (SoCalREN) will expand Southern California Regional Energy Center (SoCalREC) activities that were piloted under SCE Flight 5.6 and EECBG funding

[29] Individual utility specific information to be provided in this table

to all participating jurisdictions in the Southern California region. SoCalREC is a local government pilot project launched by Los Angeles County and the City of Huntington Beach that is slated to end in 2012. The SoCalREC pilot demonstrates how Los Angeles County, in conjunction with numerous participating cities, counties and local government partnerships, can work together under a regionally-focused program to facilitate a broader regional energy reach in Southern California and dramatically increase energy efficiency in local governments and local communities. SoCalREC already has 55 local government partners and has identified over $20 million in previously untapped municipal facility projects for potential implementation under a creative, aggregated regional financing program. Its primary focus, and ultimately that of the proposed SoCalREN, is to demonstrate how joint actions by a broad group of engaged cities can add value to and work in concert with existing Local Government Partnerships and significantly expand the innovative implementation of cost-effective energy efficiency projects. The SoCalREC provides a credible and feasible plan to achieve Goal 5 of the CEESP: local government energy efficiency expertise becomes widespread and typical.

The SoCalREC will access untapped and underserved markets to drive greater reductions in energy use, create jobs and prudently invest ratepayer funds for significant energy management benefits in local communities. SoCalREC will be instrumental in driving the energy services marketplace from an over reliance on sole source approaches to a more competitive selection and contract award process based on best value for end users through greater use of standard terms and conditions and value pricing. Very significantly, SoCalREC will also serve jurisdictions in the region that are not presently involved in an LGP program as well as serve jurisdictions that have their own publicly owned utility for electric or gas service but are also served by either SCE or SCG for parts of their energy services.

Figure 25 (Subprogram C): The SoCalREC Big Picture



For the 2013-2014 transition period, specific program elements and services of the SoCalREC will be primarily focused in the following five (5) functional areas. SoCalREC budget is a combined budget for all components in the amount of $2,656,033.

C1: Regional procurement program that develops and implements aggregated purchase, acquisition and management for energy projects, services and equipment

- Identify projects that are suitable for aggregate purchasing strategies, i.e. street light retrofits, pool pumps, efficient lighting and HVAC systems, renewable installations, and EV charging stations, etc.

- Facilitate collective procurement processes by developing RFQ, RFP and other project bidding and contracting templates as well as evaluation expertise and assistance for review of proposals and bid submittals.

- Coordinate cost-effective procurement activities and project management/implementation approaches across all participating jurisdictions.

- Create templates and approaches for restructuring of basic service approaches for infrastructure assets described above to identify comprehensive solutions that address combined energy, operations and maintenance needs.

- Prepare meaningful and straightforward case studies that not only present 'best practices' and accomplishments by the SoCalREC and participating SoCalREC jurisdictions, but also clearly explain the challenges, pitfalls and barriers that were confronted and overcome in the process. These case studies will be disseminated both within the SoCalREC and more widely to other cities and counties throughout the state.

C2: Integrated and comprehensive deep level retrofits to develop high performance buildings and infrastructure for municipalities in the SoCalREN region

- Develop a building energy/resource consumption database for facility benchmarking and application of building rating systems.
- Implement an Enterprise Energy Management Information System (EEMIS) for public buildings and facilities that automates and expedites large portions of energy project identification and development on a shared platform, such as the LA County EEMIS.
  - Provide EEMIS training and overall administration.
  - Provide EEMIS access to both public and private buildings within the region.
  - Coordinate information from other Utility Manager Systems used by other jurisdictions with EEMIS information.
- Design and implement a searchable web-based energy mapping system that lists local government energy efficiency project details including summaries for kWh and therm savings totals both within jurisdictions and across the region.
- Provide energy project development and management services.
  - Provide technical evaluation and analysis resources and project procurement and management services which "fill the gaps" in existing LGP offerings.
  - Provide high quality energy audits and evaluations for public facilities that "fill the gaps" in existing LGP offerings.
  - Tap expertise of technical advisory group to identify best practices and appropriate technology for municipal energy projects
- Provide centralized and standardized project management services.

    - Create standard forms, templates and documents for project specifications, procurement processes, contracting and project/construction management.
    - Provide a centralized and accessible online collaborative virtual workspace (such as Microsoft Sharepoint) and online library for development and dissemination of shared tools and templates that provides a very basic starting point for interested users.
    - Utilize, as appropriate, public agency physical space in the region for accessing technical resources and assistance.
    - Focus on pre-packaged measures and procurement services and coordinate multiple and simultaneous projects within and between jurisdictions to achieve economies of scale.
- Implement integrated energy efficiency projects and comprehensive retrofit that incorporate all feasible and cost-effective IDSM measures and approaches
    - Include a focus on additional opportunities for streetlighting retrofits, water/energy nexus projects, distributed renewable generation, EV-ready buildings and regional EV charging infrastructure, changing energy management behaviors and other energy use reduction opportunities.
- Evaluate and implement, where appropriate, coordinated demand-response protocols and action plans for public buildings and facilities that can be mobilized during peak energy demand events. Leverage these programs with existing and emerging energy emergency plans.

- Integrate and coordinate energy upgrade work within facilities to avoid redundant and counterproductive work steps and achieve streamlined, standardized and optimized results.

C3: Using completed city and Council of Governments (COG) plans as a starting point, provide support for development of regional collaborative climate action plans and tracking/reporting that increase reductions in GHGs

- Consolidate and coordinate completed individual Climate Action Plan efforts by local jurisdictions into a regional, collaborative effort.
- Incorporate data collection, tracking and reporting on both a regional and local jurisdictional scale
- Utilize Regional Climate Action Modeling provided through a partnership with UCLA (Los Angeles Regional Collaborative for Climate Action and Sustainability - LARC)

C4: Integration of the water-energy nexus in selected program offerings

Design and implement, in coordination with municipal, regional and private water agencies, an integrated program to capture energy savings from water system operations, building upgrades and community-wide education and water-energy behavior change programs and strategies. Develop linkages among methodologies for capturing the energy efficiency impacts from embedded energy in potable water systems.

C5: Coordination of region-wide municipal implementation and training on a community energy efficiency project management system (CEEPMS)

- Provide City staff with the ability to identify and track community-wide energy efficiency projects processed through online permit systems to assist in reporting overall City energy savings and GHG emissions.
- Provide permit applicants (homeowners, business owners or contractors) with the latest rebate information and efficiency program eligibility requirement based on the energy efficiency (EE) improvements noted in the permit application.
- Provide 'energy neutral' information outreach to all customers to leverage IOU, publically owned utility (POU) and water utility rebates and resources.

b) **Sub-Program Energy and Demand Objectives**- If this sub-program has energy and demand objective, please complete Table 2.

Table 2 (Subprogram C). Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year[30]

	Program Years		
	2013	**2014**	**Total**
Sub-program C: SoCalREC			
GWh	17.2	17.2	34.4

[30] Individual utility specific information to be provided in this table

Peak MW	3.35	3.35	6.7
Therms (millions)	0.35	0.35	0.70

c) **Program Non-Energy Objectives**:

- 100% of participating jurisdictions will receive the following: SoCalREN templates and guidebooks for project management and financing, case studies that highlight best practices and report definitive actions and accomplishments of SCREN and participating jurisdictions.
- 100% of participating cities will receive information about the collective aggregate procurement process.
- 100% of participating jurisdictions will be trained in one of the following: aggregated procurement process, EEMIS facility management software system, use of SoCalREN templates for project management and financing, an online permit tracking system for participating cities to enable capturing and reporting overall energy savings and GHG emissions (CEEPMS)
- 100% of participating cities will receive information about the following tools: a building energy/resource consumption database for facility benchmarking and application of building rating systems, a web based energy mapping system that lists local government energy efficiency project details including summaries for kWh and term savings totals both within jurisdictions and across regions

Table 3 (Subprogram B): Quantitative Subprogram Targets (PPMs)

Target	2013	2014
Number of buildings treated	TBD	TBD
Number of units incented or rebated	TBD	TBD

d) **Cost Effectiveness/Market Need**: What methods will be or have been used to determine whether this program is cost-effective?[31] If this is a non-resource program, describe the literature, market assessments or other sources that indicate a need for this program.

Methods contained in the Standard Practice Manual will be followed. The measure "Whole Facility Upgrades" is a comprehensive *green* or *sustainable* measure designed to reduce energy and water use, and greenhouse gas emissions. It involves investigating an existing building's operations to identify potential improvements in equipment and operations (beyond normal maintenance and standard retrofits) to achieve lower utility bills.

- System Approach—high efficiency chillers
- Lighting power density reduction
- Daylighting and controls
- System Approach—premium efficiency motors
- System Approach—HVAC energy reduction (such as changing from constant air volume double-duct to variable air volume double-duct air handling systems, implementing airside economizers, etc.)

e) **Measure Savings/ Work Papers**:

a. Indicate data source for savings estimates for program measures (DEER, custom measures, etc).

The Database for Energy Efficient Resources (DEER) contains both new construction and retrofit energy efficiency measures in the database. However, "Whole Facility Upgrades" measures are actually bundled measure components with interactive effects. This bundled measure category represents custom calculated measures and is not represented in the DEER database.

[31] If the program has energy and demand objectives, simply state that the methods contained in the Standard Practice Manual will be used. If the program does not have energy and demand objective, propose an approach to assess cost-effectiveness.

Measures, energy savings, and demand reduction are highly building specific and project specific. Although there are certain "standard" types of equipment and system configurations, HVAC and lighting systems in larger buildings are unique and tailored for specific building occupancy and operating schedules, orientation, climate zone, interactive effects, etc. Deemed savings do not apply for these applications.

The measures summarized in this Work Paper encompass a more diverse set of equipment than what the DEER contains, and the savings estimates are based on site specific base case equipment, measures, and operating parameters. There are however, relevant SCE Work Papers to cite. (These documents are embedded in the References list.)

b. Indicate work paper status for program measures:

Table 4 (Subprogram C) – Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
	GENERAL LIGHTING			
1	Street lighting (LS1 to LS2 conversion)		X	
2	Outdoor lighting (parks, parking structures)		X	
	INTERSECTION LIGHTING			
3	Traffic signal		X	
4	Safety lights (street light)		X	
5	Street signs		X	
6	Walk signal		X	
	PUMPS			
7	Pool pumps		X	
8	Other pumps		X	
	WHOLE BUILDING DEEP RETROFITS			
9	Detailed list of measures included in E3 Calcs. Please see Exhibit C1.		X	

10) Program Implementation Details

a. **Timelines:** List the key program milestones and dates. An example is included below.

Table 5 (Subprogram C):. Sub-Program Milestones and Timeline

Milestone	Date
Project Initiation Meeting	Jan, 2013
Draft Work Plan for program	Feb, 2013
Draft separate Work Plan for each Objective	Mar, 2013
Draft separate Implementation Plan for each Objective	Apr. 2013
Expand templates and guidebooks to entire region	May, 2013
Disseminate information to local governments	Feb, 2013-Dec, 2014
Begin Program Implementation	Apr, 2013
Quarterly Progress Reports	Apr, July, Oct. 2013/ Feb, May, Sept, 2014
Quarterly Newsletter	Mar, June, Sept, Dec, 2013/ 2014
Bi-annual workshop on technologies aggregating	Jun, 2013/Nov, 2013/Mar, 2014/Sept, 2014
Annual joint conference with IOUs to complement Local Government Partnership Program	Apr, 2013/Apr. 2014
Annual update to Implementation Plan reflecting changes to strategy	Feb, 2014
Final report of pilot	Dec, 2014

b. **Geographic Scope**: List the geographic regions (e.g., CEC weather zones) where the program will operate

Table 6 (Subprogram C): Geographic Regions Where the Program Will Operate

Geographic Region	Subprogram C: SoCalREC
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

c. Program Administration

Table 7 (Subprogram C): Program Administration of Program Components

Subprogram Name	Subprogram Component	Implemented by IOU staff (X = Yes)	Implemented by contractors to be selected by competitive bid process	Implemented by contractors NOT selected by competitive bid process	Implemented by local government or other entity (X = Yes)
SoCalREC	1: Regional Procurement				X (LA County)

	2: Deep Level Retrofits				X (LA County)
	3: Climate Action Support				X (LA County)
	4: Water-Energy Nexus				X (LA County)
	5: CEEPMS				X (LA County)

d. Program Eligibility Requirements:

i. Customers: List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Table 8 (Subprogram C): Customer Eligibility Requirements

Customer Eligibility Requirement	IOUs
Regional procurement: City must be located in IOU service territory.	X
Deep level retrofits: City must be located in IOU service territory.	X
Climate action support: City must be located in IOU service territory.	X
Water-Energy Nexus: City must be located in IOU service territory.	X
CEEPMS: City must be located in IOU service territory.	X

ii. Contractors/Participants: List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).

Table 9 (Subprogram C): Contractor/Participant Eligibility Requirements

Contractor Eligibility Requirement	IOUs
Regional procurement	None
Deep level retrofits	None
Climate action support	None
Water-Energy Nexus	None
CEEPMS	None

e. **Program Partners:**

a. **Manufacturer/Retailer/Distributor partners:** For upstream or midstream incentive and/or buy down programs indicate[32]:

Table 10 (Subprogram C): Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Partner Information	IOU
Manufacturers enrolled in program	None
Manufacturers targeted for enrollment in program	None
Retailers enrolled in program	None
Retailers targeted for enrollment in program	None
Distributors enrolled in program	None
Distributors targeted for enrollment in program	None

b. **Other key program partners**: Indicate any research or other key program partners:

Other key program partners include the following:

[32] Provide in a consistent format for all IOUs. Indicate program partners across all IOU territories in one table or spreadsheet.

Append to end of PIP.

- Los Angeles Department of Water and Power
- Los Angeles Regional Collaborative (LARC)
- City of Los Angeles
- University of California Los Angeles Institute of Environment and Sustainability
- Long Beach Gas & Oil
- Pasadena Water & Power
- Glendale Water & Power
- Azusa Light & Water
- City of Vernon Light & Power
- Anaheim Municipal Utility District
- Moreno Valley Electric Utility
- City of Corona Department of Water & Power
- City of Riverside Public Utilities
- Santa Ana Watershed Project Authority
- Irvine Ranch Water District
- Metropolitan Water District
- Southern California Association of Governments (SCAG)
- Southern California Air Quality Management District (SCAQMD)

f) **Measures and incentive levels**: E3 calculators will provide the list of measures and incentive levels to be provided via the program. In this section the utilities should provide a summary table of measures and incentive levels.

Table 11 (Subprogram C): Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	IOU	
		Incentive Level	Installation Sampling Rate
GENERAL LIGHTING			
Street lighting (LS1 to LS2 conversion)	Local government	Current IOU offering	Per IOU QA Standards
Outdoor lighting (parks, parking structures)	Local government	Current IOU offering	Per IOU QA Standards
INTERSECTION LIGHTING			
Traffic signal	Local government	Current IOU offering	Per IOU QA Standards
Safety lights (street light)	Local government	Current IOU offering	Per IOU QA Standards
Street signs	Local government	Current IOU offering	Per IOU QA Standards
Walk signal	Local government	Current IOU offering	Per IOU QA Standards
PUMPS			

Pool pumps	Local government	Current IOU offering	Per IOU QA Standards
Other pumps	Local government	Current IOU offering	Per IOU QA Standards
WHOLE BUILDING DEEP RETROFITS			
Detailed list of Measures included in E3 Calcs (Pls see Exhibit C4)	Local government	Current IOU offering	Per IOU QA Standards

a. Use a single excel spreadsheet to indicate the eligible measures for the program across all IOUs. Indicate the expected incentive level by measure or measure grouping for each IOU, making clear where these vary.
b. For each incented or rebated measure, indicate the market actor to whom this will be provided.

g) **Additional Services:** List additional services that the sub-program will provide, to which market actors.

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.
b.

Table 12 (Subprogram C): Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	IOU
TBD		

Not applicable.

h) **Sub-Program Specific Marketing and Outreach:** Please describe, providing timelines (suggested word limit: 300 words)
i)

The goal of marketing and outreach for the SoCalREC will be to educate and engage cities as in program offerings. In order to accomplish this, cities will be directed to a SoCalREC website that provides information to include the various program offerings, technical assistance resources, aggregate procurement opportunities, a regionwide energy mapping system, and financing. An online resource library will provide participating jurisdictions with access to tools, templates, guidebooks and other relevant information developed as part of the pilot. Participating jurisdictions will receive bi-monthly e-newsletters with up-to-date information about activities, best practices,

case studies and relevant information on SoCalREC resources. In addition, SoCalREC will host 4 workshops and develop joint IOU meetings to encourage dialogue about implementation and lessons learned. Customizable materials will also be developed to distribute at community events, expos and other public participation venues.

SoCalREC will also support municipalities who participate in a SoCalREC project with communicating their successes to their community and other SoCalREC cities. Once energy efficiency improvement measures have been implemented by a City, energy and cost savings data will be compiled and shared with local and regional media outlets, relevant social media channels (if present), and community marketing vehicles such as a City's newsletter and website. The traditional and grassroots public relations and marketing messaging will aim at sharing the story of the City's fiscally responsible endeavors through the successful implementation of energy reduction measures. Saving energy and money creates savings for the entire community. This public benefit will ideally have board appeal to media outlets as well as the community at large.

The timelines for these marketing efforts are included in Table 5.

j) **Sub-Program Specific Training:** Please describe, providing timelines (suggested word limit: 300 words)

During the first half of 2013, SoCalREC will host workshops jointly with the IOUs for cities to learn about SoCalREC opportunities and program offerings. This will include information about the benefits and opportunities for aggregate purchasing, financing and shared technical assistance. In addition, training will be provided to building managers in participating cities in the following areas, using tools and templates developed for the project:

- Data collection process
- Building audit process
- Benchmarking

- EEMIS system and overall administration

k) **Sub-Program Software and/or Additional Tools:**

a. List all eligible software or similar tools required for sub-program participation.
b. Indicate if pre and/or post implementation audits will be required for the sub-program.
Pre-implementation audit required ___ Yes _X_ No
Post-implementation audit required ___ Yes _X_ No
c. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor).

Table 13 (Subprogram C): Post-implementation Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
TBD	

l) **Sub-Program Quality Assurance Provisions:** Please list quality assurance, quality control, including accreditations/certification or other credentials

Table 14 (S*u*bprogram C): Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
TBD		

m) **Sub-program Delivery Method and Measure Installation /Marketing or Training:** Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.

Overall Strategy

- Engage jurisdictions within the SoCalREN service area (cities, COGs, LGPs)
  - Host regional workshops with SCE/SCG
  - Send invitation memo to jurisdictions outlining SCREN opportunities
  - Develop outreach strategy to inform/educate/engage participating jurisdictions
- Design and Disseminate Tools, Templates, Processes

- Develop and disseminate guide books for 100% of participating jurisdictions
- Develop and disseminate templates for project management and financing to 100% of participating jurisdictions
    - RFQ, RFP and other bidding and contracting templates
    - Standard forms, documents for project specifications, procurement processes, contracting and project/construction management
- Design and implement website, on-line resource library
- Design and implement on-line energy mapping system

- Collect Data and Identify Eligible Jurisdictions/Projects
    - Identify participating jurisdictions
    - Disseminate data collection tools
    - Support data collection efforts
    - Identify eligible projects for collective procurement and/or whole building retrofits
- Identify pooled technology project opportunities. Technologies include:
    - Streetlight retrofits (LED or induction- LS2/LS3s)
    - Pool Pump VFD replacement
    - Signal lights/intersection packages
    - Other outdoor lighting
- Identify whole building retrofits- selected demonstration projects in each participating County
    - Identify potential target buildings (200 kW or larger)
    - Obtain 12-36 month billing information for each building
    - Complete technical assistance form for each building
    - Confirm eligibility through preliminary analysis
    - Coordinate and perform audit
    - Identify demand response opportunities
    - Identify renewable energy opportunities
- Develop Aggregate Project Opportunities
    - Pool projects of participating jurisdictions
    - Perform economic analyses
    - Coordinate procurement process

    - Centralized, standardized process
    - Develop RFP/RFQ solicitation process, bidding
    - Procurement
- Identify Attractive Financing
- Implement projects
    - Assist participating cities with project implementation technical assistance, as needed, including identification of technical assistance resources
    - Coordinate procurement using a centralized, standardized process with tools and templates.
    - Reporting

n) **Sub-program Process Flow Chart:** Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.

Figure 26 (Subprogram C): Enterprise Energy Management Information System (EEMIS) Flow Chart

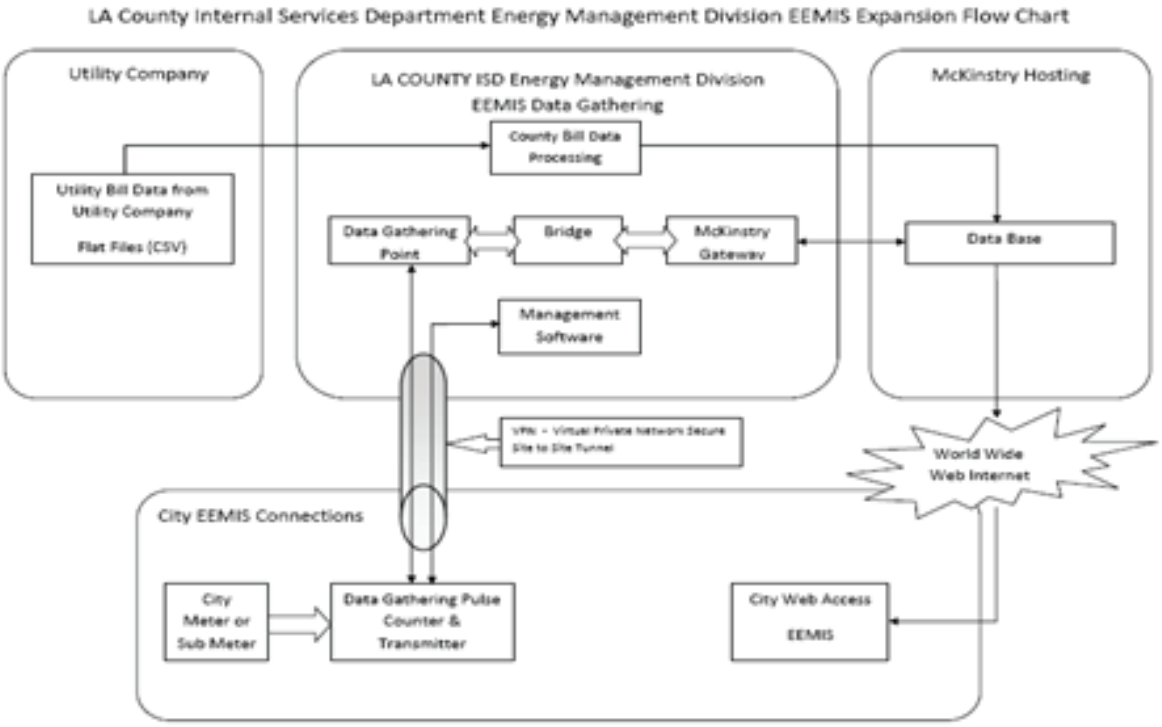


Figure 27 (Subprogram C): Community Energy Efficiency Program Management System (CEEPMS)

