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Marin Energy Authority

Energy Efficiency Program for 2013-2014



Program Implementation Plan

July 16, 2012

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or visit www.marinenergyauthority.org

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I. Introduction

The Marin Energy Authority (“MEA”), a local government agency, was formed in December 2008 for the purposes of implementing a community choice aggregation (“CCA”) program and other energy-related programs targeting significant greenhouse gas emissions (“GHG”) reductions.

MEA administers the first community choice aggregation program in the State of California. MEA currently serves approximately 95,000 customers, and at full implementation will serve approximately 129,000 customers throughout Marin County and the City of Richmond. MEA is structured as a Joint Powers Authority made up of 13 local government members including: the City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, City of Richmond, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon, and the County of Marin.

The purpose of the Marin Energy Authority is to address climate change by reducing energy related greenhouse gas emissions and securing energy supply, price stability, energy efficiencies and local economic and workforce benefits. It is the intent of MEA to promote the development and use of a wide range of renewable energy sources, including but not limited to solar and wind energy production at competitive rates for customers, while encouraging reductions in energy usage through energy efficiency programs.

The California Public Utilities Code provides the relevant legal authority for MEA to become a Community Choice Aggregator and invests the California Public Utilities Commission (“CPUC” or “Commission”) with the responsibility for distributing energy efficiency funds collected either (i) through funds collected from ratepayers in general, or (ii) through non-bypassable charges to customers of CCA programs, allowing CCA programs to administer energy efficiency programs as described below. The CPUC has registered MEA as a Community Choice Aggregator and continues to ensure compliance with basic consumer protection rules. The CPUC certified MEA’s Implementation Plan in February 2010 and certified MEA’s Revised Implementation Plan in January 2012.

Legislative Mandate

Assembly Bill 117 (2002) and Senate Bill 790 (2011) contain specific provisions for energy efficiency programs by community choice aggregators. The approval of each bill resulted in modifications to the California Public Utilities Code to enact the legislative

mandate. The California Public Utilities Code as directed in AB 117 instituted Section 381.1 (a) which permits CCAs to “apply to become administrators for cost-effective energy efficiency and conservation programs established pursuant to Section 381.” SB 790 added additional subsections 381.1 (d) through (g). Subsections (e) and (f) authorizes a community choice aggregator to, “elect to become a 3rd-party administrator of funds collected from the aggregator’s electric service customer and collected through a non-bypassable charge authorized by the commission for cost-effective energy efficiency and conservation programs.”

Regulatory Guidance

On June 20, 2012 Administrative Law Judge (“ALJ”) Julie A. Fitch issued a Ruling in the ongoing energy efficiency Rulemaking (R.09-11-014) at the Commission titled “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.” This Ruling provides clarification and guidance on how CCAs should proceed in applying for EE funds during both the remainder of the 2012 and the upcoming 2013-2014 funding cycle.

ALJ Fitch explains that for the 2013-2014 cycle CCAs have two options for seeking EE funding through the Commission, either through 381.1 (a) or through 381.1 (e) and (f). ALJ Fitch also requests that CCAs wishing to apply for funding through 381.1 (a) should apply concurrently with the newly implemented Regional Energy Network (“REN”) application process for local governments seeking to administer EE funds. For this reason a CCAs application under Section 381.1 (a) for the 2013-2014 funding cycle is subject to both the general criterion within Section 381.1 and the six areas of interest for the REN Program Implementation Plans as specified in Ordering Paragraph 34 of Decision D.12-05-015 which states:

- a) Leverage additional state and federal resources so that energy efficiency programs are offered at lower costs to ratepayers;
- b) Address the water/energy nexus;
- c) Develop and deploy new and existing technologies;
- d) Address workforce training issues;
- e) Address hard-to-reach customer segments such as low to moderate income residential households and small to medium sized businesses; and
- f) Include an organizational chart that identifies the local governments that are part of the proposed regional pilot, a narrative description of each of their roles, and plans to coordinate