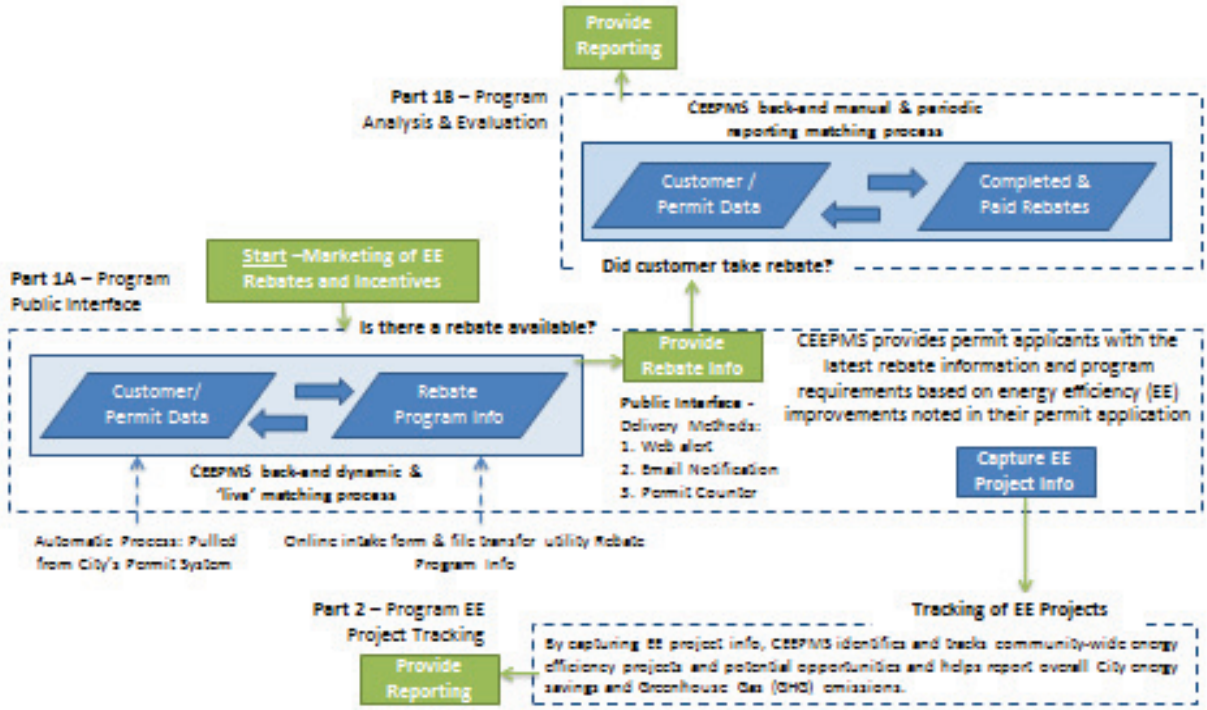


Figure 28 (Subprogram C): SoCalREC Flow Charts

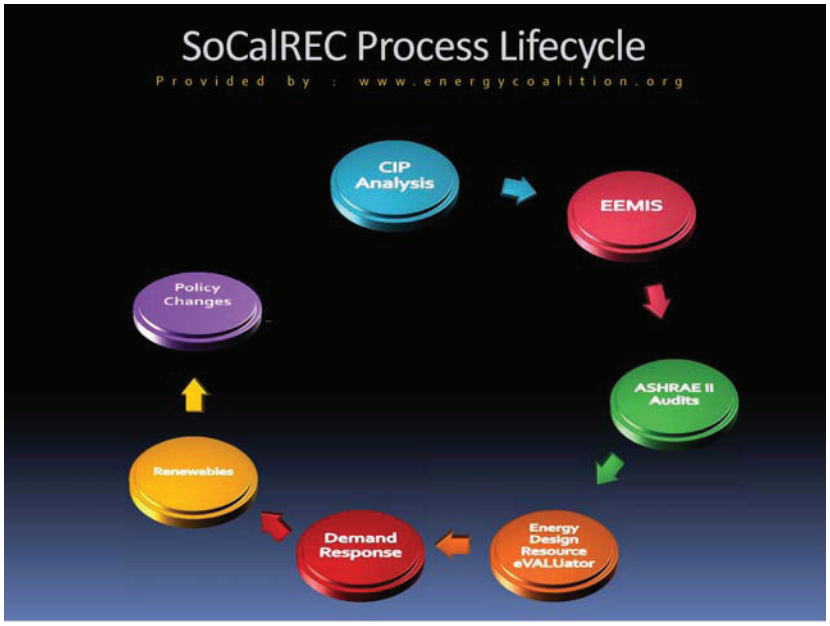
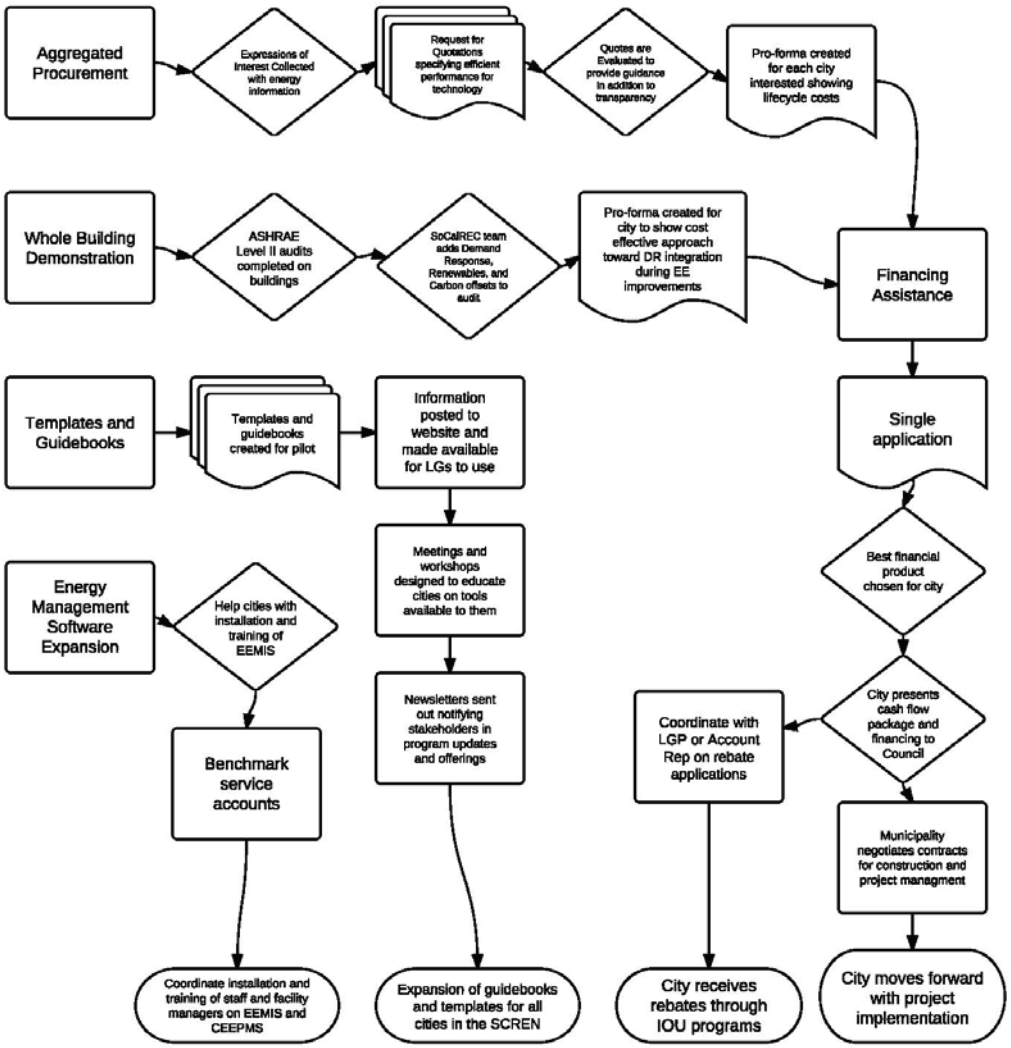


Figure 27 (Subprogram C) cont.: SoCalREC Flow Charts



o) **Cross-cutting Sub-program and Non-IOU Partner Coordination:** Indicate other IOU EE, DR or DG sub-programs with which this sub-program will regularly coordinate. Indicate also key non-IOU coordination partners. Indicate expected coordination mechanisms[33] and frequency[34]:

Table 15 (Subprogram C): Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram C: SoCalREC Portfolio		
Other SoCalREN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Energy Upgrade	Project referrals	All potential projects
Financing	Project referrals	All potential projects
IOU Program Name	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	At least bi-monthly
IOU On-Bill Financing	Meetings	Ongoing, as needed
Local Government Partnership programs	Meetings	Ongoing, as needed
IOU Savings by Design	Savings by Design is a program to encourage high-performance nonresidential building design and construction within the service territories of PG&E, SDG&E, Southern California Edison, or Southern California Gas. The program offers building owners and their design team a wide range of services including design assistance, owner incentives, and design team incentives. Owners and design team members are eligible to participate.	As needed.
IOU Demand Response Programs	IOU DR Programs help qualifying customers reduce their energy usage during peak times while lowering their electricity costs. When electricity demand exceeds supply, when electricity costs are high, or when the state's electrical system is constrained, SCE requests (and pay for) participating customers to help by reducing their electricity use. Various DR Programs, Rates and Offerings are available.	
California Independent System Operator (ISO)	Demand Response & Proxy Demand Resource (6/24/11) The Proxy Demand Resource product allows end-use customers to work through a Demand Response Provider to bid demand response services directly into the CAISO	As needed.

[33] "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

[34] This does not mean there would be mutual understanding of the on the mechanism or a known frequency of coordination; rather, just provide enough information to give a general sense of the coordinate efforts.

	markets. All resources types are offered into CAISO markets through a Scheduling Coordinator. Thus, to bid proxy demand resources into the CAISO markets, a Demand Response Provider must be a Scheduling Coordinator or hire the services of an ISO certified Scheduling Coordinator to submit bids and schedules on their behalf.	
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Lenders	Meetings, communication	Ongoing, as needed.
Local Financing Programs (City of Santa Monica, etc.)	Meetings, communication	Ongoing, as needed.

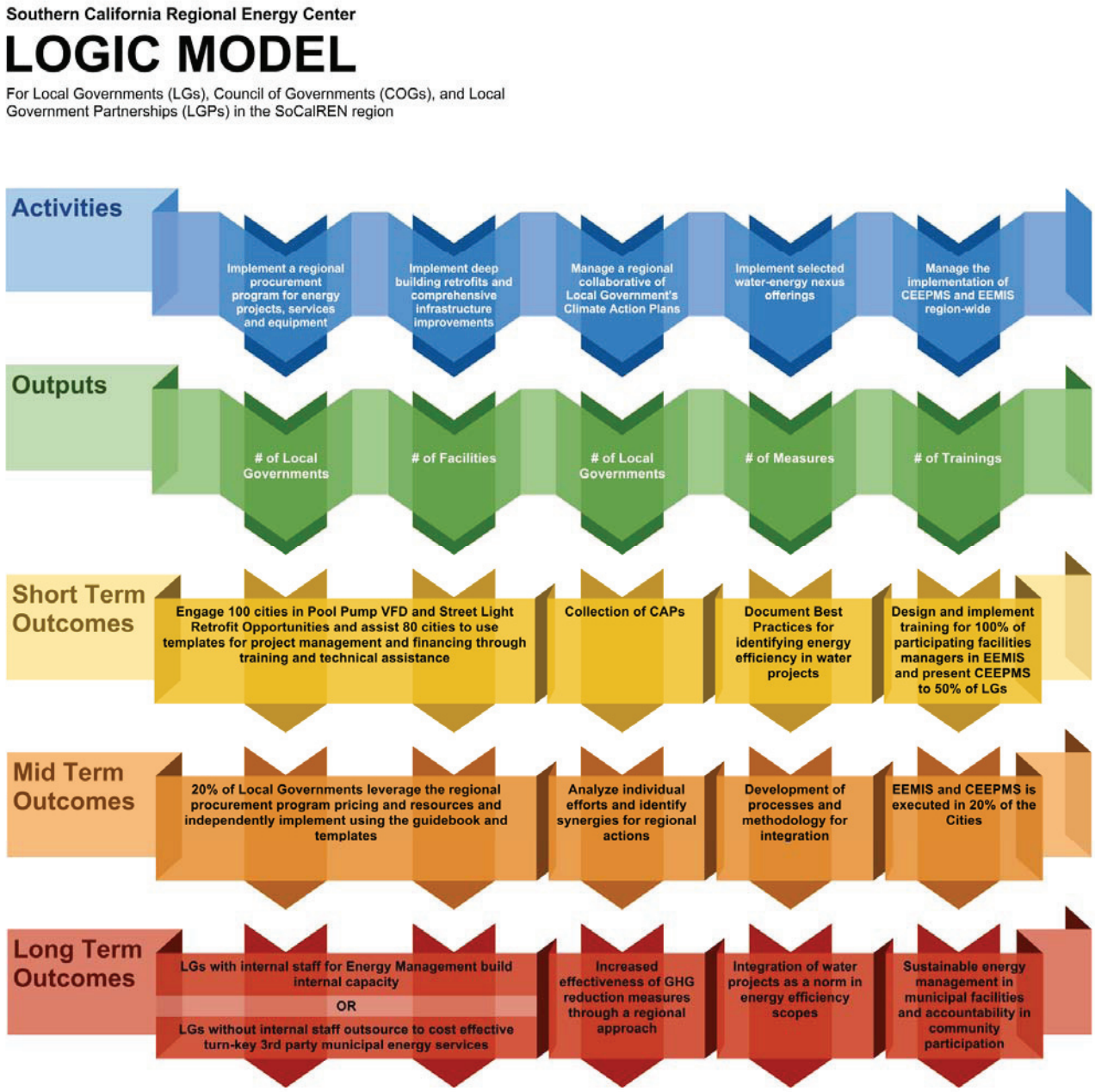
California Commissioning Collaborative (CCC)	The Toolkit includes:
	- Energy Savings Calculation Tools
	  - Building Optimization Analysis Tool
	  - Pumping System Workbook
	  - Fan System Workbook
	- Data Analysis Tools
	  - Energy Charting and Metrics Tool
	  - Utility Consumption Analysis Tool
	  - Findings Workbook
		As needed.

Consortium for Energy Efficiency (CEE)	State and Local Government Purchasing Initiative: The CEE has conducted extensive research on state and local government purchasing and has developed tools to assist government purchasing officials in procuring energy efficient products. The purchasing tools include: - Procurement guidebooks - RFP for contractor services - Interview guide - Toolkit training modules Energy efficiency training modules	As needed.
DOE's Federal Energy Management Program	Building Life-Cycle Cost (BLCC) program analyzes capital investments in buildings. BLCC conducts economic analyses by evaluating the relative cost effectiveness of alternative buildings and building-related systems or components. Typically, BLCC is used to evaluate alternative designs that have higher initial costs but lower operating costs over the project life than the lowest-initial-cost design. It is especially useful for evaluating the costs and benefits of energy and water conservation and renewable energy projects. The life-cycle cost (LCC) of two or more alternative designs are computed and compared to determine which has the lowest LCC and is therefore more economical in the long run. BLCC also calculates comparative economic measures for alternative designs, including net savings, savings-to-investment ratio, adjusted internal rate of return, and years to payback.	As needed.
DOE's Energy Efficiency & Renewable Energy Weatherization & Intergovernmental Program (WIP)	The U.S. Department of Energy (DOE) Weatherization and Intergovernmental Program provides grants, technical assistance, and information tools to states, local governments, community action agencies, utilities, Indian tribes, and overseas U.S. territories for their energy programs. These programs coordinate with national goals to reduce petroleum consumption and increase the energy efficiency of the U.S. economy. They aim at market transformation to reduce market barriers to the cost effective adoption of renewable energy and energy efficiency technologies.	As needed.
Collaborative for High Performance Schools (CHPS)	The Collaborative for High Performance Schools provides tools, resources, education and building design standards and facilitate the design, construction and operation of high performance schools to create	As needed.

	environments that are not only energy and resource efficient, but also healthy, comfortable, well lit, and containing the amenities for a quality education.	
Energy Technology Assistance Program (ETAP)	The Energy Technology Assistance Program (ETAP) provides technical support, implementation assistance, rebates, and training to accelerate the uptake of advanced, market-ready energy efficiency technologies in the local government market in California. The program focuses on three energy efficiency technologies: 1. Bi-level lighting controls 2. Wireless lighting controls 3. Wireless HVAC controls	As needed.
California Air Resources Board	The Cool California Local Government Toolkit helps to identify cost saving actions, financial resources, and case studies to assist local governments with achieving GHG emission reductions.	As needed.

p) **Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).

Figure 29 (Subprogram C): SoCalREC Logic Model



11) Additional Sub-Program Information

a) **Advancing Strategic Plan Goals and Objectives**: Describe how sub-program advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan (word limit: 150 words)

Figure 30 (Subprogram C): Strategic Plan Alignment

Local Government Goal 4: Community Leadership		
4-1	Local governments commit to clean energy/climate change leadership.	By establishing SoCalREC, local governments will establish a more dynamic regional energy efficiency infrastructure, with benefits that similarly support the sustainability and climate change objectives of local governments.
4-4	Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses	By structuring its Program to address the water-energy nexus, and to provide incentives and opportunities for commercial, residential, and agricultural players, SoCalREC integrates multiple goals and objectives identified by the Strategic Plan.
Local Government Goal 5: Local Government Energy Efficiency Expertise		
5-1	Create a menu of products, services, approved technologies and implementation channels to guide local governments that currently lack deep expertise in energy efficiency	SoCalREC is being effectively implemented during this current calendar year to provide local governments with support and options, including a menu or products and services that will further energy efficiency.
5-2	Develop model approaches to assist local governments participating in regional coordinated efforts for energy efficiency, DSM, renewables, green buildings, and zoning.	SoCalREC is being effectively implemented during this current calendar year to provide local governments with support and options, including a menu or products and services that will further energy efficiency.

b) **Integration**

i. **Integrated/coordinated Demand Side Management**: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable.

This program is designed to bring all of its energy savings through the IOU DSM portfolio including, but not limited to: express and customized solutions, on-bill financing, on-bill repayment, and other core utility programs. The design of the SoCalREC program is aimed at aggregating

groups of local governments together for implementation of energy efficiency measures, such that cities will feel more comfortable in minimizing their risk.

However, without an incentive to pay the municipalities for their actions, the SoCalREC team will funnel all projects through the Local Government Partnerships, where applicable, and through Southern California Edison and Southern California Gas Company's Account Representatives, to help those cities qualify for and obtain as many eligible rebates in the DSM programs as possible.

Table 16 (Subprogram C): Non-EE Sub-Program Information

Non-EE Sub-Program	Budget	Rationale and General Approach for integrating Across Resource Types
On-bill financing	TBC	SCREN will assist local governments with OBF-eligible projects with the application and technical processes for obtaining OBF
On-bill repayment	TBC	Same as OBF
California Solar Initiative TBC	TBC	Local Governments that wish to include solar or solar thermal in their building or system retrofits will be assisted with technical calculations and assistance with applications. Furthermore, aggregated solar projects across municipalities may be considered during the period of performance for this pilot.
HVAC Optimization	TBC	Cities that have package units are great candidates for this program, and the SCREN team can help the local governments with technical calculations as well as help them find a service provider.
Demand Response	TBC	Demand Response assistance will be available to all cities in the REN. Involving DR conversations and analysis on a municipal-wide level can help the city curtail more peak KW and earn income by participating in a variety of programs offered.
Savings by Design	TBC	SCREN can assist cities with program knowledge as well as providing technical assistance and project management assistance as municipal buildings make their way through this program

ii. **Integration across resource types** (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach.

Non-EE Sub-Program	Budget	Rationale and General Approach for integrating Across Resource Types
Water agency coordination	TBC	Link water efficiency to energy efficiency for cities by participating in water-reduction rebate programs as well as community education of both resources
Focus on VFD installations	TBC	Pool pump VFDs save energy but, VFDs on other city water pumps can save both energy and water. Including well pumps measures in the aggregated projects, while coordinating with the water departments, successfully links the two scarce resources.

c) **Leveraging of Resources**: Please describe if the subprogram will leverage additional investments by market actors or other state, local or federal agencies.

The SoCalREC program has leveraged all of the work done in the previous SoCalREC program using SCE Flight 5.6 funds and U.S. Department of Energy Energy Efficiency and Conservation Block Grant (EECBG) funds. These funds helped the local Southern California team to establish the aggregated procurement process, the demonstration project schedules and timelines, relationships with a variety of cities within both LA County and Orange County that are primed to implement energy efficiency measures already discussed, and templates and guidebooks already drafted and posted.

This iteration of the SoCalREC program leverages existing resources and opportunities created in the current SoCalREC pilot and expands upon that model to cover a six-county region, allowing more cities to take advantage of the project management, procurement, and implementation advantages that have been established this year.

The SoCalREC program will leverage the Local Government Partnership administration and technical assistance dollars, when applicable, and any other existing resources that are available to help municipalities with retrofits including: EEMIS, CEEPMS, EPA Portfolio Manager, and Energy Design Resource (EDR) eVALUator which calculates lifecycle and cash flow impacts for cities to make decisions on green-lighting projects.

A variety of other programs and funding is available to help the SoCalREC program achieve its success. Please see Exhibit C4, Resource Plan.

d) **Trials/ Pilots:** Please describe any trials or pilot projects planned for this sub-program

This program will include 3 pilot efforts:

a. Assistance of streetlight purchase from IOUs including RCNLD analysis, decoupling, and rate tariff revisions
b. Assistance of Series 6.6 re-circuiting from series to multiple circuits
c. Integration of Demand Response and carbon credit gap analysis during, or in conjunction with, ASHRAE Level II audits, to see if more curtailment strategies can be implemented if discussed and planned as part of energy efficiency planning.

e) **Knowledge Transfer:** Describe the strategy that will be used to identify and disseminate best practices and lessons learned from this sub-program

f. Case studies developed and disseminated
g. Assist cities to set up a revolving account and take a portion of saved funds to pay for a high profile project/highlight success
h. Highlight major success stories through media
i. Draft news and journal articles on city energy savings
j. Presentations and participation in conferences to share success/best practices/lessons learned

Please see Exhibit C2 for sample collateral such as newsletters, website screen shot, etc.

12) **Market Transformation Information**: For programs identified as market transformation programs, include the following (suggested page limit- five pages):

ii. A summary of the market transformation objectives of the program.
iii. A description of the market, including identification of the relevant market actors and the relationships among them;
iv. A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies;
v. A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address;
vi. A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results[35];
vii. Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model.

Not applicable.

13) **Additional information as required by Commission decision or ruling or as needed:** Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers):

Exhibit C1: Tables

Exhibit C2: SoCalREC collateral

Exhibit C3: Logic Model

Exhibit C4: Resource plan

Exhibit C5: E3 calculations – Due to file size, please download at either:

https://docs.google.com/folder/d/0BxZ0UPrSj7W8Wmw5bUdIcVFOSTA/edit or https://www.dropbox.com/sh/1z0nsjojgrjrorf/ayYjEUqZ_3

[35] If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

Exhibit C6: List of Subprogram C Figures

303376951.1

2013-2014 Energy Efficiency Programs

Southern California Regional Energy Network

Program Implementation Plan

EXHIBITS

EXHIBIT a

Exhibit a: List of Motion Figures

EXHIBIT A

Exhibit A1: Tables
Exhibit A2: EUC Marketing Collateral
Exhibit A3: Logic Model
Exhibit A4: E3 Calculations
Exhibit A5: List of Subprogram A Figures

EXHIBIT B

Exhibit B1: Tables
Exhibit B2: List of Subprogram B Figures

EXHIBIT C

Exhibit C1: Tables
Exhibit C2: SoCalREC Collateral
Exhibit C3: Logic Model
Exhibit C4: SoCalREC Work Products

- File 1: Resource Plan Draft
- File 2: RFQ-VFD
- File 3: RFP-Financing

Exhibit C5: E3 Calculations
Exhibit C6: List of Subprogram C Figures

EXHIBIT a

Exhibit a: List of Motion Figures

- Figure 1: California Local Government Regional Energy Networks
- Figure 2: Potential Funding Sources (estimates)
- Figure 3: Energy Upgrades Promoted Through LA County's Energy Upgrade California in Los Angeles County incentive program
- Figure 4: Energy Upgrade Marketing Activities as of June 2012
- Figure 5: Sample list of Systems and Technologies
- Figure 6: Energy Upgrade Training Activities
- Figure 7: Southern California Regional Energy Network Organization Chart

EXHIBIT A

Exhibit A1: Tables

Table 1: Total Projected Program Budget & Savings by Subprogram

Subprogram	SCE ($)	SCG ($)	Kwh	KW	Therms
A: Energy Upgrade	21,347,633	9,496,306	16,753,056	8,508	1,165,855
B: Financing	12,898,750	2,276,250	TBD	TBD	TBD
C: SoCalREC	15,086,725	2,656,033	34,437,142	6,705	709,000
Total	49,333,108	14,428,589	51,190,198	15,213	1,874,855

Table 2: Total Projected Program Savings by IOU

Subprogram	SCE Kwh	SCE KW	SCG Therms	Total
A: Energy Upgrade	16753056	8508	1165855	
B: Financing	TBD	TBD	TBD	
C: SoCalREC	34437142	6705	709000	
Total	51,190,198	15,213	1,874,855	

Table 1. Projected Sub-Program Budget, by Calendar Year

	Program Year		
Subprogram A: Energy Upgrade	**2013**	**2014**	**Total**
Admin ($)	168,948	180,995	349,943
General overhead ($)	45,955	50,572	96,527
Incentives ($)	2,085,300	3,151,500	5,236,800
Direct Install Non-Incentives ($)	1,068,716	1,190,768	2,259,484
Marketing & Outreach ($)	459,776	492,044	951,820
Education & Training	332,851	268,881	601,732
Total Budget	4,161,546	5,334,760	9,496,306

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

	Program Years		
	2013	2014	Total
Subprogram A: Energy Upgrade			
GWh	6.7	10	16.7
Peak MW	3.4	5.1	8.5
Therms (millions)	0.46	0.69	1.15

Individual utility specific information to be provided in this table

Table 3. Quantitative Program Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	2,000	3,000
Number of units incented or rebated	3,200	4,800
etc		

Table 4 – Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
	FLEX PATH			
1	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-0 to R-38)		X	
2	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-5 to R-38)		X	
3	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-11 to R-38)		X	
4	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-19 to R-38)		X	
5	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
6	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
7	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
8	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
9	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
10	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
11	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
12	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
13	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-0 to R-38)		X	
14	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-5 to R-38)		X	
15	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-11 to R-38)		X	
16	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-19 to R-38)		X	
17	HVAC 0.80 AFUE/AC 10 SEER - Wall Insulation (R-0 to R-13)		X	
18	HVAC 0.80 AFUE/AC 10 SEER - Building leakage		X	
19	HVAC 0.80 AFUE/AC 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
20	Heat Pump 10 SEER - Attic Insulation (R-0 to R-38)		X	
21	Heat Pump 10 SEER - Attic Insulation (R-5 to R-38)		X	
22	Heat Pump 10 SEER - Attic Insulation (R-11 to R-38)		X	
23	Heat Pump 10 SEER - Attic Insulation (R-19 to R-38)		X	
24	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
25	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
26	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
27	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
28	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
29	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
30	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
31	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
32	Heat Pump 10 SEER - Cool Roof (R-0 to R-38)		X	
33	Heat Pump 10 SEER - Cool Roof (R-5 to R-38)		X	
34	Heat Pump 10 SEER - Cool Roof (R-11 to R-38)		X	
35	Heat Pump 10 SEER - Cool Roof (R-19 to R-38)		X	
36	Heat Pump 10 SEER - Wall Insulation (R-0 to R-13)		X	
37	Heat Pump 10 SEER - Building leakage		X	
38	Heat Pump 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
39	Replace gas-fired furnace and AC (0.92 AFUE. 15 SEER 11 EER)		X	
40	Replace gas-fired furnace and AC (0.95 AFUE. 15 SEER 11 EER)		X	
41	Replace gas-fired furnace and AC (new HVAC: HP 8HSPF & 15 SEER. 11 EER)		X	
42	Replace furnace (new furnace: 0.95 AFUE)		X	
43	Replace AC (new AC: 15 SEER 11 EER)		X	
44	Replace Heat Pump (new HVAC: 8 HSPF. 15 SEER 11 EER)		X	
45	Duct sealing (28% to 6%)		X	
46	Duct sealing (28% to 10%)		X	
47	Duct sealing (28% to 15%)		X	
48	Duct insulation (R-2.1 to R-8)		X	
49	Duct insulation (R-4 to R-8)		X	
50	Duct replacement (R-4, 28% to R-8, 6%)		X	
51	Crawlspace Insulation		X	
52	DHW (gas-fired 0.525 EF to 0.620 EF)		X	
53	DHW (gas-fired to 0.525 EF to tankless 0.88 EF)		X	
54	Replace Thermostat		X	

	MULTI-FAMILY			
1	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-0 to R-38)		X	
2	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-5 to R-38)		X	
3	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-11 to R-38)		X	
4	HVAC 0.80 AFUE/AC 10 SEER - Attic Insulation (R-19 to R-38)		X	
5	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
6	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
7	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
8	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
9	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
10	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
11	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
12	HVAC 0.80 AFUE/AC 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
13	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-0 to R-38)		X	
14	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-5 to R-38)		X	
15	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-11 to R-38)		X	
16	HVAC 0.80 AFUE/AC 10 SEER - Cool Roof (R-19 to R-38)		X	
17	HVAC 0.80 AFUE/AC 10 SEER - Wall Insulation (R-0 to R-13)		X	
18	HVAC 0.80 AFUE/AC 10 SEER - Building leakage		X	
19	HVAC 0.80 AFUE/AC 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
20	Heat Pump 10 SEER - Attic Insulation (R-0 to R-38)		X	
21	Heat Pump 10 SEER - Attic Insulation (R-5 to R-38)		X	
22	Heat Pump 10 SEER - Attic Insulation (R-11 to R-38)		X	
23	Heat Pump 10 SEER - Attic Insulation (R-19 to R-38)		X	
24	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Continuous)		X	
25	Heat Pump 10 SEER - Radiant Barrier (R-0 to R-0 Sheathing)		X	
26	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Continuous)		X	
27	Heat Pump 10 SEER - Radiant Barrier (R-5 to R-5 Sheathing)		X	
28	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Continuous)		X	
29	Heat Pump 10 SEER - Radiant Barrier (R-11 to R-11 Sheathing)		X	
30	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Continuous)		X	
31	Heat Pump 10 SEER - Radiant Barrier (R-19 to R-19 Sheathing)		X	
32	Heat Pump 10 SEER - Cool Roof (R-0 to R-38)		X	
33	Heat Pump 10 SEER - Cool Roof (R-5 to R-38)		X	
34	Heat Pump 10 SEER - Cool Roof (R-11 to R-38)		X	
35	Heat Pump 10 SEER - Cool Roof (R-19 to R-38)		X	
36	Heat Pump 10 SEER - Wall Insulation (R-0 to R-13)		X	
37	Heat Pump 10 SEER - Building leakage		X	
38	Heat Pump 10 SEER - Replace Windows (SMC to Vinyl Low E)		X	
39	Replace gas-fired furnace and AC (0.92 AFUE. 15 SEER 11 EER)		X	
40	Replace gas-fired furnace and AC (0.95 AFUE. 15 SEER 11 EER)		X	
41	Replace gas-fired furnace and AC (new HVAC: HP 8HSPF & 15 SEER. 11 EER)		X	
42	Replace furnace (new furnace: 0.95 AFUE)		X	
43	Replace AC (new AC: 15 SEER 11 EER)		X	
44	Replace Heat Pump (new HVAC: 8 HSPF. 15 SEER 11 EER)		X	
45	Duct sealing (28% to 6%)		X	
46	Duct sealing (28% to 10%)		X	
47	Duct sealing (28% to 15%)		X	
48	Duct insulation (R-2.1 to R-8)		X	
49	Duct insulation (R-4 to R-8)		X	
50	Duct replacement (R-4, 28% to R-8, 6%)		X	
51	Crawlspace Insulation		X	
52	DHW (gas-fired 0.525 EF to 0.620 EF)		X	
53	DHW (gas-fired to 0.525 EF to tankless 0.88 EF)		X	
54	Replace Thermostat		X	
55	Low Flow Faucet Aerators		X	
56	Low Flow Showerheads		X	

Table 5: Sub-Program Milestones and Timeline (example)

Milestone	**Date**
Project Initiation Meeting	1/15/2013
Regional Marketing Strategy Developed	2/15/2013
Regional Flex Path Program Launch	2/15/2013
Regional Marketing and Outreach Launch	4/1/2013
Smart Path Program Launch	4/1/2013
Enhanced EE Incentive Program Launch	4/1/2013
Contractor Trainings Initiated	5/1/2013
Installations Completed. All Incentives Closed to New Applications	10/31/2014
Final Incentives Issued	12/8/2014
Conclude Program	12/31/2014
Quarterly Progress Reports	3/31/2013 – 12/8/2014

Table 6 Geographic Regions

Geographic Region	Subprogram A: Energy Upgrade
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

Table 7: Program Administration of Program Components

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)	Implemented by contractors to be selected by competitive bid process (if Yes then enter type of contractor/other maket actor possibly used)	Implemented by contractors NOT selected by competitive bid process (list prime contractor and sub-contractor names)	Implemented by local government or other entity (X = Yes)
Energy Upgrade Expansion	A1: Energy Upgrade marketing and outreach				X (LA County)
Energy Upgrade Expansion	A2: Green Building Labeling				X (LA County)
Energy Upgrade Expansion	A3: Flex Path				X (LA County)
Energy Upgrade Expansion	A4: EUCLA Contractor outreach and training				X (LA County)
Energy Upgrade Expansion	A5: Multifamily				X (LA County)
Energy Upgrade Expansion	A6: Enhanced EE				X (LA County)
Energy Upgrade Expansion	A7: Smart Tech Path				X (LA County)

Table 8: Customer Eligibility Requirements (Joint Utility Table)

Customer Eligibity Requirement (list of requirements)	**SCG**
Green Building Labeling: Property must be located in IOU service territory.	X
Flex Path: Property must be located in IOU service territory. Single-Family Detached Housing.	X
Multi-family: Property must be located in IOU service territory. Multi-Family Housing (defined as 5+ units). May require a test-in/test-out and a combustion safety test.	X
Community Development: Low-Rise or High-Rise. Property must be located in IOU service territory.	X
Smart Tech Path: Property must be located in IOU service territory. Single-Family Detached Housing with smart meter.	X

The utilities must work together and submit this table jointly in their respective applications

Table 9: Contractor Eligibility Requirements (Joint Utility Table)

Contractor Eligibity Requirement (list of requirements)	**SCG**
Green Building Labeling: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required.	X
Flex Path: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required.	X
Multi-family: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required.	X
Community Development: Must be an Energy Upgrade California Participating Contractor, including: California Licensed Contractor in Good Standing, liability insurance, BPI Certified Analyst on staff, other training as required.	X

List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).
The utilities must work together and submit this table jointly in their respective app

Table 10: Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Parnter Information	SCG
Manufacturers enrolled in program	None
Manufacturers targeted for enrollment in program	None
Retailers enrolled in program	None
Retailers targeted for enrollment in program	None
Distributors enrolled in program	None
Distributors targeted for enrollment in program	HVAC

Table 11: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group (measure combinations based on actual Flex Path projects)	Market Actor Receiving Incentive or Rebate	SCE/SCG	
		Incentive Level	Installation Sampling Rate
wall insulation + attic insulation + air sealing	Homeowner or Contractor	$1,500	20%
attic insulation + air sealing + duct insulation &	Homeowner or Contractor	$1,500	20%
wall insulation + replace windows	Homeowner or Contractor	$1,500	20%
replace furnace + replace A/C + thermostat	Homeowner or Contractor	$1,500	20%
replace furnace + thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
wall insulation + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
crawlspace insulation + attic insulation + air sealing	Homeowner or Contractor	$1,500	20%
crawlspace insulation + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
air sealing + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
thermostat + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
replace a/c + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
attic insulation + air sealing + windows	Homeowner or Contractor	$1,500	20%
attic insulation + attic radiant barrier + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
wall insulation + duct insulation & sealing + pipe wrap + low-flow fixtures	Homeowner or Contractor	$1,500	20%
duct insulation & sealing + pipe wrap	Homeowner or Contractor	$1,500	20%
wall insulation + low-flow fixtures + lighting fixtures	Homeowner or Contractor	$1,500	20%
replace furnace + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
replace furnace + replace A/C	Homeowner or Contractor	$1,500	20%
wall insulation + thermostat + pipe wrap	Homeowner or Contractor	$1,500	20%
attic radiant barrier + windows	Homeowner or Contractor	$1,500	20%
replace furnace + duct insulation & sealing	Homeowner or Contractor	$1,500	20%
crawlspace insulation + replace DHW	Homeowner or Contractor	$1,500	20%
Multifamily Retrofit Program (measures refer to Table 4 and Exhibit A1)	Building Owners	Varies by Project	

Table 12: Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	SCE/SCG
Assessment Vouchers	Homeowners	$300
Energy Upgrade Coupon	Homeowners	$200
Energy Champions (Basic or Flex Path/Advanced Path)	NonProfit Organizations	$100/$500
Environmental Information Center	Homeowners	$0
Social Media	Homeowners	$0
Green Building Labeling (GB Elements/GB Label)	Homeowners	$1,000/$2,000
Flex Path Retrofit Program	Homeowners	$1,500
Heating, Ventilation, and Air Conditioning	Contractors	$500
Contractor Training Scholarship	Contractors	$500-$1,000
Contractor Co-op Marketing	Contractors	Up to $40,000

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any

Table 13: Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
$300 Assessment Voucher	Customer or Contractor (Customer may sign incentive over to Contractor)
Up to $10,000 for Multifamily retrofit program	Customer or Contractor

NOTE: If software tools are required sub-program participation, and if there is a program related audit for the sub-program, this table shows the levels at which the audit is rebated or funded and to whom such rebates/funding will be provided (i.e., customer or contractor)

Table 14: Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Flex Path Incentive Program: Property must meet eligibility requirements for measures installed.	20% Post Installation	BPI Analyst Certification
Multi-family: Property must meet eligibility requirements for measures installed.	100% Pre/20% Post Installation	BPI Analyst Certification
Community Development: TBD	TBD	TBD

NOTE: Please list quality assurance, quality control, including accreditations/certification or other credentials required.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram A: Energy Upgrade California		
Other REN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Financing	Project referrals	As requested by contractor/homeowner
SoCalREC	Meetings, other regular communication	As needed to ensure consistency of message and increase efficiency of local government outreach
IOU Programs	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	Bi-Monthly
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Low-Income Weatherization Programs	Project referrals	As requested by contractor/homeowner
Non-SoCalREN Financing Programs	Project referrals, meetings, other regular communication	Quarterly or as needed
Local Workforce Investment Boards	Meetings, other regular communication	Quarterly or as needed
Building Trade Associations	Meetings, other regular communication	As needed as part of marketing efforts
Real Estate Associations	Association meetings, trainings	As needed as part of marketing efforts
Green Building Labeling Organizations	Meetings, other regular communication	As needed as part of marketing efforts
Local Retailers, Suppliers	Meetings, other regular communication	As needed as part of marketing efforts
Community Based Organizations, Religious Institutions, Educational Institutions	Meetings, other regular communication	As needed as part of marketing efforts

Note: "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

Table 16: Non-EE Sub-Program Information

Subprogram A: Energy Upgrade California		
Non-EE Sub-Program	**Budget**	**Rationale and General Approach for Integrating Across Resource Types**
Water Programs	TBC	Cross promotion of brand, installation of products (e.g aerators) by EICs
Green Point Rated Existing Home	TBC	Cross promotion of label, incentives offered through BBP pilots

NOTE: Column C --> Integrated/coordinated Demand Side Management: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable. Column D --> Integration across resource types (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach

Exhibit A2: EUC Marketing Collateral

- File 1. Contractor Newsletter
- File 2. Homeowner Email Campaign
- File 3. Online Ad
- File 4. Case Study – Gerardo Family
- File 5. Door Hanger – Diamond Bar [English & Chinese]
- File 6. EUC Program Brochure [Korean]
- File 7. Energy Champion Customized Brochure [Spanish]
- File 8. Flex Path Comparison Chart
- File 9. Event Flyer
- File 10. Financing Flyer

CONTRACTOR upgrade update

Energy Upgrade California. Tips and Tools for Contractors

April 2012

in this issue

- Are You Leaving Rebate Money on the Table?
- Flex Path Gains Momentum
- 2% Financing - Now for Flex Path
- Introducing the HVAC Pilot
- New Ad Campaign Springs into Action
- How to Help Energy Champions - Without Hurting Them
- Job Fair Success Story

Sign up for future newsletter

About Energy Upgrade California

Energy Upgrade California in Los Angeles County is a rebate and incentive program for homeowners to improve their homes' energy efficiency, save water and natural resources, lower utility bills, and create a healthier and more comfortable home through a home energy upgrade. Energy Upgrade California connects homeowners with local Participating Contractors who can complete their home

Southern California Regional Energy Network

Are You Leaving Rebate Money on the Table?

At last count, approximately 150 Energy Upgrade projects (27% of the total) in LA County are potentially forgoing their LA County rebate because contractors didn't remind them to apply. That can mean thousands of dollars of lost rebates to your customers. Why leave money on the table?

To ensure that your customers get their rebates, contractors need to provide a combination of the LA County Incentive application and the signed Information Release on either the Reservation or Application form with the utilities.

Here are some tips to help you:

- Apply for the LA County incentive application during the Reservation period, meaning prior to construction. Since the LA County incentives are first come, first served, this is the only way to reserve the rebate funds for clients. Waiting until post-construction to apply will lower the chances of receiving rebates when funds begin to deplete. As you know, the utility companies have this program as one of their core program offerings, but the LA County money is from a federal grant; and that money must be used up quickly. Therefore, we are going to be running promotions for the next 6 months to

Exhibit A2 - File 1

THINGS YOU TELL YOURSELF #27:
THOSE LEAKY WINDOWS AREN'T A BIG DEAL.
Actually, air leaks waste up to 40% of your home's energy.
GET $1,300 TO $8,000 BACK ON HOME ENERGY UPGRADES
energyupgradeca.org/LACounty 1-877-785-2237
energy upgrade CALIFORNIA
in Los Angeles County
Southern California Regional Energy Network
Forward email
Exhibit A2 - File 2

THINGS YOU TELL YOURSELF #24
I'm Totally Green
...
REALLY?
GET $1,300 TO $8,000 BACK ON HOME ENERGY UPGRADES
energy upgrade CALIFORNIA
in Los Angeles County
Southern California Regional Energy Network
Exhibit A2 - File 3

The Gerardo Home in San Fernando

SUPERVISORIAL DISTRICT 3 RESIDENT

What It Cost

Many homeowners begin with a 20% energy savings target.

The Gerardos' upgrade included:

20% *Cost-effective upgrades projected to achieve at least **20% energy savings** in this home*

Energy assessment	$500
Attic, crawl space and wall insulation upgrade with air sealing	$10,100
Subtotal investment	$10,600
Qualified Energy Upgrade California incentives	**$4,000***
Subtotal #1 out-of-pocket costs	$6,600

But the Gerardos went a step further.

80% *Additional upgrades projected to achieve over **80% energy savings** in this home*

Lennox heating and A/C system with duct enhancements and roof repair	$16,650
Pool pump upgrade	$1,600
Solar panels	$20,000
Other upgrades	$3,700
Subtotal additional investment	$41,950
Additional Energy Upgrade California incentives	**$4,000***
Subtotal #2 out-of-pocket costs	$37,950
Subtotal #1 out-of-pocket costs	$6,600
Total out-of-pocket costs	**$44,550**

*Check EnergyUpgradeCA.org/LACounty for current promotion.

San Fernando residents Albert and Julie Gerardo have lived in their 2,200-square-foot home built in 1953 for 14 years. They spend about $3,300 annually for electricity and gas. The Gerardos have two daughters and a son, and two dogs. Julie's elderly mother lives in the home's in-law unit. There's also a small pool. The Gerardos have always wanted to make energy upgrades—making their home more energy efficient and helping the environment. With Energy Upgrade California, they did!

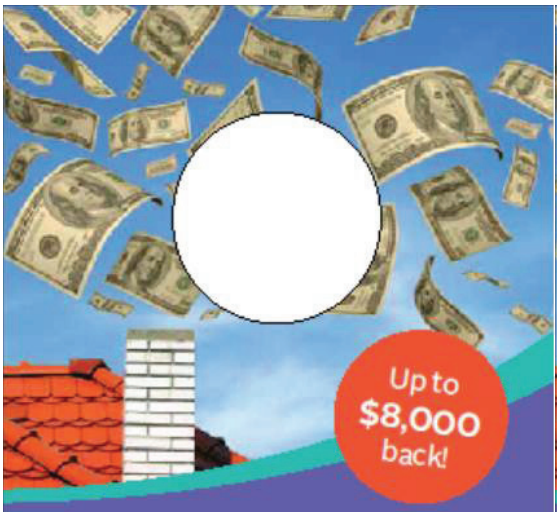
Energy Upgrade California Home Energy Makeover

1. Comprehensive Energy Assessment

To provide a complete evaluation of the Gerardo home's energy use, **Residential Energy Assessment Services (REAS)** conducted a comprehensive home energy analysis using diagnostic equipment that included a blower door. Testing showed the home was over three times as drafty as it should have been. **REAS** determined that the home needed attic and crawl space insulation, like most houses built before today's building energy codes. They also found that the condition and orientation of the roof made the home an ideal candidate for a solar electric system.

2. Insulation with Air Sealing

REAS partnered with **San Gabriel Insulation** to upgrade the home's attic and crawl space insulation and air sealing. **San Gabriel** removed the home's existing attic cellulose insulation. They installed a one-inch thick layer of foam to make sure all penetrations between the attic floor and living area ceiling were sealed before blowing in new cellulose insulation. This improved the efficiency level from R-8 to R-38 to comply with modern building energy codes. **REAS** also weather-stripped the attic hatch.



Up to $8,000 back!

You could be losing up to half your heating through leaky ducts.

Find out how to make energy efficient home upgrades at an upcoming workshop.

Workshops

Tuesday, March 20, 6:30 - 8 pm
Pantera Park, Diamond Bar

Tuesday, April 3, 6:30 - 8 pm
Walnut Senior Center, Walnut

At the workshops:

- Learn more and meet with Participating Contractors!
- Receive a coupon worth an additional **$200 back** on your energy upgrade
- Be entered in an opportunity drawing for a **$300 voucher** toward a comprehensive home energy assessment
- Learn how to get up to **$8,000 in rebates and incentives**

To learn more and get started:

- Attend a workshop!
- RSVP at www.sgvcog.org/energyupgrade
- Call 1-877-206-5929
- Or contact one of the Participating Contractors (listed below)

CSI Company 1-909-542-8295
Greenery Fitting 1-888-811-8658
HOME 1-866-974-9944
SoCal Remodeling 1-909-902-6090
energy upgrade CALIFORNIA in Los Angeles County

Southern California Regional Energy Center

Exhibit A2 - File 5

高達 $8,000 退款！

管道泄漏可能會使您流失一半的暖氣

在即將舉行的講座上了解如何提高家居能效

講座

3月20日星期二下午6點30分到8點
鑽石吧，Pantera Park

4月3日星期二下午6點30分到8點
核桃木，核桃木老人中心
Walnut Senior Center

在講座期間上，您可以：

- 需說出和參與承包商見面！
- 獲得一張折價券，可使您的能源更新再節省$200
- 參加抽獎，有機會贏得一張用於全面居家能源評估的$300抵金券
- 了解如何獲得高達$8,000的退款和獎勵金

如需洽詢詳情並著手更新：

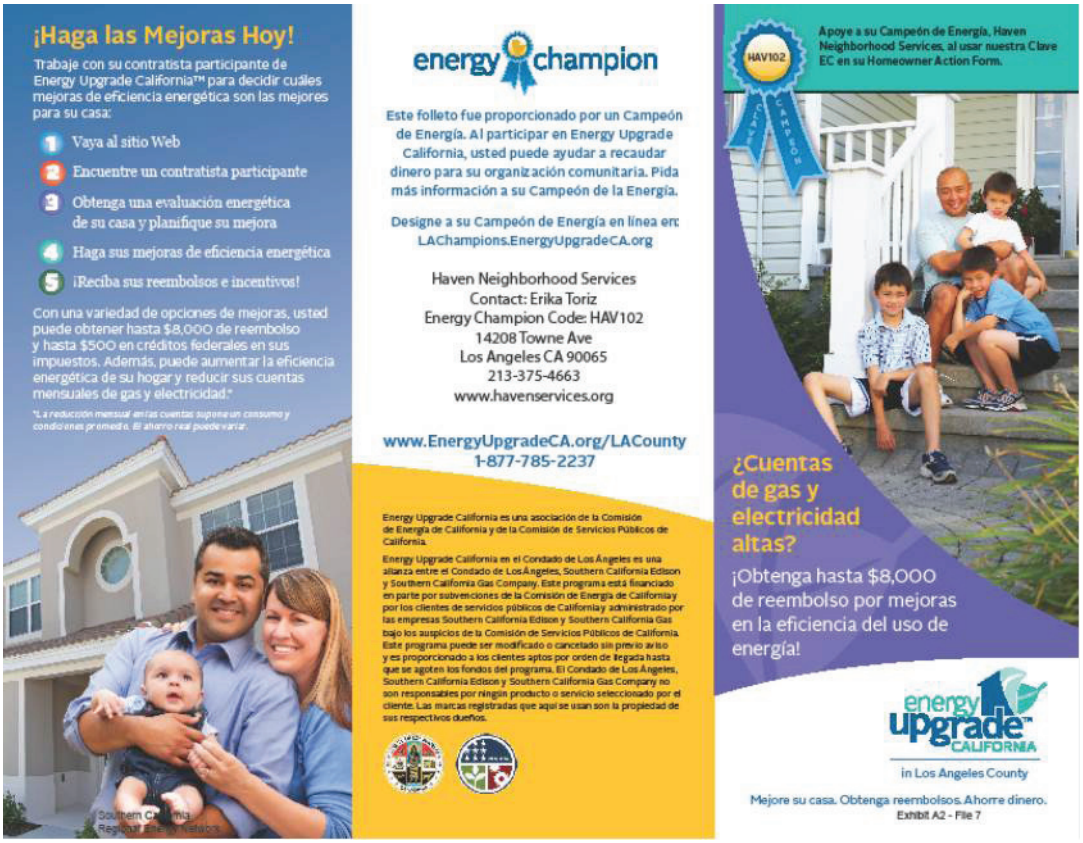
- 請參加講座！
- 請到www.sgvcog.org/energyupgrade回覆
- 致電1-877-206-5929
- 或聯絡一位參與承包商（請看下文）

CSI Company 1-909-542-8295
Greenery Fitting 1-888-811-8658
HOME 1-866-974-9944
SoCal Remodeling 1-909-902-6090
energy upgrade CALIFORNIA in Los Angeles County

Southern California Regional Energy Center

Exhibit A2 - File 5

에너지 비용도 아끼고,
인센티브도 받으세요!
지금 업그레이드 하세요!
에너지효율을위해 어떤
업그레이드가 최상인지를 에너지
업그레이드 캘리포니아™와함께
시공업체와 함께 알아보세요.
1 웹사이트를 방문하세요.
2 참여 시공업체를 찾으세요.
3 주택에너지 평가를 받고
업그레이드 계획을 세우세요.
4 에너지효율 개선방안을
실시하세요.
5 리베이트와 인센티브를
받으세요.
www.EnergyUpgradeCA.org/LACounty
1-877-785-2237 (영어 통화 / For English)
1-213-207-6457 (한국어 통화 / For Korean)
냉난방
요금이
높다구요?
에너지 효율개선으로
최고 $8,000 까지 돌려
받으세요!
energy upgrade CALIFORNIA
in Los Angeles County
Exhibit A2 - File 6


¡Haga las Mejoras Hoy!
Trabaje con su contratista participante de Energy Upgrade California™ para decidir cuáles mejoras de eficiencia energética son las mejores para su casa:
1 Vaya al sitio Web
2 Encuentre un contratista participante
3 Obtenga una evaluación energética de su casa y planifique su mejora
4 Haga sus mejoras de eficiencia energética
5 ¡Reciba sus reembolsos e incentivos!
Con una variedad de opciones de mejoras, usted puede obtener hasta $8,000 de reembolso y hasta $500 en créditos federales en sus impuestos. Además, puede aumentar la eficiencia energética de su hogar y reducir sus cuentas mensuales de gas y electricidad.*
*La reducción mensual en las cuentas supone un consumo y condiciones promedio. El ahorro real puede variar.
energy champion
Este folleto fue proporcionado por un Campeón de Energía. Al participar en Energy Upgrade California, usted puede ayudar a recaudar dinero para su organización comunitaria. Pida más información a su Campeón de la Energía.
Designe a su Campeón de Energía en línea en: LAChampions.EnergyUpgradeCA.org
Haven Neighborhood Services
Contact: Erika Toriz
Energy Champion Code: HAV102
14208 Towne Ave
Los Angeles CA 90065
213-375-4663
www.havenservices.org
www.EnergyUpgradeCA.org/LACounty
1-877-785-2237
Energy Upgrade California es una asociación de la Comisión de Energía de California y de la Comisión de Servicios Públicos de California.
Energy Upgrade California en el Condado de Los Ángeles es una alianza entre el Condado de Los Ángeles, Southern California Edison y Southern California Gas Company. Este programa está financiado en parte por subvenciones de la Comisión de Energía de California y por los clientes de servicios públicos de California y administrado por las empresas Southern California Edison y Southern California Gas bajo los auspicios de la Comisión de Servicios Públicos de California. Este programa puede ser modificado o cancelado sin previo aviso y es proporcionado a los clientes aptos por orden de llegada hasta que se agoten los fondos del programa. El Condado de Los Ángeles, Southern California Edison y Southern California Gas Company no son responsables por ningún producto o servicio seleccionado por el cliente. Las marcas registradas que aquí se usan son la propiedad de sus respectivos dueños.
HAV102
Apoye a su Campeón de Energía, Haven Neighborhood Services, al usar nuestra Clave EC en su Homeowner Action Form.
¿Cuentas
de gas y
electricidad
altas?
¡Obtenga hasta $8,000
de reembolso por mejoras
en la eficiencia del uso de
energía!
energy upgrade CALIFORNIA
in Los Angeles County
Mejore su casa. Obtenga reembolsos. Ahorre dinero.
Exhibit A2 - File 7

Choose an Energy Upgrade Pathway to Fit Your Budget

Basic Path

Offered by your electric and gas utility company with additional rebates and incentives from Los Angeles County, the Basic Path includes six required energy efficiency measures that together can reduce your energy consumption by an average of 10%.

QUALIFYING MEASURES

To receive an incentive, you must install ALL of the following measures:

- Air sealing
- Attic insulation
- Duct sealing
- Hot water pipe insulation, where accessible
- Thermostatic shut-off valve
- Combustion appliance safety testing including installation of carbon monoxide (CO) monitor

INCENTIVES*

- Customers in combined SCE/SCG areas: $1,000
- SCG + municipal electric customers (ex. LADWP): $320
- LBGO/SCE areas: $1,000
- PLUS Los Angeles County: $1,000

Total: $1,320–$2,000

Comprehensive Energy Assessment: No
Participating Contractor Required: YES

NEW

Flex Path

Flex Path is a new option offered by Los Angeles County that allows homeowners to choose a combination of **two** or more qualifying measures with a combined point value of **100 or more.** For information about Flex Path, please call (877) 785-2237.

NOTE: You may be eligible to apply for additional individual measure rebates through your local utility companies.