II. MEA Energy Efficiency Program Plan Overview and Organization

Overview

As a community choice aggregator, and also as part of its authority as a local government, MEA has elected to administer an energy efficiency program from August 2012 through December 31, 2012, under Public Utilities Code 381.1(e) and 381.1(f). Currently there is a Draft Resolution E-4518 submitted by Energy Division which will be voted on at the Commission Meeting on August 3, 2012. This resolution calls for the approval of MEA's 2012 EE funding proposal and requires PG&E to provide the appropriate allocation of funds that have been collected from MEA customers since MEA's initial proposal request was submitted on February 3, 2012.

Pursuant to CA Public Utilities Code 381.1, MEA puts forth this application for the 2013-2014 Energy Efficiency Program ("Program") Plan to administer Energy Efficiency Programs using funds collected throughout MEAs service area. In 2013-2014, MEA is applying to administer funds under Public Utilities Code 381.1(a). For this reason the 2013-14 Program will not be restricted to customers who are taking service from MEA's CCA option (Marin Clean Energy) but instead the Program will be offered to any electricity customer in MEA's jurisdictional service area.

Organization

MEA's 2013-2014 Program consists of four sub-programs:

- a) Multi-Family Program
- b) Small Commercial Program
- c) Single-Family Utility Demand Reduction Program
- d) Finance Pilots Program

The content of the MEA Energy Efficiency Program Plan complies with the statutory requirements of AB 117, SB790, and the Commission's additional REN/CCA guidelines provided in ALJ Fitch's Ruling.

Statutory Requirements

Consistent with requirements identified in the CA Public Utilities Code Section 381.1(a), the MEA Energy Efficiency Program Plan addresses:

- Program Description

- Program Deliverables and Benefits
- Projected Energy Savings with Cost Effective Analysis
- Program ‘Value Add’ Benefits including:
 - Accommodating the need for Broader Programs
 - Avoiding Redundancy
 - Workforce Development and Job Creation
 - Steering Benefits to Economically Disadvantaged Areas
- Funding Requirements
 - Staffing
 - Program Budget
- Audit and Reporting Requirements
- Evaluation, Measurement, and Verification Protocols
- Program Performance Metrics

Ruling Guidelines

Additionally, throughout this 2013-2014 MEA Energy Efficiency Program Plan, there is content supporting the following key points of emphasis as identified in the 5/10/2012 CPUC Rulemaking 09-11-014, as follows:

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

Each sub-program section of the Program has a Leveraging Resources and Knowledge Transfer sub-section identifying some of the many areas MEA will leverage to increase efficiencies and minimize costs to ratepayers. Some of the most common leveraging includes technical assistance programs for both Multi-Family and Small Commercial Sub-Programs, software services for each of the sub-programs, training programs for contractors and tenants, shared outreach models, and cross promotion of programs.

2. Address the Water/Energy Nexus

Water energy nexus, or what MEA refers to as “Watergy,” is emphasized in each of the sub-programs and includes:

- MEA’s bundled measure incentives in the Multi-Family and Small Commercial sub-programs supporting high efficiency water measures that also affect energy

consumption including high efficiency clothes washers, toilets, showerheads and water heating systems,

- MEA software tools and programs which will integrate cross utility measures in all categories,
- MEA's partnership with local utility providers including the Marin Municipal Water District (MMWD) to leverage water utility rebates for hot water and water conservation energy measures, and
- MEA's coordination with and use of resource information from the On-Water Bill Financing Pilot (PAYS) in Sonoma County's Town of Windsor.