QUALIFYING MEASURES

To receive an incentive, you must install at least **two** measures totaling **100** or more points. These measures include:

- Wall or crawlspace insulation
- Air sealing
- Attic insulation & air sealing
- Attic radiant barrier
- Efficient furnace or central AC
- Efficient heat pump
- Whole house fan
- Programmable thermostat
- Duct sealing & insulation
- Duct replacement & insulation
- ENERGY STAR® windows
- Tankless or efficient hot water heater
- Pipe wrap
- Low-flow fixtures
- Efficient lighting fixtures
- Cool roof

NOTE: See website or application for measure point value

INCENTIVES

Los Angeles County: $1,500

Total: $1,500 + Utility rebate, if available.

Comprehensive Energy Assessment: No
Participating Contractor Required: YES

Advanced Path

Offered by your electric and gas utility company with additional rebates and incentives from Los Angeles County, the Advanced Path is a customized energy efficiency solution based on an energy assessment by a Participating Contractor. Incentives are tiered based on the level of energy savings.

QUALIFYING MEASURES

To receive an incentive, you must install **Basic Path** measures, **PLUS** any of the following measures:

- High-efficiency furnace
- Energy-efficient cooling
- Water heater system
- Energy-efficient windows
- Duct replacement
- Wall insulation
- Energy-efficient lighting fixtures
- Other custom energy-saving measures

INCENTIVES*

- Customers in combined SCE/SCG areas: $1,250-$4,000
- SCG + municipal electric customers: $400–$1,280
- LBGO/SCE areas: $1,250–$4,000
- PLUS Los Angeles County: $1,250–$4,000

Total: $1,650–$8,000

Comprehensive Energy Assessment: YES
Participating Contractor Required: YES

*SCE= Southern California Edison; SCG = Southern California Gas Company; LBGO = Long Beach Gas & Oil

energy upgrade CALIFORNIA
In Los Angeles County
Southern California Regional Energy Network

For more information, www.EnergyUpgradeCA.org/LAFlex, 877-785-2237

Exhibit A2 - Flex

San Gabriel Valley Energy Wise Partnership and the County of Los Angeles invite you to learn more about:

Energy Upgrade CA

Meet with green industry experts!

Every 1st Tuesday (through June 2012)
6:30p.m. -8:00p.m.

February 7	Monterey Park Senior Center
March 6	Arcadia Library Auditorium
April 3	Walnut Senior Center
May 1	San Dimas Community Building
June 5	San Marino Crowell Library

Every 4th Saturday (through June 2012)
10:00a.m. -11:30a.m.

February 25	Baldwin Park Senior Center
March 24	San Marino Crowell Library
April 28	Baldwin Park Senior Center
May 26	Monterey Park Senior Center
June 23	Arcadia Library Auditorium

Please RSVP for any event on our website: www.sgvcog.org/energyupgrade
Or Call: (626)457-1800

For more information, visit:
EnergyUpgradeCA.org/LACounty
Or Call: (877) 785-2237

Discover how to save money, increase energy efficiency, and earn up to $8,000 in rebates from Energy Upgrade California. Speak with local experts on Energy Upgrade!

Additional activities include:

- **Introduction to Energy Upgrade CA** - Presentation on what the program offers, the benefits of completing an Energy Upgrade, and how to earn incentives along the way.
- **Participating Contractor Panel Q&A** - Learn how our approved Participating Contractors are trained and certified to help you understand how to save money and increase your home's comfort and improve indoor air quality.
- **Opportunity Drawing*** - Enter for a chance to get $300 off your Home Energy Assessment.

EDISON | ENERGY LEADERS PARTNERSHIP | energy upgrade CALIFORNIA In Los Angeles County

Improve your home. Get rebates. Save money.

Southern California Regional Energy Network

*Opportunity drawing limited to SCE customers and valid for discount off qualifying Home Energy Assessment only; No cash value. One entry per household.

2% APR Energy Loans
for Los Angeles County

For a limited time, Energy Upgrade California in Los Angeles County is offering property owners a 2% interest rate on eligible residential energy efficiency and solar projects! These loans are offered through Matadors Community Credit Union with support from Los Angeles County. Before contacting the lender, be sure to talk with a Participating Contractor to make sure that you qualify for utility incentives.

Financing Terms

- **Types of Projects:** Energy efficiency and solar
- **Interest Rates:** 2.0% fixed APR
- **Payment Duration:** 5 years
- **Financing Amounts:** $2,500 - $20,000
- **Type of Loan:** Unsecured*
- **Other:** No prepayment penalties or closing costs. Loan value may equal full amount of qualifying scope of work (not including rebates and incentives). Loans of up to $50,000 are available at other attractive terms.

Program Details

Residential, single family detached properties only.

Energy efficiency projects must be enrolled in the Southern California Edison (SCE) and/ or Southern California Gas (SoCalGas) Energy Upgrade California incentive program.

Solar projects must be installed concurrently or after the installation of energy efficiency measures and must be enrolled in the California Solar Initiative (CSI).

2.0% interest rate is offered while funds are available. Other types of loans may be available.

Please call **213-444-6382** for more information.

Matadors Community Credit Union

Participating Lender
Matadors Community Credit Union
www.matadors.org

Find out more at
www.EnergyUpgradeCA.org/LA County

energy upgrade CALIFORNIA
in Los Angeles County

*A UCC-1 lien may be required.

Southern California
Regional Energy Network

Exhibit A2 - File 10

Exhibit A3: Logic Model

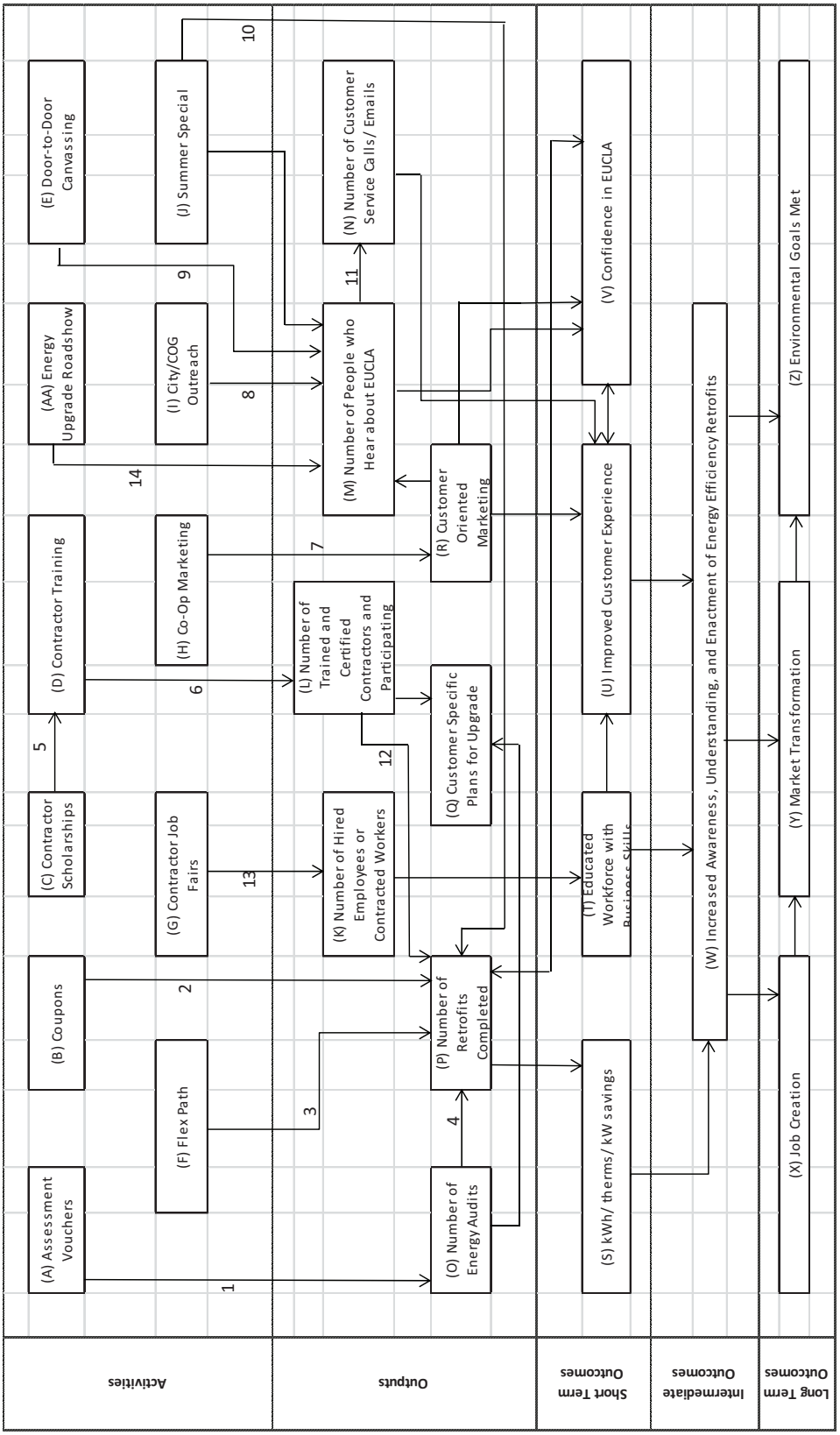


Exhibit A4: E3 Calculations – Due to file size, please download at either:

https://docs.google.com/folder/d/0BxZ0UPrSj7W8Wmw5bUdIcVFOSTA/edit or
https://www.dropbox.com/sh/1z0nsjojgrjrorf/ayYjEUqZ_3

- Working Copy of EC Flex Path E3 Gas Fixed Rebate Rev 2 (1)
- Working Copy of EC Flex Path E3 SCE Fixed Rebate Rev 1 (1)
- Working Copy of SC MF E3 SCG Fixed Rebate Rev 2 (2)
- Working Copy of SC MF E3 SCE Fixed Rebate Rev 1

Exhibit A5: List of Subprogram A Figures

- Figure 1 (Subprogram A): Successful Marketing and Workforce Activities Driving EUCLA Participation
- Figure 2 (Subprogram A): EUCLA Summary of Marketing and Outreach Methods as of June 2013
- Figure 3 (Subprogram A): LA County-Provided Trainings and Certifications
- Figure 4 (Subprogram A): Flex Path Proposed Energy Savings
- Figure 5 (Subprogram A): Breakdown of EUCLA retrofit projects through June 12, 2012
- Figure 6 (Subprogram A): Flex Path Projects by Median Household Income in Los Angeles County
- Figure 7 (Subprogram A): EUCLA Contractor Co-op Marketing Participation
- Figure 8 (Subprogram A): Logic Model
- Figure 9 (Subprogram A): Multi-family configurations
- Figure 10 (Subprogram A): Multi-family Incentive Structure
- Figure 11 (Subprogram A): Green Building Label Incentive Structure
- Figure 12 (Subprogram A): Logic Model
- Figure 13 (Subprogram A): Two Scales of Energy Performance for Enhanced EE Incentive
- Figure 14 (Subprogram A): Proposed Administration Costs for Incorporating EUC
- Figure 15 (Subprogram A): Marketing and Outreach Timeline
- Figure 16 (Subprogram A): Flow Chart
- Figure 17 (Subprogram A): Logic Model
- Figure 18 (Subprogram A): Strategic Plan Alignment
- Figure 19 (Subprogram A): Market Transformation Barriers and Interventions

EXHIBIT B

Exhibit B1: Tables

Table 1: Total Projected Program Budget & Savings by Subprogram

Subprogram	SCE ($)	SCG ($)	Kwh	KW	Therms
A: Energy Upgrade	21,347,633	9,496,306	16,753,056	8,508	1,165,855
B: Financing	12,898,750	2,276,250	TBD	TBD	TBD
C: SoCalREC	15,086,725	2,656,033	34,437,142	6,705	709,000
Total	49,333,108	14,428,589	51,190,198	15,213	1,874,855

Table 2: Total Projected Program Savings by IOU

Subprogram	SCE Kwh	SCE KW	SCG Therms	Total
A: Energy Upgrade	16753056	8508	1165855	
B: Financing	TBD	TBD	TBD	
C: SoCalREC	34437142	6705	709000	
Total	51,190,198	15,213	1,874,855	

Table 1. Projected Sub-Program Budget, by Calendar Year

	Program Year		
Subprogram B: Financing	**2013**	**2014**	**Total**
Admin ($)	48,370	48,370	96,741
General overhead ($)	54,061	54,061	108,122
Incentives ($)	NA	NA	0
Direct Install Non-Incentives ($)	951,473	951,473	1,902,945
Marketing & Outreach ($)	68,288	68,288	136,575
Education & Training	15,934	15,934	31,868
Total Budget	1,138,125	1,138,125	2,276,250

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

	Program Years		
	2013	2014	Total
Subprogram B: Financing			
GWh	TBD	TBD	TBD
Peak MW	TBD	TBD	TBD
Therms (millions)	TBD	TBD	TBD

Individual utility specific information to be provided in this table

Table 3. Quantitative Program Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	TBD	TBD
Number of units incented or rebated	TBD	TBD
etc		

Table 4 – Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
1	TBD			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

Table 5: Sub-Program Milestones and Timeline (example)

Milestone	Date
Kickoff Meeting	1/15/2013
Complete guidelines	4/1/2013
Issue RFPs	6/1/2013
Develop Marketing materials	6/1/2013
Conclude Subprogram B	12/31/2014
Quarterly Progress Reports	3/31/2013 - 12/8/2014

Table 6 Geographic Regions

Geographic Region	Subprogram B: Financing
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

Table 7: Program Administration of Program Components

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)	Implemented by contractors to be selected by competitive bid process (if Yes then enter type of contractor/other maket actor possibly used)	Implemented by contractors NOT selected by competitive bid process (list prime contractor and sub-contractor names)	Implemented by local government or other entity (X = Yes)
Financing Portfolio Program	B1: Public Building Loan Loss Reserve				X (LA County)
Financing Portfolio Program	B2: Energy Upgrade Loan Loss Reserve				X (LA County through contractor)
Financing Portfolio Program	B3: Multifamily Loan Loss Reserve				X (LA County through contractor)
Financing Portfolio Program	B4: Non-residential PACE Loan Loss Reserve				X (LA County)
Financing Portfolio Program	B5: Public Agency Revolving Loan Fund				X (LA County through contractor)

Table 8: Customer Eligibility Requirements (Joint Utility Table)

Customer Eligibity Requirement (list of requirements)	**SCG**
Public Building LLR: Located in IOU service territory. Others TBD.	X
EUC-LLR: Single-Family Detached Home. Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Others TBD	X
Multi-Family LLR: Multi-Family Building of at least 4 Units. Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Others TBD.	X
Non-residential PACE LLR: Located in IOU service territory. Meets Responsible Lending Criteria. Energy Efficiency Improvement Threshold. Others TBD.	X
Non-residential PACE LLR: Meets Definition of “Commercial” Building/Facility. Others TBD	X
Public Agency RLF: Located in IOU service territory. Others TBD	X

The utilities must work together and submit this table jointly in their respective applications

Table 9: Contractor Eligibility Requirements (Joint Utility Table)

Contractor Eligibity Requirement (list of requirements)	**SCG**
Must be an SCE/SCG Energy Upgrade California Participating Contractor, including meeting all license and certification requirements. Others TBD.	X

List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).
The utilities must work together and submit this table jointly in their resp

Table 10: Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Parnter Information	SCG
Manufacturers enrolled in program	NA
Manufacturers targeted for enrollment in program	NA
Retailers enrolled in program	NA
Retailers targeted for enrollment in program	NA
Distributors enrolled in program	NA
Distributors targeted for enrollment in program	NA

Table 11: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	SCE/SCG	
		Incentive Level	Installation Sampling Rate
TBD	TBD	TBD	TBD

Table 12: Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	SCE/SCG
TBD	TBD	TBD

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which an

Table 13: Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
TBD	TBD

NOTE: If software tools are required sub-program participation, and if there is a program related audit for the sub-program, this table shows the levels at which the audit is rebated or funded and to whom such rebates/funding will be provided (i.e., customer or contractor)

Table 14: Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
EUC-LLR: Property must meet eligibility requirements	TBD	TBD
EUC-LLR: Property Owners Must Meet Responsible Lending Criteria	TBD	TBD
EUC-LLR: Contractor holds valid license and meets eligibility requirements (Energy Upgrade Participating Contractor or participant in other qualified program)	TBD	TBD
EUC-LLR: Project meets requirements of program	TBD	TBD
EUC-LLR: Field Verification of Measures Installed	TBD	TBD
EUC-LLR: Field Verification of Combustion Safety Test for Air Sealing (relevant projects)	TBD	TBD
Other Financing QA requirements	TBD	TBD

NOTE: Please list quality assurance, quality control, including accreditations/certification or other credentials required.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram B: Financing Portfolio		
Other SoCalREN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Flex Path	Project referrals	All potential projects
Advanced Package	Project referrals	All potential projects
Multi-Family	Project referrals	All potential projects
IOU Programs	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	At least bi-monthly
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Lenders	Meetings, communication	Ongoing, as needed.
Local Financing Programs (City of Santa Monica, etc.)	Meetings, communication	Ongoing, as needed

Note: "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

Table 16: Non-EE Sub-Program Information

Subprogram B: Financing Portfolio		
Non-EE Sub-Program	**Budget**	**Rationale and General Approach for Integrating Across Resource Types**

NOTE: Column C --> Integrated/coordinated Demand Side Management: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable. Column D --> Integration across resource types (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach

Exhibit B2: List of Subprogram B Figures

- Figure 20 (Subprogram B): Demand for EUC loans in LA County
- Figure 21 (Subprogram B): Cost Scenario
- Figure 22 (Subprogram B): Private Financing, Residential LLR Program
- Figure 23 (Subprogram B): PACE Flow Chart
- Figure 24 (Subprogram B): Strategic Plan Alignment

EXHIBIT C

Exhibit C1: Tables

Table 1: Total Projected Program Budget & Savings by Subprogram

Subprogram	SCE ($)	SCG ($)	Kwh	KW	Therms
A: Energy Upgrade	21,347,633	9,496,306	16,753,056	8,508	1,165,855
B: Financing	12,898,750	2,276,250	TBD	TBD	TBD
C: SoCalREC	15,086,725	2,656,033	34,437,142	6,705	709,000
Total	49,333,108	14,428,589	51,190,198	15,213	1,874,855

Table 2: Total Projected Program Savings by IOU

Subprogram	SCE Kwh	SCE KW	SCG Therms	Total
A: Energy Upgrade	16753056	8508	1165855	
B: Financing	TBD	TBD	TBD	
C: SoCalREC	34437142	6705	709000	
Total	51,190,198	15,213	1,874,855	

Table 1. Projected Sub-Program Budget, by Calendar Year

	Program Year		
Subprogram C: SoCalREC	**2013**	**2014**	**Total**
Admin ($)	126,000	126,000	252,000
General overhead ($)	59,250	59,250	118,500
Incentives ($)	0	0	0
Direct Install Non-Incentives ($)	1,103,017	1,103,016	2,206,033
Marketing & Outreach ($)	26,250	26,250	52,500
Education & Training	13,500	13,500	27,000
Total Budget	1,328,017	1,328,016	2,656,033

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year

	Program Years		
	2013	2014	Total
Subprogram C: SoCalREC			
GWh	17.2	17.2	34.4
Peak MW	3.35	3.35	6.7
Therms (millions)	0.35	0.35	0.7

Individual utility specific information to be provided in this table

Table 3. Quantitative Program Targets (PPMs)

Target	2013	2014
Number of homes or buildings treated	TBD	TBD
Number of units incented or rebated	TBD	TBD
etc		

Table 4 – Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
	GENERAL LIGHTING			
1	Street lighting (LS1 to LS2 conversion)		X	
2	Outdoor lighting (parks, parking structures)		X	
	INTERSECTION LIGHTING			
3	Traffic signal		X	
4	Safety lights (street light)		X	
5	Street signs		X	
6	Walk signal		X	
	PUMPS			
7	Pool pumps		X	
8	Other pumps		X	
	WHOLE BUILDING DEEP RETROFITS			
9	Detailed list of Measures included in E3 Calcs (Please see Exhibit C4)		X	

Table 5:. Sub-Program Milestones and Timeline (example)

Milestone	Date
Project Initiation Meeting	Jan, 2013
Draft Work Plan for program	Feb, 2013
Draft separate Work Plan for each Objective	Mar, 2013
Draft separate Implementation Plan for each Objective	Apr. 2013
Expand templates and guidebooks to entire region	May, 2013
Disseminate information to local governments	Feb, 2013-Dec, 2014
Begin Program Implementation	Apr, 2013
Quarterly Progress Reports	Apr, July, Oct. 2013/ Feb, May, Sept, 2014
Quarterly Newsletter	Mar, June, Sept, Dec, 2013/ 2014
Bi-annual workshop on technologies aggregating	Jun, 2013/Nov, 2013/Mar, 2014/Sept, 2014
Annual joint conference with IOUs to complement Local Government Partnership Program	Apr, 2013/Apr. 2014
Annual update to Implementation Plan reflecting changes to strategy	Feb, 2014
Final report of pilot	Dec, 2014

Table 6 Geographic Regions

Geographic Region	Subprogram C: SoCalREC
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	
CEC Climate Zone 4	
CEC Climate Zone 5	X
CEC Climate Zone 6	X
CEC Climate Zone 7	X
CEC Climate Zone 8	X
CEC Climate Zone 9	X
CEC Climate Zone 10	X
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	X
CEC Climate Zone 14	X
CEC Climate Zone 15	X
CEC Climate Zone 16	X

Table 7: Program Administration of Program Components

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)	Implemented by contractors to be selected by competitive bid process (if Yes then enter type of contractor/other maket actor possibly used)	Implemented by contractors NOT selected by competitive bid process (list prime contractor and sub-contractor names)	Implemented by local government or other entity (X = Yes)
SoCalREC	C1: Regional Procurement				X (LA County)
SoCalREC	C2: Deep Level Retrofits				X (LA County)
SoCalREC	C3: Climate Action Support				X (LA County)
SoCalREC	C4: Water-Energy Nexus				X (LA County)
SoCalREC	C5: CEEPMS				X (LA County)

Table 8: Customer Eligibility Requirements (Joint Utility Table)

Customer Eligibity Requirement (list of requirements)	**SCG**
Regional procurement: City must be located in IOU service territory	X
Deep level retrofits: Municipal building must be located in IOU service territory	X
Climate action support: City must be located in IOU service territory	X
Water-Energy Nexus: City must be located in IOU service territory	X
CEEPMS: City must be located in IOU service territory	X

The utilities must work together and submit this table jointly in their respective applications

Table 9: Contractor Eligibility Requirements (Joint Utility Table)

Contractor Eligibity Requirement (list of requirements)	**SCG**
Regional procurement	None
Deep level retrofits	None
Climate action support	None
Water-Energy Nexus	None
CEEPMS	

List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).
The utilities must work together and submit this table jointly in their resp

Table 10: Manufacturer/Retailer/Distributor Partners

Manufacturer/Retailer/Distributor Parnter Information	SCG
Manufacturers enrolled in program	None
Manufacturers targeted for enrollment in program	None
Retailers enrolled in program	None
Retailers targeted for enrollment in program	None
Distributors enrolled in program	None
Distributors targeted for enrollment in program	None

Table 11: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	SCG	
		Incentive Level	Installation Sampling Rate
GENERAL LIGHTING			
Street lighting (LS1 to LS2 conversion)	Local government	Current IOU offering	Per IOU QA Standards
Outdoor lighting (parks, parking structures)	Local government	Current IOU offering	Per IOU QA Standards
INTERSECTION LIGHTING			
Traffic signal	Local government	Current IOU offering	Per IOU QA Standards
Safety lights (street light)	Local government	Current IOU offering	Per IOU QA Standards
Street signs	Local government	Current IOU offering	Per IOU QA Standards
Walk signal	Local government	Current IOU offering	Per IOU QA Standards
PUMPS			
Pool pumps	Local government	Current IOU offering	Per IOU QA Standards
Other pumps	Local government	Current IOU offering	Per IOU QA Standards
WHOLE BUILDING DEEP RETROFITS			
Detailed list of Measures included in E3 Calcs (Please see Exhibit C4)	Local government	Current IOU offering	Per IOU QA Standards

Table 12: Additional Services

Additional Services that the Sub-Program Will Provide	To Which Market Actors	SCG
TBD		

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at wh

Table 13: Program Related Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
TBD	

NOTE: If software tools are required sub-program participation, and if there is a program related audit for the sub-program, this table shows the levels at which the audit is rebated or funded and to whom such rebates/funding will be provided (i.e., customer or contractor)

Table 14: Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
TBD		

NOTE: Please list quality assurance, quality control, including accreditations/certification or other credentials required.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram C: SoCalREC		
Other REN Subprograms	**Coordination Mechanism**	**Expected Frequency**
Energy Upgrade	Project referrals	All potential projects
Financing	Project referrals	All potential projects
IOU Programs	**Coordination Mechanism**	**Expected Frequency**
IOU Whole House Upgrade Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	At least bi-monthly
IOU On-Bill Financing	Meetings	Ongoing, as needed
Local Government Partnership programs	Meetings	Ongoing, as needed
IOU Savings by Design	Savings by Design is a program to encourage high-performance nonresidential building design and construction within the service territories of PG&E, SDG&E, Southern California Edison, or Southern California Gas. The program offers building owners and their design team a wide range of services including design assistance, owner incentives, and design team incentives. Owners and design team members are eligible to participate.	As needed.
IOU Demand Response Programs	IOU DR Programs help qualifying customers reduce their energy usage during peak times while lowering their electricity costs. When electricity demand exceeds supply, when electricity costs are high, or when the state's electrical system is constrained, SCE requests (and pay for) participating customers to help by reducing their electricity use. Various DR Programs, Rates and Offerings are available.	As needed.
California Independent System Operator (ISO)	Demand Response & Proxy Demand Resource (6/24/11) The Proxy Demand Resource product allows end-use customers to work through a Demand Response Provider to bid demand response services directly into the CAISO markets. All resources types are offered into CAISO markets through a Scheduling Coordinator. Thus, to bid proxy demand resources into the CAISO markets, a Demand Response Provider must be a Scheduling Coordinator or hire the services of an ISO certified Scheduling Coordinator to submit bids and schedules on their behalf.	As needed.
Coordination Partners Outside CPUC	**Coordination Mechanism**	**Expected Frequency**
Lenders	Meetings, communication	Ongoing, as needed
Local Financing Programs (City of Santa Monica, etc.)	Meetings, communication	Ongoing, as needed
	The Toolkit includes: ● Energy Savings Calculation Tools ○ Building Optimization Analysis Tool ○ Pumping System Workbook ○ Fan System Workbook ● Data Analysis Tools ○ Energy Charting and Metrics Tool ○ Utility Consumption Analysis Tool ○ Findings Workbook	As needed.
Consortium for Energy Efficiency (CEE)	State and Local Government Purchasing Initiative: The CEE has conducted extensive research on state and local government purchasing and has developed tools to assist government purchasing officials in procuring energy efficient products. The purchasing tools include: ● Procurement guidebooks ● RFP for contractor services ● Interview guide ● Toolkit training modules ● Energy efficiency training modules	As needed.
DOE's Federal Energy Management Program	Building Life-Cycle Cost (BLCC) program analyzes capital investments in buildings. BLCC conducts economic analyses by evaluating the relative cost effectiveness of alternative buildings and building-related systems or components. Typically, BLCC is used to evaluate alternative designs that have higher initial costs but lower operating costs over the project life than the lowest-initial-cost design. It is especially useful for evaluating the costs and benefits of energy and water conservation and renewable energy projects. The life-cycle cost (LCC) of two or more alternative designs are computed and compared to determine which has the lowest LCC and is therefore more economical in the long run. BLCC also calculates comparative economic measures for alternative designs, including net savings, savings-to-investment ratio, adjusted internal rate of return, and years to payback.	As needed.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Subprogram C: SoCalREC		
DOE's Energy Efficiency & Renewable Energy Weatherization & Intergovernmental Program (WIP)	The U.S. Department of Energy (DOE) Weatherization and Intergovernmental Program provides grants, technical assistance, and information tools to states, local governments, community action agencies, utilities, Indian tribes, and overseas U.S. territories for their energy programs. These programs coordinate with national goals to reduce petroleum consumption and increase the energy efficiency of the U.S. economy. They aim at market transformation to reduce market barriers to the cost effective adoption of renewable energy and energy efficiency technologies.	As needed.
Collaborative for High Performance Schools (CHPS)	The Collaborative for High Performance Schools provides tools, resources, education and building design standards and facilitate the design, construction and operation of high performance schools to create environments that are not only energy and resource efficient, but also healthy, comfortable, well lit, and containing the amenities for a quality education.	As needed.
Energy Technology Assistance Program (ETAP)	The Energy Technology Assistance Program (ETAP) provides technical support, implementation assistance, rebates, and training to accelerate the uptake of advanced, market-ready energy efficiency technologies in the local government market in California. The program focuses on three energy efficiency technologies: 1. Bi-level lighting controls 2. Wireless lighting controls 3. Wireless HVAC controls	As needed.
California Air Resources Board	The Cool California Local Government Toolkit helps to identify cost saving actions, financial resources, and case studies to assist local governments with achieving GHG emission reductions.	As needed.