3. Develop and Deploy New and Existing Technologies

MEA's Plan includes deployment of new software as well as measures that incorporate new and existing technologies as follows:

- MEA Multi-Family and Small Commercial programs will provide incentives for new technology measures including LED lighting, optimized water distribution systems, residential plug load sensors-/-smart plug deployment, occupancy sensors for lighting/fans, smart thermostats, residential energy dashboard and enhanced notification systems for peak power-/-demand response.
- MEA will leverage existing and continued development of software and outreach services to amplify customer awareness, engagement and action. MEA will continuously identify opportunities to promote cross utility solutions for energy and water efficiency, green product rebates, and other programs to consumers through events, presentations, workshops, marketing, and targeted mailing.
- MEA will promote cross-program services through the integrated, one-stop online service for customers to learn about all Investor Owned Utility ("IOU"), Marin County, City of Richmond, water utility, and other local Demand Side Management ("DSM") offerings.
- MEA will provide customers with energy efficiency and water conservation education and software tools in addition to the materials provided. This education will allow residents to achieve additional savings through changed behavior.

4. Address Workforce Training Issues

MEA will address workforce training issues in each of the sub-programs as follows:

- MEA will partner with the key green workforce development programs that already exist in the MEA service area including the Marin City Community Development Corporation (MCCDC) and RichmondBUILD (“RB”) to offer curriculum in pre-apprenticeship construction skills and green jobs training in underserved communities with an emphasis on energy efficiency and a programmatic goal of achieving Building Performance Institute (BPI) certification.
- The workforce development programs will (1) create employment and career opportunities for residents that want to participate in the green jobs industry, (2) augment a program that seeks to reduce violence in the community, and (3) provide training for taking on the role of a “Contractor” to implement energy efficiency measures.
- Because youth and adults will be hired locally from the communities in which they live they will in many cases serve customers from those communities. The Program will employ an economically, ethnically, and socially diverse group of youth and adults people representative of the diversity and culture of their community. This will allow them to become leaders and educators that challenge neighborhoods to become energy and water efficient. This combination of energy efficiency with job training will provide a valuable service in the growing green industry.
- Specialized training will also be provided to the key multi-family and small commercial oriented trade sectors to address any lack of energy efficiency knowledge that exists in the sectors. This training will focus most on the efficiency gains that can be achieved in conventional construction and operation practices. It will cover technology and hardware upgrades as well as software tools that benefit multi-family and small commercial buildings. It will also include information regarding verification methods used.
- MEA will provide technical assistance to assist and equip contractors with the energy efficiency skills to successfully penetrate the market and navigate the Program landscape while providing quality services to clients through training and mentoring activities.

5. Address Hard-to-Reach Customer Segments Such as Low to Moderate Income Residential Households and Small to Medium Sized Businesses

Addressing hard-to-reach customer segments is highly emphasized throughout the MEA Energy Efficiency Program. For example:

- The MEA Energy Efficiency Program will leverage existing customer relationships, build upon market research and collaborate with innovative partner companies to access community based organizations, schools, local companies, religious institutions and other organizations as drivers of energy efficient behaviors in hard to reach customer segments.
- MEA participates in over one hundred public community events annually and will utilize community events to connect with hard-to-reach customer segments.
- MEA will launch online social networking platforms to stimulate local behavior changes through online competition facilities.
- MEA will pilot a standard offer program for energy efficiency procurement. This program will be modeled after similar programs that have had great success in the hard-to-reach residential markets and allow for a high level of market innovation to reach untapped sectors.
- The Program is designed to serve hard-to-reach residents including renters, non-English speaking households who often miss out on services due to language barriers, and low-moderate income households. Furthermore, the program will provide energy retrofits and conservation education to energy customers at a reduced cost, and in some cases at no cost.
- MEA will bring services directly to underserved households by using bilingual contractors and job trainees. Because program contractors are hired directly from the communities they serve, their language skills mirror the community itself and allow increased access to non-English speaking households.
- The Program will empower customers and local contractors to assist with promoting the Program to their neighbors, friends and family to help spread information about the Program through trusted channels.
- The Program will engage in renter-specific marketing.
- MEA will utilize a bundled measure approach designed to capture underserved projects that have smaller budgets and scope of work.
- MEA will serve building owners who have relatively little access to private or low-cost financing for retrofits and thus are underserved by the existing marketplace.

III. Executive Summary: MEA EE Program 2013-2014

Program Description

To meet the aggressive goals set by the California Public Utilities Commission as part of the Long Term Energy Efficiency Strategic Plan, the Commission has recognized the need for collaboration among utilities and local governments to achieve market transformation toward energy efficiency. In the Ruling (R.09-11-014) on 2013-2014 Energy Efficiency Portfolios, the Commission clarified the roles of Regional Energy Networks and Community Choice Aggregators to achieve the goals of the strategic plan.

MEA will deliver an energy efficiency program that supports the Commission's long-term strategic goals. These goals include:

- Promote effective decision-making to create widespread demand for energy efficiency measures
- Increase collaboration and leveraging of other low-income programs and services
- Increase access to programs by hard-to-reach customers
- Identifying segmented concentrations of customers to improve delivery
- Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses
- Carry out integrated marketing of DSM opportunities across all customer classes
- Use social marketing techniques to build awareness and change consumer attitudes and perceptions
- Collaboration with local community-based organizations and local programs to add value to existing programs

To build upon successful regional programs, MEA proposes sub-programs that will:

1. Enhance IOU-offered single-measure and whole-building retrofit programs for multi-family properties through targeted outreach and technical support to multi-family property owners, with new incentives to support single and multi-measure options for common areas and tenant improvements.
2. Provide Small Commercial Program offering incentives for multi-measure retrofits, initiated through targeted outreach and technical support to small commercial property owners.
3. Implement On-bill Repayment (OBR) pilot of a financing program to enable accessibility of financing to underserved markets – including moderate and middle income

homeowners, owners of multifamily housing serving affordable populations, and owners of small businesses without easy access to financing.

4. Augment the Investor Owned Utility Single-Family Programs through innovative marketing and outreach efforts, and increased homeowner awareness and activity using custom decision-making support tools and software and options for greater reduction of utility demand across socio-economic lines.
5. Implement MEA pilot Standard Offer (“SO”) Program for Energy Efficiency Procurement utilizing best practices from around the country. This finance program, by its design, introduce competition for demand reduction into the marketplace and will serve exactly those areas that have been historically underserved, including multi-family, and small commercial.
6. Projected MEA Program Total Resource Cost (TRC) and Program Administrator Cost (PAC)

i. TRC 1.44

PAC 2.14

Total Program Budget: \$4,015,205

Table 1: Total Projected Program Budget by Function

Function	Program Year		
	2013	2014	Total
Admin (\$)	149,000	149,000	298,000
General Overhead (\$)	159,500	159,500	319,000
Incentives (\$)	623,653	623,653	1,247,605
Direct Install Non-Incentives (\$)	636,700	637,700	1,274,400
Marketing & Outreach (\$)	284,500	235,000	519,500
Education & Training (\$)	184,500	172,500	357,000
Total Budget (\$)	2,039,866	1,979,367	4,015,205

Total Program Savings:

Table 2: Total Projected Program Budget & Savings by Sub-Program

Subprogram	Total (\$)	Kwh	KW	Therms
Multi-Family Program	861,781	3,687,673	1,385	345,697
Small Commercial Program	1,380,024	9,177,970	1,526	175,064
Single-Family Utility Demand Reduction Program	581,400	13,250,318	4,600	858,994
Finance Pilot Programs	1,192,000	0	0	0
Total	4,015,205	26,115,961¹	7,511	1,379,755

Summary Description of Each Sub-Program

Multi-Family Energy Efficiency Program (“MFEEP”)

The MEA Multi-Family Program will consist of two elements; a single-measure program for common areas and a multi-measure program for tenant improvements. MFEEP will reduce barriers to retrofits and new construction energy efficiency offerings by providing technical assistance and incentives to multi-family property owners. MEA will promote these retrofits through targeted outreach and training to property owners and contractors, and will make financing options available through MEA OBR or future Bay Area Regional Energy Network

¹ E3 calculation output used a Net-to-Gross ratio of .8

(BayREN) Programs that may include Property Assessed Clean Energy (“PACE”) and loan loss reserve. MFEEP will also broaden the engagement of stakeholders in messaging and marketing campaigns that factor social and economic co-benefits to customers into the value of energy efficiency upgrades.