Note: "Mechanisms" refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

Table 16: Non-EE Sub-Program Information

Subprogram C: SoCalREC		
Non-EE Sub-Program	**Budget**	**Rationale and General Approach for Integrating Across Resource Types**
On-bill financing	TBC	SoCalREN will assist local governments with OBF-eligible projects with the application and technical processes for obtaining OBF
On-bill repayment	TBC	Same as OBF
California Solar Initiative TBC	TBC	Local Governments that wish to include solar or solar thermal in their building or system retrofits will be assisted with technical calculations and assistance with applications. Furthermore, aggregated solar projects across municipalities may be considered during the period of performance for this pilot.
HVAC Optimization	TBC	Cities that have package units are great candidates for this program, and the SCREN team can help the local governments with technical calculations as well as help them find a service provider.
Demand Response	TBC	Demand Response assistance will be available to all cities in the REN. Involving DR conversations and analysis on a municipal-wide level can help the city curtail more peak KW and earn income by participating in a variety of programs offered.
Savings by Design	TBC	SoCalREN can assist cities with program knowledge as well as providing technical assistance and project management assistance as municipal buildings make their way through this program.
Water agency coordination	TBC	Link water efficiency to energy efficiency for cities by participating in water-reduction rebate programs as well as community education of both resources
Focus on VFD installations	TBC	Pool pump VFDs save energy but, VFDs on other city water pumps can save both energy and water. Including well pumps measures in the aggregated projects, while coordinating with the water departments, successfully links the two scarce resources.

Exhibit C2: SoCalREC Collateral

- File 1. SoCalREC Website Screenshot
- File 2. SoCalREC Newsletter
- File 3. SoCalREC Ad

April 2012

Southern California Regional Energy Center

Welcome to the inaugural newsletter of the Southern California Regional Energy Center (SoCalREC)!

The SoCalREC program launched in late 2011 as a trial service to local governments. Energy management at any given time can be challenging for municipalities; given today's economic climate, cities are facing even greater difficulty to focus on energy issues due to budget cuts and lack of sufficient staff resources. SoCalREC has been designed to address both energy and fiscal needs by developing and demonstrating a variety of efforts which focus on a regional approach to cost-effective and comprehensive municipal energy improvements. SoCalREC will provide the resources needed for strategic energy management for municipalities with the goal of simplifying the identification and completion of municipal facility energy projects.

Established by Los Angeles County and the City of Huntington Beach in collaboration with Southern California Edison and the U.S. Department of Energy, SoCalREC plans to help demonstrate regional approaches to successful implementation of municipal energy projects throughout the region, including aggregated procurement, whole-building integration, and a collective funding strategy that will include private sector financing.

11th Annual Municipal Green Building Conference & Expo

The Municipal Green Building Conference & Expo is Southern California's longest running and largest green building and sustainability conference focusing on the unique needs and concerns of municipalities.

Come hear about SoCalREC, visit our table, attend our presentation, and learn how this innovative and critical program can help your municipality simplify the identification and implementation of local government facility energy efficiency projects!

Thursday, April 26, 2012
8:00 am - 4:30 pm

Energy Resource Center, SoCalGas
9240 Firestone Blvd., Downey

Free Admission!!

Visit www.mgbce.org for more info.

In partnership with:

This program is funded in part by California utility customers and administered by Southern California Edison under the auspices of the California Public Utilities Commission.

This program is funded in part through the American Recovery and Reinvestment Act.

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Southern California
Regional Energy Network

Exhibit C2 - File 2

Exhibit C2 - File 3

Exhibit C3: Logic Model

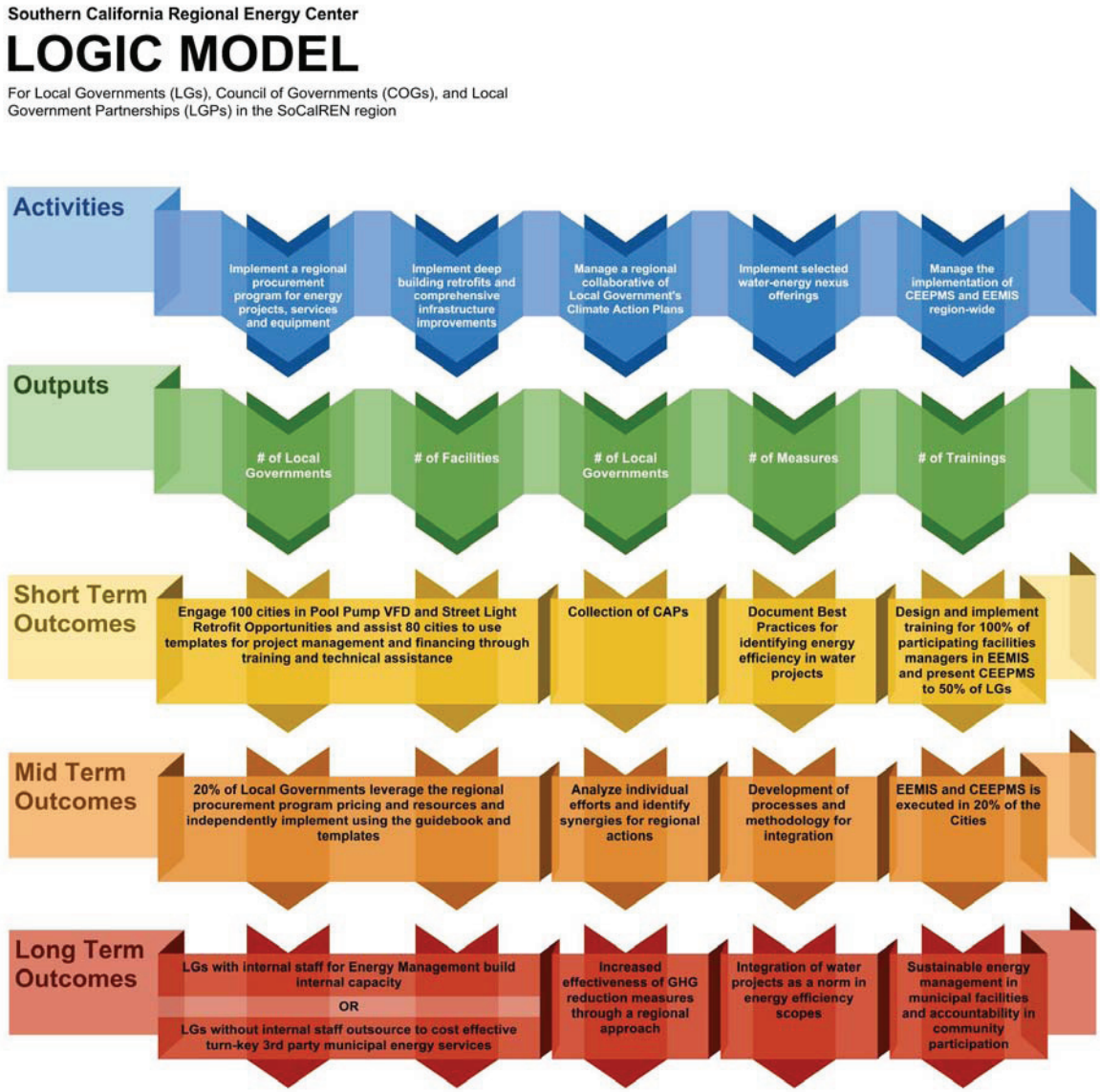

Exhibit C4: SoCalREC Work Products

- File 1: Resource Plan Draft
- File 2: RFQ-VFD
- File 3: RFP-Financing

LOCAL GOVERNMENT ENERGY EFFICIENCY RESOURCE PLAN

Draft Report

Strategic Plan Task 5x
Task 3.A (County of Los Angeles)
Deliverable 3.A.3 (County of Los Angles)

Funded by
Southern California Edison Company
Local Government Strategic Plan Strategies Program

2010-2012 Program Period
under the auspices of the California Public Utilities Commission

DRAFT

Prepared for:
Los Angels County ISD
1100 North Eastern Ave
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Prepared by:
The Energy Coalition
523 W Sixth Street, Suite 1110
Los Angeles, CA 90014

06/22/2012

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II. Description and timeline for all activities to complete Tasks 3A, 3B, and 3C

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III. Description of the eligibility requirements for the energy efficiency pilot programs implemented in Task 3C

IV. A comprehensive list of all existing technical resources from the Participating Municipalities, Implementer, SCE, CPUC, and other non-governmental organizations

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Table 4: Both New and Existing Buildings; Overview

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Benchmarking; All Local Government Facilities

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Implementing the Benchmarking Plan

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IV. FINANCING RESOURCES

Table 16: Finance resources summary

DRAFT

V. Detailed discussion of how the existing resources will be used in implementing Task 3C

DRAFT

I. Introduction

The objectives of this Plan are to develop sustainable technical resources, which can be used in the implementation of energy efficiency projects for municipal buildings. These resources will be used to help implement energy efficiency pilot programs for Participating Municipalities. The plan will guide the implementation for all activities identified for Task 3.

The plan will also include the following components:

I. Description and timeline for all activities to complete Tasks 3A, 3B, and 3C;
II. Description of the eligibility requirements for the energy efficiency pilot programs implemented in Task 3C;
III. A comprehensive list of all existing technical resources from the Participating Municipalities, Implementer, SCE, CPUC, and other non-governmental organizations; and
IV. Detailed discussion of how the existing resources will be used in implementing Task 3C.

Since this program, referred to as the Southern California Regional Energy Center (SCREC), is funding partially by Southern California Edison and partially by the Department of Energy's EECBG grant through three different contracts, this plan is going to focus on the overall resources and methodology behind an integrated approach for municipal retrofits, rather than a measure by measure approach, the current approach for the Local Government Partnerships.

DRAFT

II. Description and timeline for all activities to complete Tasks 3A, 3B, and 3C

Assuming this Resource Plan V1 was submitted within the proper time allotted, the following table will show all of the deliverables in a way for the viewer to see exactly which effort satisfies which deliverable in which contract, and the original timeline and delivery date for those deliverables. Added to this table is the addition of the implementation team's first extension request suggesting to change to the period of performance, but allowing for the DOE grant to spend down prior to focusing on the SCE LA Counties and Huntington Beach contracts. Furthermore, and additional column has been added to show our requested delivery dates if an extension of the entire period of performance is granted.

Table 1: ***Coordination of efforts matrix v2.***

(next page

DRAFT

Coordination of Efforts Plan - Summary of Overlapping Activities	Satisfying Deliverables		Billing / Funding Source Allocation Strategy			Deliverable Due Dates			Timeline w/ Program Extension into 2012-2013
Task Description	LAC SOW	HB SOW	SCE LAC	SCE HB	EECBG LAC	LAC SOW	HB SOW	Adjusted per Shift in Billing Strategy	
Coordination of Efforts Plan: This document and the coinciding narrative highlights the strategy for implementation seamlessly across LAC and HB Scopes of Work	Task 3A: Deliverable 2	Task 2A: Deliverable 2	Task 3.A.2.a – Draft	Task 2.A.2.d – Draft	n/a	done	done	done	done
			Task 3.A.2.b – Final	Task 2.A.2.f - Final	n/a	6/6/2012	6/6/2012	6/30/2012	6/30/2012
Resources Plan: A single report outlining existing resources for local governments that provides a step-by-step process to identify and implement energy efficiency projects	Task 3A: Deliverable 3	n/a	Task 3.A.3.a – Draft	n/a	Task 0.0	2/21/2012	n/a	done	done
			Task 3.A.3.b – Final		Task 0.0	7/6/2012	n/a	7/6/2012	9/30/2012
Develop a **list of projects** that are in the pipeline within the Participating Municipalities and identify candidates for Pilot Projects that need the **Program's assistance**	Task 3C: Deliverable 1	Task 2A: Deliverable 3							
Identify facilities within the Participating Municipalities that are candidates for whole building approach (multiple EEMs)			Task 3.C.1.a – Draft	Task 2.A.3.d – Draft	Task 1.0	2/14/2012	2/14/2012	done	done
			Task 3.C.1.b – Final	Task 2.A.3.f – Final	Task 1.0	Comments + 60 days	Comments + 60 dats	9/30/2012	3/31/2013
Identify EEMs that can be aggregated across Participating Municipalities (single EEMs)			Task 3.C.1.a – Draft	Task 2.A.3.d – Draft	Task 1.0	2/14/2012	2/14/2012	done	done
			Task 3.C.1.b – Final	Task 2.A.3.f – Final	Task 1.0	Comments + 60 days	Comments + 60 dats	9/30/2012	3/31/2013
Collect existing procurement and implementation documents from proven sources and develop these documents into **customizable templates**	Task 3C: Deliverable 2	Task 2A: Deliverable 4	Task 3.C.2.a – Draft	Task 2.A.4.d – Draft	Task 1.0			9/1/2012	4/1/2013
			Task 3.C.2.b – Final	Task 2.A.4.f – Final				9/30/2012	5/31/2013
Communicate Program purpose and elements to the Local Government public stakeholders in a variety of outlets	Task 3C: Deliverable 3	Task 2A: #5 & Task 2B: #8							
Website; develop a central source of information and a portal to disseminate the Program's documents and resources	Deliverable 3CA	n/a	Task 3.C.3	n/a	Task 1.0	2/14/2012	n/a	done	done
Newsletter; share Program's lessons and best practices and inform Participating Municipalities of available resources and how to use them	Deliverable 3C1, 3C2 and 3C3	Deliverable 5b1, 5b2 and 5b3	Task 3.C.3	Task 2.A.5.i & 2.B.8	Task 1.0	3/31/12 6/30/12 9/30/12	3/31/12 6/30/12 9/30/12	done 6/30/12 9/30/12	done 9/30/12 3/31/13
Conference; panel discussion addressing the regional approach to municipal energy efficiency case studies and an exhibit booth providing Program resources	Deliverable 3CD	Deliverable 5c and 2B.8	Task 3.C.3	Task 2.A.5.i & 2.B.8	Task 1.0	4/26/2012	4/26/2012	9/30/2012	5/31/2013
Sustainability Plan; leverages Program's work across the region to develop a plan for offering ongoing services to municipalities	Task 3B: Deliverable 1	n/a	Task 3.B.1.a – Draft	n/a	n/a	6/1/2012	n/a	8/1/2012	3/1/2013
			Task 3.B.1.b – Final			Comments + 60 days	n/a	9/30/2012	5/31/2013
Development of a Guidebook; captures 'best practices' across proven and successful projects and provide step-by-step instructions for comprehensive turn-key energy management.	n/a	Task 2B:	n/a	Draft Documents	n/a	n/a	7/31/2012	9/1/2012	4/1/2013
				Final Documents		n/a	9/30/2012	9/30/2012	5/31/2013
Chapter on Identifying EE projects: Instructions to identify factors to identify EE opportunities and assess the potential impact for the municipality		Deliverable (2)		Task 2.B.2.d – Draft					
				Task 2.B.2.f – Final					
Chapter on Strategies to Build Project Support: Instructions to obtain project and longer term support for energy management, including setting up a revolving fund with sunk utility costs.		Deliverable (3)		Task 2.B.3.d – Draft					
				Task 2.B.3.f – Final					
Chapter on Project Financing: Instructions for including energy efficiency projects in the capital improvement plans as well as qualifying criteria for utilizing the various financing options available.		Deliverable (4)		Task 2.B.4.d – Draft	Task 3.0				
				Task 2.B.4.f – Final					
Chapter on EE Project Procurement: A template for an RFP and a library of technical specifications for highest impact projects to achieve cost effective proposals.		Deliverable (5)		Task 2.B.5.d – Draft	Task 4.0				
				Task 2.B.5.f – Final					
Chapter on EE Project Management and Reporting: templates for project implementation and project management accompanied by guidelines for when to use each document.		Deliverable (6)		Task 2.B.6.d – Draft	Task 6.0				
				Task 2.B.6.f – Final					
Chapter on EE Project Post-Implementation: Instructions on evaluating the results of a project implementation, including commissioning and measurement and verification		Deliverable (7)		Task 2.B.7.d – Draft					
				Task 2.B.7.f – Final					
Local government internal coordination					Task 2.0				
Program administration/management					Task 9.0				

Exhibit C

II. Description of the eligibility requirements for the energy efficiency pilot programs implemented in Task 3C

Eligibility requirements include the following:

- Must be one of 54 SCREC Partner Cities
- Must be eligible for an IOU electric rebate
- Financing (TBD)
    - All projects must have a minimum project cost if financing (Amount TBD)

Due to the DOE EECBG funding, this grant allows the program to include other cities outside of the 54 SCREC partners only in relation to the aggregated procurement and implementation, which is not in the SCE scope. Financing is available to all cities as well. These projects, once developed into fruition through the DOE implementation plan (see Coordination of Efforts Plan), will become projects in the pipeline, which will then be eligible for assistance with customized documentation assistance, financing, and some project management through the SCE funding.

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III. A comprehensive list of all existing technical resources from the Participating Municipalities, Implementer, SCE, CPUC, and other non-governmental organizations

Table 2: Existing Buildings; Overview

No.	Process	Resources
1	Set up an Energy Management Plan	ENERGY STAR
2	Benchmarking	ENERGY STAR Portfolio Manager
3	Retro - Commissioning	California Commissioning Collaborative, LADWP, Building Commissioning Association, Green California
4	Investment Analysis	ENERGY STAR, Energy Design Resource's eVALUator™, US DOE Retrofit Financial Analysis Tool
6	Specific Upgrades	ENERGY STAR for Wastewater Plants and Drinking Water Systems, office equipment, appliances, etc.
7	Demand Response	SCE, Glendale Water and Power, CA ISO, Flex Your Power
8	Renewable Energy	LA County Solar Map; DOE's Renewable Energy Production Incentive, SCE Local Government Renewable Energy Self-Generation Bill Credit Transfer
9	Procurement	Consortium for Energy Efficiency
10	Other	DOE's Energy Efficiency & Renewable Energy Weatherization & Intergovernmental Program (WIP), Collaborative for High Performance Schools (CHPS), Energy Leadership Partnership, Behavior; Green office program; Energy Technology Assistance Program (ETAP)

Table 3: New Buildings; Overview

1	Pre-design/design	CPUC's Savings by Design
2	Pre-design/design; Construction/post-construction	LEED
3	Post-construction	Commissioning

Table 4: Both New and Existing Buildings; Overview

1	Strategic Planning	Climate Action Plan
2	Utility Manager / Building Automation System (BAS)	EEMIS

Table 5: Energy Management Plan Resources

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Sponsoring Entity	Description	Details
US. Environmental Protection Agency's ENERGY STAR program: Buildings & Plants	Guidelines for Energy Management Overview EPA offers energy management strategies with tools and resources to help each step of the way. The steps outlined in the guidelines are: ● STEP 1: Make Commitment ● STEP 2: Assess Performance ● STEP 3: Set Goals ● STEP 4: Create Action Plan ● STEP 5: Implement Action Plan ● STEP 6: Evaluate Progress ● STEP 7: Recognize Achievements	Source
ENERGY STAR for Local Government	Partnering with ENERGY STAR is a commitment to your taxpayers as well as the environment. Local and state governments, as well as federal agencies, that partner with EPA and take the ENERGY STAR Challenge demonstrate their commitment to taxpayers as well as the environment.	Source

Benchmarking; All Local Government Facilities

Energy use benchmarking is a process that compares the energy use of a building or group of buildings with other similar structures or looks at how energy use varies from a baseline. It is a critical step in any building upgrade project, because it informs organizations about how and where they use energy and what factors drive their energy use. Benchmarking enables energy managers to determine the key metrics for assessing performance, to establish baselines, and to set goals for energy performance. It also helps them identify building upgrade opportunities that can increase profitability by lowering energy and operating costs, and it facilitates continuous improvement by providing diagnostic measures to evaluate performance over time.

Benchmarking results provide pointers to follow-on efforts to improve energy performance and energy management. Energy managers can use the results to screen their portfolio of facilities regularly to decide where to do on-site energy audits, to identify which sites would provide the greatest return from tune-ups and retrofits, and to remind local managers about energy-efficient behaviors. Benchmarking also enables managers to compare performance to external data. In addition, energy managers can use benchmarking data to motivate action in employee energy-awareness campaigns and to communicate good results to the general public.

The U.S. Environmental Protection Agency (EPA) has developed a tool called the ENERGY STAR Portfolio Manager that is intended to be used on a national basis. This resource guide will use Portfolio Manager as a starting point.

ENERGY STAR's Portfolio Manager

Portfolio Manager is an interactive energy management tool that allows you to track and assess energy and water* consumption across your entire portfolio of buildings in a secure online environment. Whether you own, manage, or hold properties for investment, Portfolio Manager can help you set investment priorities, identify under-performing buildings, verify efficiency improvements, and receive EPA recognition for superior energy performance.

(*While Portfolio Manager allows the tracking of water usage in addition to energy usage, the setup for water usage is not funded as part of this Program.)

Portfolio Manager can help your organization:

- Manage Energy and Water Consumption for all Buildings
- Rate Building Energy Performance
- Estimate Your Carbon Footprint
- Establish Energy Performance Target for Major Building Renovations
- Set Investment Priorities
- Verify and Track Progress of Improvement Projects
- Gain EPA Recognition

Additional information can be found at Energy Star's website

Eligible Buildings for Portfolio Manager

To help identify under-performing buildings and set investment priorities, Portfolio Manager can rate the energy performance of eligible buildings on a scale of 1–100 relative to similar buildings nationwide. The program compares your building with similar types of buildings and operating characteristics found from a national survey conducted by the Department of Energy's Information Administration. A rating of 50 indicates that the building, from an energy consumption standpoint, performs better than 50% of all similar buildings nationwide, while a rating of 75 indicates that the building performs better than 75% of all similar buildings nationwide.

The categories of buildings eligible to receive a rating are:

- Bank/Financial Institution
- Courthouse
- Data Center
- Hospital (General Medical and Surgical)
- Hotel
- House of Worship
- K–12 School
- Medical Office
- Municipal Wastewater Treatment Plant
- Office
- Residence Hall/Dormitory
- Retail Store
- Senior Care Facility

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- Supermarket
- Warehouse (refrigerated and non-refrigerated)

For those buildings that are not eligible to receive a rating, EPA has created a list of reference energy performance targets.

Data Requirements for Portfolio Manager

The specific benchmarking metrics selected will determine the data-collection requirements. For example, to receive an energy performance rating for a building through Portfolio Manager, it is necessary to collect data on specific building characteristics, which are used to normalize energy use and compute the rating. Based on the scope of the benchmarking analysis, managers can identify required data elements and the sources for those data. In some cases, much of the data may already be tracked, such as energy purchases, hours of operation, or production outputs. Other data may require more investigation and new measurements may need to be made. There are several common types of data used for benchmarking.

- **Energy use** (e.g. quantities of electricity, natural gas, steam, etc.)
- **Energy cost information** (e.g. purchase cost of electricity, fuels, steam, etc.)
- **Physical and design attributes** (e.g. floor area, equipment used, plug loads, space types, etc.)
- **Output or utilization data** (e.g. labor hours, occupancy levels, operating hours, etc.)
- **Production data** (e.g. average influent flow at wastewater treatment plant, plant design flow rate, etc.)
- **Climate variables** (e.g. heating and cooling degree-days, altitude, and barometric pressure data that are available from local weather stations or may be tracked on site.)

Implementing the Benchmarking Plan

The ENERGY STAR Benchmarking Starter Kit can help you get started. You can also take the Portfolio Manager tour or train on how to use Portfolio Manager.

Table 6: Benchmarking Resources

ENERGY STAR Portfolio Manager: Overview	Details
EPA's Reference Energy Performance Targets	Details
ENERGY STAR Portfolio Manager: Starter Kit	Details
ENERGY STAR Portfolio Manager: Tour and Training	Details

Retro-Commissioning (RCx)

Retro-commissioning (RCx), is a systematic process for improving an existing building's performance by identifying and implementing relatively low-cost operational and maintenance

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improvements, helping to ensure that the building's performance meets owner expectations. The goals of RCx are to:

- Ensure that the building is performing efficiently and as expected;
- Recommend and implement measures that improve equipment performance; and
- Verify that the building owner and staff receive adequate documentation and assistance to implement improvements, as well as training on monitoring and maintaining improvements.