Small Commercial Program

The MEA Small Commercial Program is a multi-measure program for small commercial high energy use segments which include, but are not limited to, restaurants, retail, and professional services. The Small Commercial Program will reduce barriers to retrofits by providing technical assistance and incentives to building owners. MEA will promote these retrofits through targeted outreach and training to property owners and contractors, and will make financing options available through MEA OBR or future BayREN Programs that may include PACE commercial and loan loss reserve.

Single-Family (“SF”) Utility Demand Reduction Program

The MEA Single-Family Utility Demand Reduction Program will enable energy and water savings with associated cost reductions through behavior changes, upgrading of appliances, and water conservation measures that affect energy. Funding will be primarily for innovative education and outreach programs, web-based action plan tools, and support services. The SF Utility Demand Reduction Program does not cover building shell enhancements but it will compliment IOU and future BayREN retrofit programs in the MEA service area by eliminating key barriers to undertaking whole-house and flex path retrofits.

Finance Pilots Program

MEA will pilot 2 innovative programs to ensure that retrofits are financially competitive and accessible to a broader and more diverse range of property owners for each of MEA’s direct service elements: an On-Bill Repayment and a Standard Offer (SO) Energy Efficiency pilots program. The funding will be used to help build the OBR and SO frameworks to enable financing of underserved markets. The OBR program allows private banks or financing entities to provide financing to building owners, with the repayment charge placed as a line item on the bill that includes MEA charges. The OBR will also include a credit enhancement for programs to meet the needs of these underserved segments. For Standard Offer, there is no need for capital investment by the property owner. Energy savings will be bid in from an applicant (or implementer) from either customer category. Energy savings will then be paid based on "avoided costs" of energy demand or other energy related savings.

Audit Reporting and EM&V

MEA utilizes a third party to perform and publish an audit of the financial statements at the end of each fiscal year. MEA will extend the auditing and reporting requirements from the existing (generation side) auditing to also encompass the energy efficiency program. These are released publically and can be found on the MEA website.

Energy Efficiency Reporting

MEA will submit monthly and annual reporting for energy efficiency performance to the Board of Directors. Reporting categories will include inquiries, applications, audits, contracts, projects, measures, energy/GHG reduction, funding, jobs created, and budget.

MEA will submit a copy of all reports to the CPUC for informational purposes.

IV. Sub-Program MEA01 – Multi-Family

1. Sub-Program Name: MEA Multi-Family Energy Efficiency Program
2. Sub-Program ID number: MEA01
3. Type of Sub-Program: Partnership
4. Market sector or segment that this Sub-Program is designed to serve:
 - a) Residential
 - i. Including Low Income? Yes No;
 - ii. Including Moderate Income? Yes No.
 - iii. Including or specifically multi-family buildings Yes No.
 - iv. Including or specifically Rental units? 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 No
 - b) Resource acquisition program Yes No
 - c) Market Transformation Program Yes No
6. Indicate the primary intervention strategies:
 - a) Upstream Yes No
 - b) Midstream Yes No
 - c) Downstream Yes No
 - d) Direct Install Yes No
 - e) Non Resource Yes No.
7. Projected Sub-Program Total Resource Cost (TRC) and Program Administrator Cost (PAC)
 - i. TRC 1.65 PAC 7.63

8. Projected Sub-Program Budget

Table 1: Projected Sub-Program Budget

Function	Program Year		
	2013	2014	Total
Admin (\$)	58,000	58,000	116,000
General Overhead (\$)	42,000	42,000	84,000
Incentives (\$)	201,791	201,791	403,581
Direct Install Non-Incentives (\$)	44,200	44,200	88,400
Marketing & Outreach (\$)	74,200	55,600	129,800
Education & Training (\$)	20000	20000	40,000
Total Budget (\$)	442,204	423,605	861,781

9. Sub-Program Description, Objectives and Theory

a) Sub-Program Description and Theory

The Multi-Family Energy Efficiency Program will provide cost-effective residential energy efficiency improvements that will benefit low-income occupants and owners of multi-family buildings in the MEA service area. MFEEP will be carried out in partnership with existing community partners such as the Marin-based team: Renewable Energy Management Solutions and Marin City Community Development Corporation.