Retro-commissioning is different from preventative maintenance or regular tune-ups because it takes the holistic view that operation of a building is of equal importance to maintenance. RCx goes beyond day-to-day building upkeep to provide a thorough assessment of the operation of mechanical equipment, lighting, and related controls. The intent is to improve how equipment operates as a system. RCx addresses why a piece of equipment is operating, not just how it is operating. RCx looks at the operation of the entire system, in addition to the individual components. It looks at the root causes of operational problems, and thus its benefits are much more likely to persist. The focus on training and documentation also improves persistence.

The benefits of RCx not only include cost savings, but also improvements to almost every aspect of operations and maintenance. Benefits include:

- Improved System Operation: Beyond Preventive Maintenance
- Improved Equipment Performance
- Increased O&M Staff Capabilities and Expertise
- Increased Asset Value
- Energy Savings
- Improved Indoor Environmental Quality (IEQ)
- Improved Building Documentation
- Earning up to 6 points for LEED-EB

Retro-commissioning costs

The scope of work, the size and age of the building, the complexity of the building systems, and market conditions are some factors that can affect the project costs. Table 1 shows average costs in a national study of retro-commissioning projects. The data is from 2006 and includes 14 California projects. A project is underway to update the study with recent data and the costs in California are expected to be in the range of $0.50/sq ft.

Table 7: Actual RCx costs, as reported in a study of 106 projects

Description	Value or Ranges
Total RCx Cost	$0.13 to $0.45/sqft
Provider Fee as % of Total RCx Cost	35 - 71%
Average RCx Cost Allocation	
Planning and Investigation	69%
Implementation	27%
Verification, Tracking and Reporting	4%
Simple Payback Time	0.2 to 2.1 years

Savings from Retro-commissioning

Retro-commissioning can produce significant cost savings in existing buildings. Savings vary depending on the building type, its location, and the scope of the RCx process. A comprehensive study found average cost savings in the following ranges#:

Description	Range of Values
Value of Energy Savings	$0.11 - $0.72/sqft
Value of Non-Energy Savings	$0.10 - $0.45/sqft

Retro-commissioning Process

A well-planned and executed retro-commissioning project typically occurs in four distinct phases: *Planning, Investigation, Implementation, and Hand-Off*.

Source: Green California's Retro-commissioning (RCx) Fact Sheet.

Table 8: Resources for Retro-Commissioning

Sponsoring Entity	Description	Details
California Commissioning Collaborative (CCC)	The CCC is a California nonprofit public benefit corporation with a purpose to: • To improve building and system performance by developing and promoting viable building commissioning practices in California; • To facilitate the development of cost effective programs, tools, techniques and service delivery infrastructure to enable the implementation of building commissioning processes; • To educate and inform concerning building commissioning processes; • To identify opportunities, establish priorities and promote solutions relating to building commissioning processes in California.	Source
CCC's Commissioning Guide for Existing Buildings	The Guide answers the following questions: • What is Existing Building Commissioning and why should I do it? • What are the benefits and costs of Existing Building Commissioning? What happens during the Existing Building Commissioning process? Who should be a part	Source

	of the Existing Building Commissioning team? ● How can I ensure that the benefits achieved from Existing Building Commissioning are long-lasting and that operations at my facility are efficient over the long term? ● How do I get started with an Existing Building Commissioning project?	
CCC's Existing Buildings Commissioning Toolkit	The Toolkit includes: ● Energy Savings Calculation Tools ○ Building Optimization Analysis Tool ○ Pumping System Workbook ○ Fan System Workbook ● Data Analysis Tools ○ Energy Charting and Metrics Tool ○ Utility Consumption Analysis Tool ○ Findings Work book	Source
Building Commissioning Association's Best Practices in Commissioning Existing Buildings (08/18/08)	The Best Practices in Commissioning Existing Buildings document provides a high level outline of the commissioning process for existing buildings.	Source
Los Angeles Department of Water and Power (LADWP's) RCx Express	LADWP's RCx Express is a fast-track Building Retrocommissioning program. All LADWP non-residential electric customers in good standing are eligible to participate.The RCx Express program can help its customers reduce their electricity bills and the cost of building operations By implementing one or more of the program's 13 RCx measures, customers can save on energy costs and improve building operations. This simplified program that requires minimal system data and uses "prescribed" savings calculations, which makes the process much easier.	Source
Green California: Commissioning and Retro-Commissioning Buildings		Source

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Table 9: Resources for Investment Analysis

Sponsoring Entity	Description	Details
EPA's ENERGY STAR	ENERGY STAR is a joint program of the U.S. EPA and the U.S. Department of Energy helping businesses and homes save money and protects the environment through energy efficient products	Source

	and practices. Local Governments can partner with ENERGY STAR at no cost, and demonstrate their commitment to improving municipal facilities energy performance.	
Energy Star's Financing Articles	Subjects include: • Financing Energy Efficiency Projects • Finding Money for Your Energy Efficiency Projects • Easy Access to Energy Improvement Funds	Source
Energy Star's Cash Flow Opportunity Calculator	The Cash Flow Opportunity (CFO) Calculator helps decision-makers answer three critical questions about energy efficiency investments: • How much new energy efficiency equipment can be purchased from the anticipated savings? • Should this equipment purchase be financed now, or is it better to wait and use cash from a future budget? • Is money being lost by waiting for a lower interest rate?	Source
Energy Star's Building Upgrade Value Calculator for Office Buildings	The Building Upgrade Value Calculator estimates the financial impact of proposed investments in energy efficiency in office properties. The calculator's analysis includes the following information: • Net investment • Reduction in operating expense • Energy savings • Return on investment (ROI) • Internal rate of return (IRR) • Net present value (NPV) • Net operating income (NOI) • Impact on asset value In addition to the above outputs, the calculator also estimates the impact the proposed changes will have on a property's ENERGY STAR rating.	Source
Energy Design Resources (EDR)	EDR's eVALUator™ is an easy-to-use Windows™-based program that calculates the lifecycle benefits of investments that improve building design. It analyzes the financial benefits from buildings that reduce energy cost, raise employee productivity, and enhance tenant satisfaction. It also provides building owners, developers, tenants, architects, engineers, and facility managers with the financial information necessary to make sound decisions about building improvements.	Source
US DOE's MSSLC Retrofit Financial Analysis Tool	The Retrofit Financial Analysis Tool, developed by the DOE Municipal Solid-State Street Lighting Consortium in collaboration with the Clinton Climate Initiative, provides municipalities, utilities, and other organizations a method of analyzing the cost and return-on-investment from lighting efficiency projects.	Source

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Table 10: Resources for Specific Upgrades

Sponsoring Entity	Description	Details
ENERGY STAR for Wastewater Plants and Drinking Water Systems	EPA's ENERGY STAR program has introduced expanded energy efficiency tools and resources to help eliminate energy waste and lower operating costs of water and wastewater utilities. Managers of drinking water systems and wastewater treatment plants can now track energy use, energy costs, and associated carbon emissions by using Portfolio Manager, EPA's online benchmarking tool. Portfolio Manager also offers wastewater treatment plant managers the ability to compare the energy use of their plants with other peer plants using the EPA energy performance rating system.	Source
DOE Federal Energy Management Program (FEMP)	Energy-Efficient Product Procurement. FEMP provides resources for products that meet energy performance requirements by product category, tools to calculate potential energy cost savings by switching to more efficient products and procurement tools to aid in the purchasing of energy efficiency products	Source
DOE National Energy Technology Laboratory: Smart Grid Data Access Funding Opportunity Announcement	Smart Grid Access Data Funding Opportunity Announcement: DOE's National Energy Technology Laboratory is seeking applications aimed at empowering consumers to better manage their electricity use by enabling access to electricity consumption data by customers and their authorized third parties, and providing or supporting the use of third-party tools and software products that use the available data to deliver a value-added service to the customer. Projects under this Funding Opportunity Announcement will be composed of two phases. Under Phase I, applicants will need to demonstrate the capability for electricity customers and or designated third parties to access their usage data and the functionality of their proposed tool or software product to provide this access. Phase II involves adoption of the tools and software products demonstrated in Phase I to an entire service territory, region, or community within the jurisdiction of the applicant or the utility partner of the applicant.	Source

Table 11: Demand Response (DR) Resources

Sponsoring Entity	Description	Details
SCE's Demand	SCE's DR Programs help qualifying customers reduce their energy	Source

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Response Programs	usage during peak times while lowering their electricity costs. When electricity demand exceeds supply, when electricity costs are high, or when the state's electrical system is constrained, SCE requests (and pay for) participating customers to help by reducing their electricity use. Various DR Programs, Rates and Offerings are available.	
Glendale Water & Power DR	Institutions can sign up for the DR program, which involves the temporary reduction or shift of electrical usage in their building for a limited amount of time when the reliability of the grid is in jeopardy or wholesale energy prices are high. Customers participating in a DR program become on-call assets and earn revenues simply for offering their unused capacity as a resource to their utility.	Source
California Independent System Operator (ISO)	Demand Response & Proxy Demand Resource (6/24/11) The Proxy Demand Resource product allows end-use customers to work through a Demand Response Provider to bid demand response services directly into the CAISO markets. All resources types are offered into CAISO markets through a Scheduling Coordinator. Thus, to bid proxy demand resources into the CAISO markets, a Demand Response Provider must be a Scheduling Coordinator or hire the services of an ISO certified Scheduling Coordinator to submit bids and schedules on their behalf	Source
Flex Your Power DR Programs	This is a voluntary DR program in which Flex Alert notifications are sent out to participants when the CAISO determines the need to conserve electricity immediately.	Source

Table 12: Renewable Energy Resources

Sponsoring Entity	Description	Details
Los Angeles County Solar Map	The LA County Solar Map identifies parts of your rooftop that are good potential for solar generation. Solar results for county-owned buildings are available in 3D.	Source
DOE's Renewable Energy Production Incentive (REPI)	Renewable Energy Production Incentive (REPI): REPI provides financial incentive payments for electricity generated and sold by new qualifying renewable energy generation facilities. Qualifying facilities are eligible for annual incentive payments of 1.5 cents per kilowatt-hour (1993 dollars and indexed for inflation) for the first 10-year period of their operation, subject to the availability of annual appropriations in each Federal fiscal year of operation. REPI is part of an integrated strategy in the 2005 Energy Policy Act to promote increases in the generation and utilization of electricity from renewable energy sources and to promote market utilization of renewable energy technologies.	Source
SCE Local Government Renewable Energy	Provides opportunity for bill credit from one generating site to other meters held by the same municipality. Requirement that	Source

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Self-Generation Bill Credit Transfer	both sites receive retail service from SCE on a time-of-use (TOU) schedule, and have billing service provided by SCE. Effective January 1, 2012	

Table 13: Procurement Resources

Sponsoring Entity	Description	Details
Consortium for Energy Efficiency (CEE)	State and Local Government Purchasing Initiative: The CEE has conducted extensive research on state and local government purchasing and has developed tools to assist government purchasing officials in procuring energy efficient products. The purchasing tools include: • Procurement guidebooks • RFP for contractor services • Interview guide • Toolkit training modules • Energy efficiency training modules	Source

Table 14: Resources for Commissioning for New Buildings

Sponsoring Entity	Description	Details
CCC's California Commissioning Guide for New Buildings	The New Buildings Guide answers the following questions: • What is building commissioning and why should I implement the process? • What are the benefits and costs of commissioning? • How do I hire a commissioning lead and integrate them into my existing team? • What happens during the commissioning process and how does it relate to design and construction? • How will the commissioning process ensure efficient operations at my facility over the long term? • How do I get started with commissioning?	Source
Building Commissioning Association's New Construction Building Commissioning Best Practice (12/08/11)	The New Construction Building Commissioning Best Practice document describes the different phases of a new building commissioning process.	Source
Energy Design Resources	Energy Design Resources offers a variety of decision-	Source

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(EDR)	making tools and resources that help make it easier to design, build and operate more energy-efficient buildings in California.	
	EDR's Building Commissioning Guidelines: A source book on building systems performance	Source
	EDR's Commissioning AssistantTM is a web-based reference designed to provide project specific commissioning information to the design team. The tool enables the users to accomplish the following six functions: • Evaluate probable commissioning cost. • Identify the appropriate commissioning scope for each project, and develop sample scope documents. • Develop a sample design intent document with specific inputs from their projects. • Develop a sample basis of design document with specific inputs from their projects. • Access sample commissioning specifications related to specific inputs for his/her construction project. • View sample sequence of operations for their HVAC equipment • Develop a sample Commissioning Plan with specific inputs from their projects. • Develop a sample Training Plan with specific inputs from their projects. • Develop a sample Systems Manual with specific inputs from their projects.	Source

Table 15: General Resources

Sponsoring Entity	Description	Details
DOE's Energy Efficiency & Renewable Energy Weatherization & Intergovernmental Program (WIP)	The U.S. Department of Energy (DOE) Weatherization and Intergovernmental Program provides grants, technical assistance, and information tools to states, local governments, community action agencies, utilities, Indian tribes, and overseas U.S. territories for their energy programs. These programs coordinate with national goals to reduce petroleum consumption and increase the energy efficiency of the U.S. economy. They aim at market transformation to reduce market barriers to the cost effective adoption of renewable energy and energy efficiency technologies.	Source
	The Solution Center: The Solution Center is the home for Energy Efficiency and Conservation Block Grant (EECBG) Program and State	Source

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	Energy Program (SEP) technical assistance resources. The goal of the Solution Center is to help communities develop and implement successful energy efficiency and conservation projects and programs that meet the conditions and guidelines of the EECBG and SEP programs.	
	Technical Assistance Program (TAP) Blog Provides monthly blogs and webcasts on using the ENERGY STAR Portfolio Manager, energy management best practices, partnering with utilities, financing energy efficiency upgrades, and much more.	Source
US. Environmental Protection Agency's ENERGY STAR program: Buildings & Plants		
	Guidelines for Energy Management Overview EPA offers energy management strategies with tools and resources to help each step of the way. The steps outlined in the guidelines are: • STEP 1: Make Commitment • STEP 2: Assess Performance • STEP 3: Set Goals • STEP 4: Create Action Plan • STEP 5: Implement Action Plan • STEP 6: Evaluate Progress • STEP 7: Recognize Achievements	Source
	ENERGY STAR for Local Government: Partnering with ENERGY STAR is a commitment to your taxpayers as well as the environment. Local and state governments, as well as federal agencies, that partner with EPA and take the ENERGY STAR Challenge demonstrate their commitment to taxpayers as well as the environment.	Source
	ENERGY STAR'S Building Upgrade Manual: The ENERGY STAR Building Manual is a strategic guide to help you plan and implement profitable energy saving building upgrades. Advice is given on: • Project Management (Benchmarking, Investment Analysis, Financing) • Technical Stages (Retro-Commissioning, Lighting, Supplemental Load Reduction, Air Distribution Systems, Heating and Cooling Upgradess) • Unique Facility Strategies (K-12 Schools)	Source
	Service & Product Providers (SPPs) bring expertise and achievement to building owners and managers seeking to benchmark and earn ENERGY STAR certification for their buildings. Resources include: • Find a Licensed Professional (PE or RA) • Directory of Energy Efficiency Programs	Source

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	• Featured Service & Product Provider Success Stories • Financial Resources for Energy Efficiency Projects	
Collaborative for High Performance Schools (CHPS)	The Collaborative for High Performance Schools provides tools, resources, education and building design standards and facilitate the design, construction and operation of high performance schools to create environments that are not only energy and resource efficient, but also healthy, comfortable, well lit, and containing the amenities for a quality education.	Source
CPUC: Savings By Design	Savings by Design is a program to encourage high-performance nonresidential building design and construction within the service territories of PG&E, SDG&E, Southern California Edison, or Southern California Gas. The program offers building owners and their design team a wide range of services including design assistance, owner incentives, and design team incentives. Owners and design team members are eligible to participate.	Source
DOE's Federal Energy Management Program	Building Life-Cycle Cost (BLCC) program analyzes capital investments in buildings. BLCC conducts economic analyses by evaluating the relative cost effectiveness of alternative buildings and building-related systems or components. Typically, BLCC is used to evaluate alternative designs that have higher initial costs but lower operating costs over the project life than the lowest-initial-cost design. It is especially useful for evaluating the costs and benefits of energy and water conservation and renewable energy projects. The life-cycle cost (LCC) of two or more alternative designs are computed and compared to determine which has the lowest LCC and is therefore more economical in the long run. BLCC also calculates comparative economic measures for alternative designs, including net savings, savings-to-investment ratio, adjusted internal rate of return, and years to payback.	Source
Cool California Local Government Toolkit	The Cool California Local Government Toolkit helps to identify cost saving actions, financial resources, and case studies to assist local governments with achieving GHG emission reductions.	Source
Energy Technology Assistance Program	The Energy Technology Assistance Program (ETAP) provides technical support, implementation assistance, rebates, and training to accelerate the uptake of advanced, market-ready energy efficiency technologies in the local government market in California. The program focuses on three energy efficiency technologies: 1. Bi-level lighting controls 2. Wireless lighting controls 3. Wireless HVAC controls	Source

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DOE's Technical Assistance Program (TAP)	Department of Energy, Technical Assistance Program (TAP) supports the Energy Efficiency Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs. Through TAP, DOE has launched a $25 million effort to assist EECBG and SEP Recovery Act recipients. This effort, which is jointly-funded with EECBG and SEP Recovery Act dollars, is aimed at accelerating payments, improving project and program performance, and increasing the return on Recovery Act investments. Local Governments can receive assistance one-on-one from a network of over 200 technical experts. In subject matters such as; energy efficiency and renewable energy technologies, program design and implementation, financing, performance contracting and state and local capacity building.	Source

IV. FINANCING RESOURCES

PREFACE
Municipal agencies are regularly challenged to do more with less, and recent economic conditions have exacerbated this requirement to a new level. Energy efficiency and renewable energy generation projects are an often overlooked source of general fund savings. Properly structured and financed energy improvement projects provide an opportunity to reduce energy spending and oftentimes provide extra cash in the form of rebates and utility incentives.

Determination of eligibility and appropriate funding are important considerations for which this manual will provide guidance. Many local governments have a ready slate of projects, courtesy of one of the following:

a) Climate Action Plan identified projects
b) Existing capital or deferred maintenance projects
c) Energy consultant or utility audit identified projects
d) Self-generation projects
e) Retrofits and new construction

Included in this manual are an overview of the variety of funding types available for these projects, their structure, obligation terms and applicable uses. Also included are some case study evaluation tools for reference.

Specific projects have access to different rebates and funding opportunities depending on

size of the project, available rebates, incentives, and tax benefits, as well as desired result for the agency; i.e. early vs. later savings, cash flow impact, and availability of special funding options. It is important to consider this manual as a tool from which to facilitate your conversations with energy and finance professionals, not a replacement to using specialists in these areas.

DEBT FINANCING OPTIONS

Numerous debt financing options exist for municipal agencies contemplating environmental projects. This section will provide information on these options, their appropriate use, structure and terms. In the next section, Financing Evaluation, we will look more closely at how to evaluate specific project savings/costs. First, however, we need to understand what options exist to pay for these projects.

Some basic terms that will be utilized throughout this section include:

- Debt or bond issuance: Selling bonds to investors who purchase the bonds in order to receive agreed upon principal and interest payments (debt service) over time.
- Debt service: Payment amounts required to pay off any bond or other debt obligations (principal and interest).
- Issuer: The agency that issues (sells) the bonds, in order to receive funding, and pays it back over time.
- Interest: Payment made based on the interest rate charged for the bond, these rates will vary based upon issuer credit quality, financing term and market conditions.
- Principal: Payment made on the original amount borrowed.
- Security: The underlying obligation for bond repayment; sometimes referred to as collateral.
- Term: Length of time to pay back the amount borrowed with interest.

Tax Exempt Debt

General Obligation Bonds

General Obligation Bonds, ("GO Bonds" or "GOs"), provide maximum project savings to the general fund since the debt is paid back by taxpayers. This type of debt requires voter authorization and is typically used when a large capital projects are undertaken by the agency. When seeking voter approval, desired projects must be identified in the voter disclosures. Therefore, if environmental projects are being contemplated along with seeking voter approval for GOs, it is important to include energy upgrades and renewable generation in such voter information. Upon voter approval, GO Bonds are typically constrained by an area' s total assessed value and the voter approved tax rate (i.e. Tax Rate per $100,000 of total assessed value (AV)). Once approved some of the defining features of GOs include:

Bond Security:
Taxpayer general obligation bond payments. Paid on tax bill at rate necessary to meet debt service obligations.

Typical Financing Participants:

Issuer, Financial Advisor, Underwriter, Bond Counsel, Underwriter' s Counsel, Trustee, Rating

Agency

Appropriate Debt Issuance Amount:
Typically issued for over $10 million in aggregate.

Typical Financing Terms:
Depending upon authorization, up to 30 years, with principal and debt repayment structured to stay within authorized tax rate based upon expected assessed valuation growth. In the event of AV decline or stagnation, the tax rate is allowed to exceed the authorization in order to meet debt service requirements for outstanding bonds.

Time Required to Complete Financing:
Bond authorization campaigns and voter approval can often take 2 years or more. However, once authorization is given, the transaction can be structured and sold to investors in about 60 to 120 days.

Benefits and Challenges:
GO bonds provide the greatest savings to the general fund, since all debt service obligations are transferred to the taxpayers. The greatest challenge is achieving voter approval and the time required to do so.

Certificates of Participation
Certificates of Participation, or COPs, are a common debt issuance tool that uses a lease/lease back structure to secure the debt issuance. The agency will lease a site to a not-for-profit agency for the length of the debt term and then lease it back over the term. The debt is issued to prepay the lease, which is then paid back via the lease-back payments made by the agency. The agency's general fund is the obligor for payments, though specific other revenue sources may be identified.

Because this debt obligation ultimately rests on the agency's general fund, it is important to identify accurate project savings to assure that the project' s savings are greater that its debt service. This determination is flexible with most agencies preferring annual positive project cash flow, with others focusing on positive cash flows in early years to offset negative cash flows in the future.

Bond Security:
Issuing agency general fund.

Typical Financing Participants:
Issuer, Financial Advisor, Underwriter, Bond Counsel, Underwriter's Counsel, Trustee, Rating Agency

Appropriate Debt Issuance Amount:
Typically issued for over $5 million

Typical Financing Terms:
Up to 40 years, though term should not exceed project's useful life.

Time Required to Complete Financing:
60 to 120 days.

Benefits and Challenges:
COPs are relatively simple to structure and issue for relatively low project amounts. The challenge lies in assuring savings that provide comfortable assurance to the agency that they will derive overall economic benefit from the project. Furthermore, for small project amounts the transaction costs can be disproportionately high.

Revenue Bonds
Revenue Bonds are similar to Certificates of Participation, except instead of the underlying collateral being a lease/lease-back of an agency site, the security is a specific revenue stream that may be additionally backed by a general fund obligation. Revenues may be derived from a variety of sources, e.g. parking fees, user fees, and ideally have a reportable history of collection. Please see the discussion of COPs above for the features associated with Revenue Bonds.

Revolving Loan Funds
Revolving loan funds are often used to facilitate ongoing funding for similar projects. Currently, several states operate revolving loan funds for clean water projects. In the scope of energy efficiency projects, it may be possible to establish such a fund that will be repaid from project savings, though, challenges of multiple agencies will need to be addressed. Following is a graphical illustration of how such a fund may function.

Step 1: Seed funding is provided by Agency(ies) and Investors Purchase Bonds
Step 2: Bond proceeds combine with other capitalization funds to establish project fund.
Step 3: Project fund pays for savings-producing capital improvements with a portion of the savings going back to the project fund.
Step 4: Portion of savings deposited to repayment fund.
Step 5: Earnings from DSRF deposited to repayment fund.
Step 6: Bondholders repaid.
Repeat

Direct Debt/Loans
Direct loans can come from banks or financial institutions, as well as programs run by Energy Service Companies (ESCOs), California Energy Commission (CEC) and utilities. ESCO, CEC and utility programs typically require specific project types, savings thresholds, and verification by their contracted vendors. CEC and utility programs are often carry below market interest rates, and should therefore be evaluated for use alongside other options to provide the lowest cost of capital. If an agency is contemplating several projects at a time, it may make sense to do a portion of the projects through this low cost option and then leverage these projects' savings with the savings from other financing options to achieve an overall savings level that is acceptable to the agency. ESCO financing may be beneficial when other options are not available, but ESCOs typically have a higher cost of capital than the agency would through other sources.

State and Utility Financing
Different State and Utility based financing programs are available at different times, based on

location of the project.

Some forms of these funding opportunities include:

- On-bill financing – Provided by utilities for specific projects and terms
- California Energy Commission(CEC) Loans – Loans for energy projects at 3% interest rate

Energy Service Company (ESCO) Financing
ESCO financing is vendor financing provided by the energy services company that receives the contract for the work to be done. This type of financing is typically offered for large scale projects. ESCO financing is often used when alternatives are not readily available or understood by the municipal agency.

Project Ownership:
Vendor or Agency

Typical Financing Participants:
Agency, Energy Services Company

Appropriate Project Amount:
Over $3 million

Typical Financing Terms:
5 to 15 years

Time Required to Complete Financing:
Part of contract for services

Benefits and Challenges:
ESCO financing can provide assurance that savings will be adequate to meet payment obligations. However, because ESCOs typically have double-digit return targets, their mark-up on projects combined with the savings derived is often a higher cost to the municipal agency than if they seek outside financing. The lack of transparency in some ESCO "Energy Programs" leaves a fair opportunity to question the overall benefit to the government agency.

Taxable Bonds

Tax Credit Bonds
The Federal government, from time to time, has authorized certain tax credit bonds. Many of these types of bonds were provided through the American Recovery and Reinvestment Act of 2009, also known as "ARRA" or the stimulus package. Many of these bond types are no longer available, however, two specific types that have application for energy project and still have allocations outstanding are: Clean Renewable Energy Bonds (CREBs) and Qualified Energy Conservation Bonds (QECBs). Conceptually, instead of interest payments, the investor in these bonds receives a tax credit, or federal subsidy payment, for a portion of the defined interest on the bonds.

Both of these bond types require the agency to receive an allocation of authorized bonds from either the federal or state government. At this time, these allocations have been fully

distributed. However, returns of unused amounts may provide future opportunity for eligible project allocation.

Tax credit bonds function slightly differently than traditional tax-exempt bonds. Oftentimes, tax credit bonds are sold with a bullet maturity for the principal and interest payments made according to the terms defined by the Treasury at the time of sale. Tax credit bond rates and allowable term length are set daily by the Treasury and can be viewed at the following link: https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDate.htm

CREBs
Clean Renewable Energy Bonds carry a 70% tax credit or direct subsidy rate. Original distributions made by Treasury Department targeted 1/3 each to co-ops, governmental bodies and public power providers. Qualified projects include wind, solar, geothermal, biomass, landfill gas & hydro – NOT Indian coal or refined coal. ARRA authorized allocation of up to $2.4 Billion nationally. Currently there are no authorized amounts available, but future allocations may be made if allocations are returned or Congress authorizes additional allocations.

QECBs
Qualified Energy Conservation Bonds also provide a 70% tax credit or direct subsidy rate. Original federal authorizations of $3.2 billion were distributed nationwide to large local governments and states. In California, the state allocation was further distributed based upon requests for eligible projects, amounts returned are re-allocated through the California Debt Limit Allocation Committee: http://treasurer.ca.gov/cdlac/applications/applications.asp

QECBs are issued by state and local government agencies, and allow for no more than 30% private activity bonds. Bond proceeds are to be used for Qualified Conservation Purposes including:

- Reduce energy consumption in publicly-owned buildings by at least 20%
- Implementation of green community programs
- Rural development of electricity production from renewable sources
- New CREB projects
- Research facility expenditures and research grants to support emerging renewable
- technologies
- Mass community facilities to reduce energy consumption
- Demonstration projects to commercialize research
- Public education campaigns to provide energy efficiency

Third-Party Ownership Option

Power Purchase Agreements
Power Purchase Agreements (PPAs) provide third party ownership of renewable project installations (i.e. solar). Use of a PPA provides the local government agency with a fixed cost for electricity produced by the system during the term of the contract. PPA financing may be financially attractive to tax-exempt users, like municipal agencies, due to the fact that the

third party owner is able to monetize tax benefits associated with these projects thereby, in theory, reducing the overall price that is charged to the agency.

In a PPA transaction, the agency enters into a contract (typically 15, 20, or 25 years) to purchase the system output from the third-party owner at a pre-defined price per kWh. This price is typically set at a start rate with an escalation factor that should provide a reduction in overall cost of energy purchased by the agency.

Project Ownership:
Third party PPA financing company

Typical Financing Participants:
Agency, Developer, Special Purpose Entity that owns the system, EPC (Engineering / Procurement / Construction) contractor(s), Financial Consultant, Outside Legal Counsel

Appropriate Project Amount:
Typically over $2 million

Typical Financing Terms:
15, 20, 25 years

Time Required to Complete Financing/Contract for Services: 6 to 12 months

Benefits and Challenges:
Agency locks in their cost of energy for the amount produced by the system and may be able to achieve a rate that is below their expected utility costs. Challenges include reduced incentives that decrease investor incentive thereby increasing cost. Another challenge is assuring that the provider is reputable and able to deliver the terms as promised. Similarly, this project will be sited at agency location(s) by outside contractors that will be responsible for ongoing maintenance and functionality of the system; consideration should be given to the agency cost of assuring long term accessibility, and security of the system.

Direct or Third-Party Ownership Option

Leases/ Master Lease
When talking about leases it's important to be able to identify the parties to the transaction: the Lessor, is the party that provides the funding to purchase and install the equipment; the Lessee is the agency that agrees to make payments for the use of the equipment

Leases can be either capital leases, in which the lessee holds title to the improvement; or operating leases, in which the lessor holds title to the improvement. Operating leases are sometimes called tax leases, and are often used in order to realize tax benefits that cannot be taken by government agencies. Most leases for energy improvements are structured as abatement leases that require defined payments as long as the leased asset is available for use; in the event of loss of use the lease payment is abated. Instead of debt service payments, or power purchase payments, lease payments consist of rental payments for the term of the lease; typically, ownership transfers to the local government at the end of the term

A master lease is a lease line of credit that allows a lessee to acquire additional leased equipment under the same basic lease terms and conditions as originally agreed to, without

having to renegotiate a new lease contract with the lessor.

Lease Security:
Equipment purchased or other real property.

Typical Financing Participants:
Lessor, Lessee, Financial Advisor, Agency Counsel

Appropriate Lease Amount:
$500,000 and up

Typical Financing Terms:
Useful life of project, typically 10 years or less

Time Required to Complete Financing:
30 to 120 days

Benefits and Challenges:
Leases are relatively simple to structure and secure for relatively small project amounts. Challenges of leasing include negotiation of any buyout provisions and assuring that the savings realized will be greater than the lease payments.

FINANCING EVALUATION

Properly implemented energy efficiency and renewable generation projects will reduce the total amount of energy being purchased from the utility. This decrease in energy purchased, measured in kilowatt hours (kWh), multiplied by the utility rate per kWh ($/kWh), will provide the savings amount associated with the specific project' s consumption savings. In addition, these projects may lead to demand charge savings derived when peak access reduction allows for a shift to a new utility rate tariff.

In addition to savings from the utility consumption and demand charges, many opportunities exist for rebates and incentives. In order to determine incentive programs that may be available, it is recommended that projects are evaluated against programs identified in the national database, www.dsireusa.org. Additional information links are provided through this source to the specific programs in its database. Local utility and government agency programs, i.e. SoCalEdison, Southern California Gas Company, Los Angeles Dept of Water and Power, and Energy Upgrade CA, should also be checked for opportunities not picked up in the database. When reviewing incentives, it is important to recognize that different levels of incentives may be provided to tax-exempt / government agency owners versus private, taxpaying owners. Both options should be noted so that the correct amount is included in the analysis of different ownership models.

In many cases tax incentives are also provided for these types of projects. These tax benefits can be provided as credits, deductions, and/or accelerated depreciation. Because municipal agencies are not taxpaying entities, consideration of third party ownership to provide monetization of these benefits should also be considered. In the case of EPAct/179D, government agencies may assign the deduction to the designer of certain efficiency measures worth up to $1.80 per square foot.

Once available incentives are identified, modeling of project ownership and financing options can occur to determine the optimal financing solution to achieve municipal agency goals.

Table 16: Finance resources summary

Sponsoring Entity	Description	Details
LADWP's Non-Residential Custom Performance Program (CPP)	LADWP's Custom Performance Program (CPP) offers incentives for non-residential electric customers for the installation of energy saving measures, equipment or systems that exceed Title 24 or minimum industry standards. Installed measures must replace existing equipment. Incentives for each project are based on energy savings calculated by LADWP or submitted calculations reviewed and accepted by LADWP.	Source
	The Chiller Efficiency Program (CEP): The CEP, managed by LADWP, offers cash rebates for owners and operators of buildings who use chillers for space conditioning.	Source
US EPA Green Building Funding Opportunities		Source
US EPA State and Local Climate and Energy Program	EPA's Financing Program Decision Tool and Guide helps government entities understand and make decisions to support appropriate financing programs for their jurisdiction. The Guide describes: • Financing-program options • Key components of these programs • Factors for states and communities to consider as they make decisions about getting started or updating their programs The Guide's objective is to help government entities facilitate financing support in the commercial and residential sectors, with a secondary focus on helping state and local governments finance improvements to their own buildings. Financing strategies for both energy efficiency and renewable energy are covered.	1) Source 2) Source
Database of State Incentives for Renewables & Efficiency	DSIRE is a comprehensive source of information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency. Established in 1995 and funded by the U.S. Department of Energy, DSIRE is an ongoing project of the N.C. Solar Center and the Interstate Renewable Energy Council.	Source

Local Government Commission	Energy Funding Opportunities include:
	• Financing and Project Assistance for Energy Efficiency in Buildings
	  ○ Federal
	  ○ State
	  ○ Joint Powers Authorities (JPA)
	• Other Grants for Energy Efficiency
		Source

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	• Renewable Energy Incentive and Education Programs • Water-related Energy Programs	
California Energy Commission	CEC's Emerging Renewables Program provides rebates and production incentives to end-use consumers who purchase and install renewable energy technologies, specifically small wind systems and fuel cells, for on-site generation.	Source
	Energy Efficiency Financing provides 3% interest loans for a maximum amount of $3 million per applicant.	Source
Cool California Funding Wizard	Organizations can search for grants, rebates, tax credits, and other financial assistance to assist with clean air vehicle purchases/retrofits, recycling and waste prevention, water recycling, and many other environmental projects.	Source
Southern California Gas Company	The 2012 Self Generation Incentive Program will open soon. The Self Generation Incentive Program (SGIP) provides financial incentives for the installation of new, qualifying self-generation equipment installed to meet all or a portion of the electric energy needs of a facility. Retail gas and electric customers served by an investor owned utility in California may be eligible for an incentive.	Source
	Zero Percent On-Bill Financing: The Gas Company offers qualified customers purchasing qualified natural gas equipment 0% interest, unsecured financing. Loan amount is $5,000 to $250,000 per meter; eligible accounts for the State of California may qualify for up to one million dollars ($1,000,000) per meter. Maximum project payback period is ten (10) years or useful equipment life, whichever is shorter.	Source
SCE's On-Bill Financing or On-Bill Repayment	On-Bill Repayment (OBR) lets qualifying customers finance qualified energy efficiency projects interest-free and loan repayment through monthly SCE bills.	Source
Program Financing (coming soon)	Through this program, we anticipate establishment of a master lease facility that will provide ongoing funding to participating municipalities for their energy efficiency project. It is anticipated that these tax-exempt leases will be available at competitive interest rates, with a streamlined participation and documentation process	Source

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V. Detailed discussion of how the existing resources will be used in implementing Task 3C

Proposed Southern California Regional Energy Center (SCREC) Project Life Plan

Local governments face a wide array of resources available to local governments, it is easy to see why a municipality may find it so overwhelming to work through the information and tools that it decides it is too much trouble and decides not to use any of these resources. Furthermore, budget cuts throughout the state have left city workers with more responsibilities and competing priorities. With recent changes in staffing, local governments are having to eliminate and combine positions together. Often times a city staff member will wear two hats, city engineer and grants administrator, competing priorities arise. Finding it difficult to focus on long term cost savings opportunities versus immediate oversight of projects. The only way the Southern California Regional Energy Center can be successful is if a standardized process of evaluation can be created within the limited of the time the municipal employee has to devote to energy and utilities as a budget line item.

Ideally, the SCREC's goal is to define a program identifying and implementing integrated energy efficiency improvements for the municipality as a whole, rather than either measure by measure, or even building by building. Our process will assist with the identification of economics for a combination of long payback/high energy savings improvements with quicker payback measures to bring enough return on investment to green light a project. Increasing that capacity to numerous buildings within a municipality within one construction scope, or even aggregating projects across municipality boundaries can increase regional energy savings while decreasing costs to the individual cities.

Capital Improvement Plan Analysis

The lowest hanging fruit of all is to replace equipment planned for replacement or maintenance in the capital improvement plan with energy savings equipment. All building owners, from small commercial to municipal, have regular equipment replacement and maintenance schedules designed to prevent equipment failure during periods of doing business. Capitalizing on these plans for asset improvement by replacing the specifications for something more energy efficient, especially if there is no cost premium, only leads to an income source in the case of utility rebates for those measures. Therefore, analysis of a five (5) year capital improvement plan, if available, or current year plan only, will allow the Regional Energy Center to identify buildings and projects that should have a prioritized focus.

Utility Bill Analysis of Historic Use, EEMIS, EPA Benchmarking, Retro-Commissioning

The second step would be an analysis of the municipality's utility bill history. Data can be collected through the EEMIS system moving forward, but cities that are installing the EEMIS concurrently with the Regional Energy Center's program will use other tools to analyze past utility use against engineering standards. Engineering analysis may help identify anomalies and inconsistencies of particular building behavior that may identify proper candidates for either EPA Energy Star Portfolio Manager Benchmarking or Retro-Commissioning, or both. This second step is primarily used to weed out relatively efficient buildings that may not be performing to its potential. Whether equipment was installed improperly in the past or controls haven't been working as planned, these are examples of how utility bill analysis can identify strange behavior, benchmarking can determine how this building compares to similar buildings of that type and usage, and Retro-Commissioning can identify the equipment or controls that need adjustments. The last thing anybody wants is to

perform audits and equipment replacements on buildings that are working perfectly fine; they just need a "tune up" so to speak. However, this step is also used to identify which buildings within a municipality's portfolio may be the best candidates for energy audits and demand response.

ASHRAE Level II Energy Audits (preferred) or other equivalent audit and Carbon Reduction Plans

The third step would be to document the actual energy-saving opportunities within a variety of identified municipal buildings as well as any opportunities for GHG reductions through implementation of the replacement of measures indicated in the audit report. Since carbon offsets for California's Cap and Trade program are currently only available through livestock, forestry, and refrigerant and foam replacement and disposal improvements, GHG reductions identified will be for AB32 and Climate Action Plan reporting versus an income source for the municipalities. The energy audits provide the information needed to make decisions about energy efficiency moving forward. Following ASHRAE Level II protocols will not only identify energy saving opportunities, but will also provide reporting of more detailed energy calculations and financial analysis of the proposed energy efficiency measures. The financial analysis or Life Cycle Analysis allows the municipality to truly understand the financial benefits of installing energy efficient measures. An ASHRAE Level II audit can also earn additional points for LEED for Existing Buildings category of O&M, if any municipality is interested in certifying their existing building stock. In addition to energy efficiency measure identification, these audits will also look for opportunities to utilize generation technologies such as: co-generation, energy cell technology, and microturbines, including them in the analysis and final report where applicable.

There are a variety of resources available that can fund the ASHRAE Level II audits for municipalities that are not only a part of the pilot program, but have buildings identified through previous steps. Those resources include, but are not limited to:

1. Local utility Environmental Leadership Partnership program technical assistance dollars. These dollars can be used for a variety of services resulting in energy savings, but audits are accepted uses.
2. Utility Flight 5.6 Strategic Planning technical assistance dollars. San Gabriel Valley COG, for example, identified money within their budget that can be used for any carbon or energy saving engineering-related tasks.
3. SCREC technical assistance dollars included in this pilot program that can be used for audits or other technical needs that are deemed ineligible through the other two sources.
4. DOE Technical Assistance dollars can be used to finance more of the creative aspects of the audit, such as the co-generation, fuel cell, and microturbine opportunities. this funding is available to EECBG recipients.

Energy Design Resources eVALUator™

Step 4 takes the information found in the ASHRAE Level II audit and calculates the lifecycle benefits of these investments over and above the "simple payback" calculations. This existing resource takes energy efficiency projects one step beyond how much energy dollars saved divided into the cost of the improvement, and it looks at all of the available value such as:

1. financing costs
2. tax implications
3. energy costs
4. replacement costs and intervals
5. operation and maintenance costs
6. opportunity costs for money (discount rates)
7. the impact of inflation

8. non-energy benefits (such as improved occupant productivity and tenant retention)

Demand Response

Step five is an opportunity the Regional Energy Center can use rather than a required element of the participating municipalities. Demand Response through aggregation of all opportunities within a municipality can provide an income source to that municipality for many years to come, through the savings associated with this program. Bringing demand response into the analysis early on in the process can minimize the premiums normally associated with demand response preparations, and implementing demand response improvements within an energy efficiency scope of work may help increase the return on investment, resulting in project approval. The demand response analysis will be performed in three strategies:

1. Opportunities for demand response will be identified within all of the projects in the pipeline for the local government partnership program. If possible, including demand response improvements at a building level can be additive until the city has the minimum participation thresholds.
2. Cross checking a demand response opportunity within a building against a measure identified in the ASHRAE Level II audits, performed in step 3, will allow the scope of work to include both efforts, streamlining the process as well as lowering the premium normally associated with demand response participation.
3. Using Southern California Edison's Demand Response Program data, a comprehensive list of opportunities within a municipality's portfolio will be generated and demand response will be investigated, with actual projects identified that can add to the city's aggregation package for maximum involvement. Once identified, the improvement measure may be analyzed either as a stand-alone improvement, or combined with other measures or projects within that jurisdiction.

Since Southern California Edison already has technical services available for demand response analysis, the municipalities will try to use that funding for as much as possible, bridging any deficiency in funding with the SCREC's Department of Energy EECBG funds.

Renewable Energy Opportunity Plans

Step 6 is very similar to the Demand Response process, however identifying renewable energy, particularly solar, installation opportunities. The identification process, however, will start with the LA County Solar Map. All buildings that have identified projects within the partnership pipeline will have their properties analyzed for solar potential as well as the buildings that are being audited per step 3. A final report laying out the renewable energy opportunities will be drafted and the municipality can decide whether or not to include solar installation as either a part of the energy efficiency project scope of work, as a separate project, or even combined with other municipalities. Since co-generation, fuel cells technology, and microturbines are included in the ASHRAE Level II audit, this step looks at distributed generation outside of the property walls exclusively.
Funding for the renewable energy analysis can come from a variety of resources:

1. The SCREC technical assistance portion, funded by the Department of Energy EECBG funds allows for analysis pertaining to renewable energy.
2. The DOE Technical Assistance resource is available to EECBG grant recipients that need engineering services

Financing

Financing is a major barrier in the municipal energy efficiency market. Although there are current financial products available to municipalities, the Regional Energy Center is determined to create a series of standardized underwriting criteria accepted for funding through a pre-committed lendr (or lenders), a straightforward application and approval process, and rates that reflect the low risk of the borrower. Once the standardized criteria and process is documented, the audit requirements and technical assistance deliverables will be altered to match what the lenders require. Currently, ASHRAE Level II is the industry standards in the commercial market, so that is a conservative estimate of what the lenders will require moving forward.

- How the existing resources will be used in implementing Task 3C
    - Standardized list of underwriting criteria to be established to provide municipalities with the upfront technical assistance requirements for financing.
    - Leverage partnership technical assistance money to obtain primary analysis through Level 1 audits, saving SCREC technical assistance services for meeting standardized underwriting criteria once established
    - Rebates help lower the net project costs and may be structured into the debt service stream or provided as a cash directly back to the agency for its immediate benefit
    - Funding opportunities available through additional grants, or applicable special bond types will be evaluated for use to reduce the overall cost to the agencies

Energy Star Cash Flow Opportunity Calculator

Step 8 is the step taken prior to introducing potential policy changes, as proven through this process of identifying opportunities. The Cash Flow Opportunity Calculator helps decision-makers answer three critical questions about energy efficiency investments:

1. How much new energy efficiency equipment can be purchased and installed based on the anticipated savings?
2. Should this equipment purchase be financed now, or is it better to wait and use cash from a future budget?
3. Which economic componets of the current analysis are subject to change?

This resource created by Energy Star is a tool that cities can use to justify the expenses either inside or outside of the capital improvement plan. In looking at the individual building as an functioning system, then looking at the municipality as a whole, then the County as a whole, the wide array of opportunities and choices need to be prioritized simply, so that decision makers within these cities can make responsible fiduciary decisions, respecting the rights of the taxpayers, while looking out for the interests of the municipalities infrastructure.

Policy Changes

The final step that will need to be addressed is a policy issue; municipalities need to understand and appreciate the value in the sunk cost of the utility budget. Development of a policy to retain the existing utility budget to aggregate realized savings for future projects will allow decisions to be made upfront that will benefit the city on an going basis rather than looking for capital to implement projects each year. Demonstrating project implementation savings will be justification required, along with a standardized staff report provided by the SCREC, to assist the municipality successfully move forward with this program in the future.

DRAFT

Southern California Regional Energy Center

REQUEST FOR QUOTATION

#001

VARIABLE FREQUENCY DRIVES FOR POOL PUMPS

LOCATED IN

LOS ANGELES COUNTY

Issue Date: May 15, 2012

Southern California Regional Energy Center (SoCalREC)
523 West 6th Street, Ste. 1110
Los Angeles, CA 90014

David Cohen, Program Manager
The Energy Coalition
Telephone: (213) 986-4791 ext. 13
dcohen@energycoalition.org

SoCalREC is a program led by Los Angeles County and Huntington Beach funded in part by Southern California Edison and the US Department of Energy

www.socalrec.com
Closing Date: 3:00 PM Pacific Time on May 31, 2012

PURPOSE
This RFQ is issued to identify and prequalify contractors interested in providing installation services for an aggregated variable frequency drive pool pump project.

INDEX – The following are contained in this RFQ.

Section 1	Project Information & RFQ Schedule
Section 2	Participation in the Procurement Process
Section 3	Quotation Submittal Requirements
Section 4	Evaluation Criteria
Section 5	Scope of Work
Section 6	Specifications
Section 7	List of Attachments

SECTION 1 PROJECT INFORMATION & RFQ SCHEDULE

PROGRAM OVERVIEW
Established by Los Angeles County and the City of Huntington Beach in collaboration with Southern California Edison and the U.S. Department of Energy, SoCalREC plans to demonstrate a successful approach to implementation of projects throughout the region. The SoCalREC project has been designed to develop and demonstrate a variety of efforts focusing on a regional approach to energy efficiency improvements among municipalities.

PROJECT INFORMATION
As part of the effort to provide resources to help identify and fund government facility energy efficiency projects, the SoCalREC is implementing a pilot program that addresses energy efficiency measures (EEMs) on a measure by measure individual basis using the aggregated procurement approach. In this case, the pilot measure chosen is "Pool Pump VFDs".

Pool pumping is a significant energy cost to many local government facilities. Since many City and County facilities have recreational areas with pools, there is great opportunity to retrofit many of these pumping systems with Variable Frequency Drives. In addition to energy use reductions, the installation of VFDs reduces maintenance costs and prolongs the life cycles of the pumps and motors.

TECHNICAL BACKGROUND
Pool pumping systems are typically designed to provide a constant flow at the worst case conditions, which include completely clogged filtration systems. At these conditions, the power required to sustain the required flow rates is the greatest. However, this scenario is not always the case. When filtration systems are new, or clean, the total head, or resistance to overcome is much less than that at design conditions. This is part of initial design not retrofit, suggest delete often times flow restrictors (valves) will be used to lower the flow rate to the desired setting, but the excess power will still be consumed. This leads to wasted energy, as well as shorter life cycles for pumps and motors.

Variable Frequency Drives (VFD) will alleviate these problems. A VFD will allow the speed and horsepower of the pumps to match flow and pressure requirements. With clean or new filters, a reduction in the total head loss allows the VFD to reduce the speed and subsequently the power to the motor.

The goal of this RFQ is to identify qualified contractors to provide "turnkey" pool pump VFD equipment and installation services. Selected providers will be admitted to a pool of contractors that participating local governments can choose from to perform these services. Pricing, terms, and all installation parameters will be pre-established as a result of this RFQ.

As a requirement of this RFQ, contractors must provide quotes that include all costs to perform turnkey installation services, including but not limited to:

- All pertinent equipment, as necessary
  - Pumps
  - Motors
  - VFDs
  - Piping/Valves
  - Wiring
  - Controls
- Electrical Work
- Equipment installation and commissioning
- Engineering (system sizing, drawings, etc.)
- All required permits, including ensuring that the system meets Health Department requirements
- Equipment enclosures (if necessary)
- Concrete or landscaping patch work (if necessary)

SoCalREC CONTACT PERSON:
Questions regarding the content or intent of this RFQ or on procedural matters should be addressed to:

Jean Cheng, Project Manager
The Energy Coalition
523 West 6th Street, Ste. 1110
Los Angeles, CA 90014
Telephone: (213) 986-4791 ext. 12
jcheng@energycoalition.org

RFQ SCHEDULE

Date	Item
May 15th	RFQ Released
May 22th	Questions Due
May 25th	Responses to Questions provided
May 31st	**Quotations Due No Later Than 3:00 pm**
June 8th	Notification of Qualified Contractor List

SECTION 2 PARTICIPATION IN THE PROCUREMENT PROCESS

A. Quotations are invited from qualified and experienced contractors for the SoCalREC Pool Pump Project as per the enclosed specifications.
B. It is the policy of SoCalREC to ensure that all businesses including minority, women and disabled veteran business enterprises, and small businesses have a fair and equitable opportunity to compete for and participate in this RFQ.
C. SoCalREC reserves the right to reject any or all quotations. All materials and documents submitted with the quote will become the property of SoCalREC.

SECTION 3 QUOTATION SUBMITTAL REQUIREMENTS

A. Quotes – All quotes must be submitted according to specifications set forth in this RFQ.

B. Signature – Quotes must be signed by an authorized representative of the vendor/contractor.

C. Due Date – Three (3) complete hard copies of the quotes must be received by The Energy Coalition and **postmarked no later than 3:00 p.m. on May 31, 2012**. In addition, email an electronic copy of your complete submittal to Jean Cheng, at jcheng@energycoalition.org. Any corrections or resubmissions of the quote will not be sufficient reason to extend the deadline. No late quotations will be accepted under any circumstances. Quotes must be submitted in a sealed envelope, plainly marked in the upper, left-hand corner with the name and address of the contractor with the words, "**Request for Quotation SoCalREC #001**".

Quotations should be addressed to:

Jean Cheng, Project Manager
The Energy Coalition
523 West 6th Street, Ste. 1110
Los Angeles, CA 90014

D. Grounds for rejection, a quote may be rejected if:
1. It is not prepared in the format described, or
2. It is signed by an individual not authorized to represent the firm.
3. The quote package is incomplete.

E. FORMAT - the content and format of the quote will adhere to the specifications listed below. Failure to follow this format may result in quote disqualification.

1. Attachment A: Title Page
2. Attachment B: Proposed Work Plan
3. Attachment C: Qualifications and Experience Statement
4. Attachment D: Quotation Sheet
5. Attachment E: Additional Labor Rate

In the event a bid from a parent company and its wholly owned subsidiary are received, the bids will be considered as coming from a single entity and only the lowest cost bid package will be considered.

SECTION 4 EVALUATION CRITERIA

Quotations will be evaluated by committee familiar with the subject matter and scope of work.

1. Each member of the evaluation committee shall be accorded equal weight in his or her rating of quotations. The evaluation committee shall evaluate the quotations according to the specified criteria and numerical weightings set forth below.

Quotation Evaluation Criteria	Points (100)
Technical Criteria The contractor's understanding of the program and scope; the relevance and alignment of the contractor's proposed work plan.	25
Management Criteria The experience and qualifications of the contractor's personnel and organization; the contractor's experience of similar projects.	25
Total Cost The competitiveness and reasonableness of the contractor's proposed quotation sheet.	50
Total Points	**100**

SECTION 5 SCOPE OF WORK

Contractors shall provide complete turnkey pricing to convert constant speed pool pumping systems to variable speed pumping systems. Itemized pricing includes the following:

For each recirculation or pool filtration system:

- As necessary, replace each pump and motor with a new self-priming pump and Inverter Duty TEFC motor, appropriately sized for each system
- Install a new (VFD) for each inverter duty TEFC pump & motor
- Each VFD shall be housed separately from the motor in a NEMA Type 4 enclosure
- Two year warranty for all equipment and labor
- Each pump shall have the capability to self-prime at minimum speeds.
- Filter replacements to match existing equipment – Include as an additional cost

To be noted by contractors and included as a written statement in all proposals: All pricing and terms in each proposal will be valid through December 31, 2012.

SECTION 6 SPECIFICATIONS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 519 (1992; R 1993; Errata 2004) Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

IEEE C62.41.1 (2002; R 2008) Guide on the Surges Environment in Low-Voltage (1000 V and Less) AC Power Circuits

IEEE C62.41.2 (2002) Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and Less) AC Power Circuits

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250 (2008) Enclosures for Electrical Equipment (1000 Volts Maximum)

NEMA ICS 1 (2000; R 2005; R 2008) Standard for Industrial Control and Systems: General Requirements

NEMA ICS 3.1 (2009) Guide for the Application, Handling, Storage, Installation and Maintenance of Medium-Voltage AC Contactors, Controllers and Control Centers

NEMA ICS 6 (1993; R 2001; R 2006) Enclosures

NEMA ICS 7 (2006) Adjustable-Speed Drives

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2008; TIA 08-1) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 489 (2009) Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures

UL 508C (2002; R thru 2010) Power Conversion Equipment

1.2 RELATED REQUIREMENTS

Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS, and Section 26 20 00 DISTRIBUTION WIRING SYSTEM apply to this section with additions and modifications specified herein.

1.3 SYSTEM DESCRIPTION

1.3.1 Performance Requirements

1.3.1.1 Electromechanical and Electrical Components

Electrical and electromechanical components of the Variable Frequency Drive (VFD) shall not cause electromagnetic interference to adjacent electrical or electromechanical equipment while in operation.

1.3.2 Electrical Requirements

1.3.2.1 Power Line Surge Protection

IEEE C62.41.1 and IEEE C62.41.2, IEEE 519 Control panel shall have surge protection, included within the panel to protect the unit from damaging transient voltage surges. Surge arrestor shall be mounted near the incoming power source and properly wired to all three phases and ground. Fuses shall not be used for surge protection.

1.3.2.2 Sensor and Control Wiring Surge Protection

I/O functions as specified shall be protected against surges induced on control and sensor wiring installed outdoors and as shown. The inputs and outputs shall be tested in both normal mode and common mode using the following two waveforms:

a. A 10 microsecond by 1000 microsecond waveform with a peak voltage of 1500 volts and a peak current of 60 amperes.

b. An 8 microsecond by 20 microsecond waveform with a peak voltage of 1000 volts and a peak current of 500 amperes.

1.5 QUALITY ASSURANCE

1.5.1 Schematic Diagrams

Show circuits and device elements for each replaceable module. Schematic diagrams of printed circuit boards are permitted to group functional assemblies as devices, provided that sufficient information is provided for government maintenance personnel to verify proper operation of the functional assemblies.

1.5.2 Interconnecting Diagrams

Show interconnections between equipment assemblies, and external interfaces, including power and signal conductors. Include for enclosures and external devices.

1.5.3 Installation Drawings

Show floor plan of each site, with V.F.D.'s and motors indicated. Indicate ventilation requirements, adequate clearances, and cable routes.

1.5.4 Equipment Schedule

Provide schedule of equipment supplied. Schedule shall provide a cross reference between manufacturer data and identifiers indicated in shop drawings. Schedule shall include the total quantity of each item of equipment supplied. For complete assemblies, such as VFD's, provide the serial numbers of each assembly, and a sub-schedule of components within the assembly. Provide recommended spare parts listing for each assembly or component.

1.5.5 Installation instructions

Provide installation instructions issued by the manufacturer of the equipment, including notes and recommendations, prior to shipment to the site. Provide operation instructions prior to acceptance testing.

1.5.6 Factory Test Results

Document test results and submit to government within 7 working days after completion of test.

1.6 DELIVERY AND STORAGE

Equipment delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variations, dirt and dust, or other contaminants.

1.7 WARRANTY

The complete system shall be warranted by the manufacturer for a period of two years, or the contracted period of any extended warrantee agreed upon by the contractor and the customer, after successful completion of the acceptance test. Any component failing to perform its function as specified and documented shall be repaired or replaced by the contractor at no additional cost to the customer. Items repaired or replaced shall be warranted for an additional period of at least two year from the date that it becomes functional again. All manufacturer warrantees are required to be supported.

1.8 MAINTENANCE

1.8.1 Spare Parts

Manufacturers provide spare parts in accordance with their recommended spare parts list.

1.8.2 Maintenance Support

During the warranty period, the Contractor shall provide on-site, on-call maintenance services by Contractor's personnel on the following basis: The service shall be on a per-call basis with 36 hour response. Contractor shall support the maintenance of all hardware and software of the system.

Various personnel of different expertise shall be sent on-site depending on the nature of the maintenance service required. Costs shall include travel, local transportation, living expenses, and labor rates of the service personnel while responding to the service request. The provisions of this Section are not in lieu of, nor relieve the Contractor of, warranty responsibilities covered in this specification. Should the result of the service request be the uncovering of a system defect covered

under the warranty provisions, all costs for the call, including the labor necessary to identify the defect, shall be borne by the Contractor.

PART 2 PRODUCTS

2.1 VARIABLE FREQUENCY DRIVES (VFD)

Provide frequency drive to control the speed of induction motor(s). The VFD shall include the following minimum functions, features and ratings.

a. Input circuit breaker per UL 489 with a minimum of 10,000 amps symmetrical interrupting capacity and door interlocked external operator.

b. A converter stage per UL 508C shall change fixed voltage, fixed frequency, ac line power to a fixed dc voltage. The converter shall utilize a full wave bridge design incorporating diode rectifiers. Silicon Controlled Rectifiers (SCR) are not acceptable. The converter shall be insensitive to three phase rotation of the ac line and shall not cause displacement power factor of less than .95 lagging under any speed and load condition.

c. An inverter stage shall change fixed dc voltage to variable frequency, variable voltage, ac for application to a standard NEMA rated motor. The inverter shall be switched in a manner to produce a sine coded pulse width modulated (PWM) output waveform.

d. The VFD shall be capable of supplying 120 percent of rated full load current for one minute at maximum ambient temperature.

e. The VFD shall be designed to operate from the appropriately specified voltage + or - 10 percent, three phase, 60 Hz supply, and control motors with a corresponding voltage rating.

f. Acceleration and deceleration time shall be independently adjustable from one second to 60 seconds.

g. Adjustable full-time load current limiting shall limit the current to a preset value which shall not exceed 120 percent of the controller rated current. The current limiting action shall maintain the V/Hz ratio constant so that variable torque can be maintained. Short time starting override shall allow starting current to reach 175 percent of controller rated current to maximum starting torque.

h. The controllers shall be capable of producing an output frequency over the range of 12 Hz to 60 Hz (20 to 100% speed range), without low speed cogging. Over-frequency protection shall be included such that a failure in the controller electronic circuitry shall not cause frequency to exceed 110 percent of the maximum controller output frequency selected.

i. Minimum and maximum output frequencies shall be adjustable over the following ranges: 1) Minimum frequency 12Hz; 2) Maximum frequency 66Hz.

j. The controller efficiency at any speed shall not be less than 96 percent.

k. The controllers shall be capable of being restarted into a motor coasting in the forward direction without tripping.

l. Protection of power semiconductor components shall be accomplished without the use of fast acting semiconductor output fuses. Subjecting the controllers to any of the following conditions shall not result in component failure or the need for fuse replacement:

1. Short circuit at controller output

2. Ground fault at controller output

3. Open circuit at controller output

4. Input undervoltage

5. Input overvoltage

6. Loss of input phase

7. AC line switching transients

8. Instantaneous overload

9. Sustained overload exceeding 115 percent of controller rated current

10. over temperature

11. Phase reversal

m. Solid state motor overload protection shall be included such that current exceeding an adjustable threshold shall activate a 60 second timing circuit. Should current remain above the threshold continuously for the timing period, the controller will automatically shut down.

n. A slip compensation circuit shall be included which will sense changing motor load conditions and adjust output frequency to provide speed regulation of NEMA B motors to within + / - 0.5 percent of maximum speed without the necessity of a tachometer generator.

o. The VFD shall be factory set for manual restart after the first protective circuit trip for malfunction (overcurrent, undervoltage, overvoltage or overtemperature) or an interruption of power. The VFD shall be capable of being set for automatic restart after a selected time delay. If the drive faults again within a specified time period (adjustable 0-60 seconds), a manual restart will be required.

p. The VFD shall include external fault reset capability. All the necessary logic to accept an external fault reset contact shall be included.

q. Provide critical speed lockout circuitry to prevent operating at frequencies with critical harmonics that cause resonant vibrations. The VFD shall have a minimum of three user selectable bandwidths.

r. Provide the following operator control and monitoring devices mounted on the front panel of the VFD:

1. Manual speed potentiometer.

2. Hand-Off-Auto (HOA) switch.

3. Power on light.

4. Drive run power light.

5. Local display.

s. Provide properly sized NEMA rated by-pass and isolation contactors to enable operation of motor in the event of VFD failure. Mechanical and electrical interlocks shall be installed between the by-pass and isolation contactors. Provide a selector switch and transfer delay timer.

2.2 ENCLOSURES

Provide equipment enclosures conforming to NEMA 250, NEMA ICS 7, NEMA ICS 6.

2.3 WIRES AND CABLES

All wires and cables shall conform to NEMA 250, NEMA ICS 7, NFPA 70.

2.4 NAMEPLATES

Nameplates internal to enclosures shall be manufacturer's standard, with the exception that they must be permanent.

2.5 SOURCE QUALITY CONTROL

2.5.1 VFD Factory Test Plan

To ensure quality, each VFD shall be subject to a series of in-plant quality control inspections before approval for shipment from the manufacturer's facilities. Provide test plans and test reports.

PART 3 EXECUTION

3.1 INSTALLATION

Per NEMA ICS 3.1, install equipment in accordance with the approved manufacturer's printed installation drawings, instructions, wiring diagrams.

3.2 FIELD QUALITY CONTROL

Specified products shall be tested as a system for conformance to specification requirements prior to scheduling the acceptance tests. Contractor shall conduct performance verification tests in the presence of a customer representative, observing and documenting complete compliance of the system to the specifications. Contractor shall submit a signed copy of the test results, certifying proper system operation before scheduling tests.

3.3 DEMONSTRATION

3.3.1 Training

Coordinate training requirements with the customer.

3.3.1.1 Instructions to Customer Personnel
Provide the services of competent instructors who will give full instruction to designated personnel in operation, maintenance, calibration, configuration, and programming of the complete control system. Orient the training specifically to the system installed.

3.3.1.2 Operating Personnel Training Program

Provide one 2 hour training session at the site at a time and place mutually agreeable between the Contractor and the Local Government. Provide session to train up to 4 operation personnel in the functional operations of the system and the procedures that personnel will follow in system operation.

This training shall include:

a. System overview

b. General theory of operation

c. System operation

d. Alarm formats

e. Failure recovery procedures

f. Troubleshooting

SECTION 7 LIST OF ATTACHMENTS

Attachment A Title Page
Attachment B Proposed Work Plan
Attachment C Qualification and Experience Statement
Attachment D Quotation Sheet

Mandatory: Please complete the attached spreadsheet tables with equipment and labor costs. List any other charges in detail on the space provided. Pricing is for a tiered pricing structure based on anticipated volume. Complete the tables to show economies of scale discounts.

Optional: An alternative pricing structure that achieves the same intent may be submitted for consideration.

Due to a potential increase in projects in the coming months, the tables illustrate a pricing structure based on 4 different pricing scenarios (1-5; 1-20; 1-40; 1-40+). If the number of projects reaches the next pricing tier level, the contractor must agree to retroactively adjust pricing for the previously completed work to the new pricing structure.

This RFQ and the tiered pricing tables are to establish a list of qualified contractors. Contracts will be independently finalized with each city. Pricing will be valid until December 31, 2012.

Attachment E Additional Labor Rate

Since it is likely that unique circumstances may occur with a particular city, we are asking contractors to submit their hourly rates for Time and Material based pricing. Please include labor classifications and corresponding rates in Attachment E.

Attachment F Sample List of Pool Information
Attachment G List of Project Photos

Southern California Regional Energy Center

REQUEST FOR PROPOSAL #002

MASTER LEASE PROVIDER

Issue Date: June 8, 2012
Questions due: June 12, 2012, 12 noon (PDT)
Closing Date: June 21, 2012, 4:00 PM (PDT)

Southern California Regional Energy Center (SoCalREC)
523 West 6th Street, Ste. 1110
Los Angeles, CA 90014
www.socalrec.com

SoCalREC is a program led by Los Angeles County and City of Huntington Beach funded in part by Southern California Edison and the U.S. Department of Energy.

Request for Proposals for Master Lease Provider

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RFP Contact:
Laura Franke
Senior Managing Consultant
Public Financial Management, Inc.
601 S. Figueroa Street, Suite 4500
Los Angeles, CA 90017
213.489.4075
frankel@pfm.com

A. Program Overview

The Office of Sustainability of Los Angeles County ("County") has led the challenge to develop a regional, energy efficiency resources program ("Program") for multiple local governments throughout the Southern California region, who wish to retrofit their current stock of municipal buildings. This endeavor has precedent-setting importance and the potential to drive significant energy efficiency actions at the local level. The anticipated structure for the Program's primary financing source will be loans made directly to the municipal agency through the Master Lease facility. The Program has created an administration group that is working collaboratively with the County of Los Angeles and the City of Huntington Beach to establish and define parameters for a regional effort under the name, Southern California Regional Energy Center ("SoCalREC")[1].

Program Administration

SoCalREC engaged an administration team comprised of The Energy Coalition (TEC), as Program Manager, Willdan Energy Services, as Program Engineer, and Public Financial Management (PFM), as Program Financial Advisor. The SoCalREC team, engaged at the end of 2011, has spent the first part of 2012 identifying eligible projects and engaging the interest of local agencies throughout the region.

Eligible Projects

Projects identified to date include over 100 "shovel ready" projects in 42 different cities throughout the region. Currently, additional assistance is being provided to establish standardized procurement documents and conformity of information related to project costs, expected savings and available incentives. Identified projects range in cost from approximately $2,000 to over $3.2 million and cover a wide range of energy efficiency improvement projects. Program projects will be submitted for funding to Master Lease provider upon completion of a savings analysis to assure savings in excess of anticipated lease payments. An overview analysis is provided as Exhibit A, hereto.

Energy projects will consist of equipment and installation-related services that reduce energy consumption and/or operating costs. Projects may include, but are not limited to: streetlight replacements, insulation, windows and doors, glazing, automatic energy control systems, including related hardware, improvements or retrofits to electrical lighting and auxiliary systems, heating ventilating and air conditioning (HVAC) system modifications or replacements, energy recovery systems, cogeneration systems, renewable energy systems, devices that reduce water consumption, professional and non-professional services relating to the design, installation, training and monitoring of such equipment or systems, and subject to the Lessor's approval.

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[1] Future California Public Utility Commission ruling may change the functioning name of this entity to Southern California Regional Energy Network (SoCalREN or SCREN in the future)

Eligible Participants

Qualified participants will be any local government agency, including cities, counties, and school districts, within the Southern California region. All participating agencies will qualify as tax-exempt issuers.

Purpose of RFP

This Request for Proposals ("RFP") is intended to identify lessor(s) capable of providing a Master Lease facility to Program participants for energy projects that meet Program qualifications. Program project qualifications are further detailed herein. Evaluation criteria for selection of Program Lessor(s) will include funding capacity, pricing, terms and required underwriting criteria of any provider. Depending upon availability of funds and terms provided by the proposing lessors, the Program reserves the right to select a single provider, multiple providers or no providers.

The Program's initial Master Lease Agreement is requested for (i) a period commencing July 1, 2012 through December 31, 2013; and (ii) for an initial amount of $20,000,000. Upon mutual agreement of the parties, extensions may be granted for three (3) subsequent one year periods and additional $20,000,000 increments under the terms of the original Master Lease Agreement.

The Program financing structure is intended to outline specific Program project criteria (identified below) for loans made to the agencies that want to fund projects. The individual agencies, at the time of their loan, will enter into a Lease Agreement in order to evidence the specific terms of borrowing and repayment for their project(s). Respondents submitting proposals must describe their capacity to provide the services defined herein and explicitly state their ability to enter into an agreement with the County, as authorizing lessor.

B. Schedule

The schedule for selecting Master Lease provider(s) is:

Date	Proposal Phase
June 8	RFP Issued
June 12, 12 Noon (PDT)	RFP Questions Due
June 13	Responses to Questions Provided
June 21, 4 p.m. (PDT)	Proposals Due
week of June 25	Interviews, if necessary
July 2	Selection notification
July 9	Master Lease Project Funding begins

Inquiries regarding the RFP must be directed to: Hana Hu at huh@pfm.com, no later than June 12, at 12 noon (PDT). All questions and answers will be posted online at www.socalrec.com under the "open bid" page after June 13, 2012.

Responses must be submitted via email and by hard copy for delivery, no later than 4 p.m. (PDT) on June 21, 2012. Proposals received after the deadline may not be considered in the proposal evaluation phase.

C. Master Lease General Terms

The purpose of the Request for Proposal ("RFP") is to identify qualified firms to enter into a Master Lease Agreement (the "Agreement") with Los Angeles County for the financing of various improvements by participating local governments located throughout Southern California. Respondents preferring another lessee, or different structure should identify such preference clearly in proposal.

Master Lessee: Los Angeles County, (or other, as may be agreed between parties). Individual draws by local jurisdictions will be documented by Addendum acknowledging their sole responsibility for lease repayment, along with specific term, rate, and payment requirements.

Lessor: Provider of the Master Lease Financing or a mutually acceptable nominal lessor.

Initial Term: July 1, 2012 through December 31, 2013

Amount: $20,000,000

County-held Reserve: The County expects approval by the California Energy Commission to hold $1,000,000 of funds for the exclusive use as a reserve account for the SoCalREC leases.

Lease Terms: Not to exceed useful life of improvements. Desired terms are five (5), seven (7), ten (10), twelve (12) and fifteen (15) year terms.

Interest Rate: Interest rates shall be fixed at the time of draw based on the term. Such rates will be set based on respondent's identified percentage or spread to a regularly reported index (e.g. Municipal Market Data (MMD), Prime Rate, U.S. Treasury, etc.). Any consideration or additional procedures for setting interest rates shall be clearly identified.

Draws: Bi-monthly draw dates are desired. Upon completion of Lease Addendum, participating local jurisdictions draws shall be scheduled for the next bi-monthly draw date.

Repayment: Lease payments will be made by the local jurisdictions according to the Lease Addendum terms on a semi-annual basis, with payments due on December 1 and June 1 of each year. Accommodation for front-loaded debt service payments, as determined by the administrative team's financial advisor, is requested.

Prepayment: Prepayments are to be allowed at any time by the local agencies, any prepayment penalties should be clearly identified in the response.

Assignment: Neither the Master Lease Agreement nor the obligations of the Lessee to make payments, may be assigned without the written consent of the Lessee.

Project Savings: A key component of project viability will be the savings in energy cost achieved as a result of the project. The Program contemplates a savings verification component to assure adequacy of available funds for loan repayment.

Closing Costs and Annual Administration Fee: In addition to the lease payments determined for principal and interest repayment, SoCalREC reserves the right to charge closing costs and incremental annual fees to recover its establishment and ongoing operational costs.

D. Submission Requirements

Deadline: Response packages must be delivered electronically to Jean Cheng at jcheng@energycoalition.org by **4 p.m. (PDT) on June 21, 2012.** Late submissions may not be considered.

In addition, a total of three (3) hard copy submissions must be submitted to:

Jean Cheng
SoCalREC c/o The Energy Coalition
523 West 6th Street
Suite 1110
Los Angeles, CA 90014

Content: Firms interested in responding to this RFP must submit the following information in addition to defining the above parameters in the order specified below:

i. Firm overview

ii. Names, titles, contact information and qualifications of participating team members

iii. Experiences in similar Master Lease financing programs completed since 2009

iv. Detailed statement outlining the proposal for meeting the lease financing needs. Please follow the format of Section C. General Lease Terms above, with acknowledgement of acceptable terms, along with exceptions or additions to stated terms.

v. Lease rates. Please provide a sample level debt service payment schedule using your firm's proposed methodology for calculating the interest rate as of June 1, 2012, assuming a draw by a single "A"-rated City of $1,000,000 with a 10 year term. Please include the published rates used to calculate the payment schedule.

vi. Form of Master Lease Agreement. Please include, as an Appendix, a sample master lease document from which the Program would establish its terms and Addenda.

Proposals should be prepared simply and economically, providing a straightforward, concise description of Responder's capabilities to satisfy the requirements of the RFP. The proposal, including cover letter, and excluding Appendices, shall not exceed 15 pages.

E. Evaluation Criteria

Proposals will be evaluated based on the following criteria:

Evaluation Criteria	Points (100)
Qualifications and Experience Understanding of the Program and relevant similar experience.	**25**
Terms of Lease Agreement Proposal Acceptance of the general lease terms and ability to deliver reasonable draft agreement.	**25**
Lease Rates Interest rates proposed and historical index data.	**50**
Total Points	**100**

Exhibit A

Sample Project Savings Analysis

	All Projects	
Installed Cost	$	1,745,559
Rebates & Incentives	$	169,806
Equipment Life	average	15
ROI (1)	average	32.08%
Payback (2)	average	2.35

Year	Lifecycle Savings + Incentives	Accumulated Benefit
0		
1	323,394	323,394
2	159,924	483,318
3	166,321	649,639
4	172,974	822,613
5	179,893	1,002,505
6	187,088	1,189,594
7	194,572	1,384,165
8	202,355	1,586,520
9	210,449	1,796,969
10	218,867	2,015,836
11	227,622	2,243,457
12	236,726	2,480,184
13	246,195	2,726,379
14	256,043	2,982,423
15	266,285	3,248,708
	$ 3,248,708	

REQUEST FOR PROPOSAL #002
SOUTHERN CALIFORNIA REGIONAL ENERGY CENTER

ASSUMPTIONS		
Closing Date		07/01/12
Maturity Date		07/01/27
Debt Type		Lease Agreement
Underlying Security		Lease Agreement
Projects		Energy Efficiency
Term (years)		15
Origination Cost Estimate		1.500%
Lease Rate		3.500%
Total Amount	$	1,771,742
Project Savings - year one	$	323,394
Utility Escalation Rate		4.00%
Utility Rebate	$	169,806
CITY NET BENEFIT OVER DEBT TERM	**$**	**974,133**

SOURCES & USES OF FUNDS

Sources:		
Loan Proceeds		
Par Amount	$	1,771,742
Other Sources of Funds		-
Total Sources	**$**	**1,771,742**
Uses:		
Project Fund Deposit	$	1,745,559
Costs of Issuance		26,183
Other Uses of Funds		-
Total Uses	**$**	**1,771,742**

DEBT SERVICE AND OFFSETTING AMOUNTS

Date	Principal	Interest	Expected Rebate	City Payment	Principal Balance
7/1/2012					$ 1,771,742
7/1/2013	$ 208,491	$ 62,011	$ 169,806	$ 270,502	1,563,251
7/1/2014	88,434	54,714		143,148	1,474,817
7/1/2015	91,529	51,619		143,148	1,383,287
7/1/2016	94,733	48,415		143,148	1,288,554
7/1/2017	98,049	45,099		143,148	1,190,506
7/1/2018	101,480	41,668		143,148	1,089,025
7/1/2019	105,032	38,116		143,148	983,993
7/1/2020	108,708	34,440		143,148	875,285
7/1/2021	112,513	30,635		143,148	762,772
7/1/2022	116,451	26,697		143,148	646,321
7/1/2023	120,527	22,621		143,148	525,794
7/1/2024	124,745	18,403		143,148	401,049
7/1/2025	129,111	14,037		143,148	271,938
7/1/2026	133,630	9,518		143,148	138,307
7/1/2027	138,307	4,841		143,148	
Total:	**1,771,742**	**502,832**	**169,806**	**2,274,575**	

SAVINGS TO CITY

Utility Savings & Rebate Estimate	Total City Annual Pmt[2]	ANNUAL SAVINGS (COST)	CUMULATIVE SAVINGS (COST)
$ 323,394	$ (270,502)	$ 52,892	**$ 52,892**
159,924	(143,148)	16,776	69,668
166,321	(143,148)	23,173	92,840
172,974	(143,148)	29,826	122,666
179,893	(143,148)	36,745	159,411
187,088	(143,148)	43,940	203,351
194,572	(143,148)	51,424	254,775
202,355	(143,148)	59,207	313,981
210,449	(143,148)	67,301	381,282
218,867	(143,148)	75,719	457,001
227,622	(143,148)	84,474	541,475
236,726	(143,148)	93,578	635,053
246,195	(143,148)	103,047	738,101
256,043	(143,148)	112,895	850,996
266,285	(143,148)	123,137	974,133
$ 3,248,708	$ (2,274,575)	$ 974,133	

(1) Assumes City borrows full project cost and increases year one annual payment with rebate.

(2) District payments equal Principal and Interest. Additional first year payment based on 75% of rebate.

Exhibit C5: E3 Calculations – Due to file size, please download at either:

https://docs.google.com/folder/d/0BxZ0UPrSj7W8Wmw5bUdIcVFOSTA/edit or
https://www.dropbox.com/sh/1z0nsjojgrjrorf/ayYjEUqZ_3

- Working Copy of SoCalREC E3 Gas Therm Based Rev 1
- Working Copy of SoCalREC E3 SCE kWh Based Rev 1

Exhibit C6: List of Subprogram C Figures

- Figure 25 (Subprogram C): The SoCalREC Big Picture
- Figure 26 (Subprogram C): Enterprise Energy Management Information System (EEMIS) Flow Chart
- Figure 27 (Subprogram C): Community Energy Efficiency Program Management System (CEEPMS)
- Figure 28 (Subprogram C): SoCalREC Flow Charts
- Figure 29 (Subprogram C): SoCalREC Logic Model
- Figure 30 (Subprogram C): Strategic Plan Alignment