The MFEEP has and will continue to coordinate closely with BayREN for planning and project execution to ensure that both parties share best practices and experiences to date, and to ensure there is no duplication of funding. Customers within the MEA service area (County of Marin and City of Richmond) will not be served by the BayREN multi-family program. Funding for the MEA MFEEP will be designated specifically for onsite technical assistance, local incentives, assessment rebates, local marketing, outreach to property owners, tenants, and contractors, and software analysis tools for consumer engagement and technical assistance. Funding for the MFEEP sub-section of the MEA program will also be tied to the financing sub-section of the MEA Energy Efficiency Program Plan, which includes an on-bill repayment program. The on-bill repayment program will be available to participants in the MFEEP as a financing tool to implement identified energy efficiency measures.

The MFEEP will provide outreach, audits, incentives and direct installation of a comprehensive set of energy efficiency measures specifically tailored for multi-family residential units by local licensed project contractors. Customers will be provided with a “Technical Assistant” to help them through the process and a “Contractor” to carry out the work. The Technical Assistant will be MEA staff and the Contractor will be a member of the local workforce. The role of the Technical Assistant (“TA”) will be to explain the MEA Program services and facilitate the customer experience. The Technical Assistant will perform initial facility assessments, online assessments, and then on-site assessments for selected sites, to determine energy savings potential, installation cost, and operational feasibility. The Technical Assistant will also serve as the Quality Assurance (QA) representative.

MEA will draw from the job training programs described in the ‘Workforce Training Issues’ section above to identify qualified contractors. Incentives will be offered on bundled measures to bring the installed cost down. MEA plans to offer financing for up to 100% of the remaining project cost for those customers that do not have available capital to invest in energy efficiency.

The goals of the MFEEP are to increase the participation rate of building owners and tenants alike by providing both technical assistance and incentives tailored through a multi-measure program. The MFEEP components will consist of:

- Targeted outreach
- Customized technical assistance
- Bundled measure incentives for tenants– requiring two or more measures, yielding an average of 15 percent energy savings
- Workforce development support for multi-family-oriented trade sectors

The project offers building owners two types of assessments. The first type of assessment covers well-established and cost-effective electrical upgrade measures, primarily including appliances, lighting, HVAC, and envelope. The second type is a comprehensive building assessment for common areas only to capture the building’s overall condition and performance. The project will then directly install efficiency measures that are determined to be cost-effective.

Buildings owners that choose to participate in MFEEP will be provided with the opportunity to receive incentives for these measure types as well as access to financing programs. Tenant occupied improvements will be for bundled measures for lighting and controls, appliances, HVAC, envelope, and water conservation. There will also be tenant education on energy and water conservation.

Through these components, the MFEEP addresses the following market barriers to whole-house upgrades:

- **Market confusion around which programs will apply to the various multi-family building sub-sectors and retrofit scopes.** A TA will be assigned to walk each participating property owner through the steps of initiating an energy upgrade, and introduce them to the appropriate programs.
- **Lack of utility data tracking and analysis by property owners/managers.** The technical assistance provided will include enrolling projects into utility tracking, analysis and benchmarking software, to inform project-specific decisions.
- **Lack of accessible analytical methodologies,** which leaves property owners ill-equipped to evaluate the technical and economic potential for retrofitting their properties. The TA, building owners, operators, and tenants will use energy savings analysis software specifically designed for the multi-family sector to identify each project's opportunities.
- **Lack of access to affordable capital to pursue retrofitting opportunities.** The TA will connect projects pursuing financing to MEA OBR financing and future local PACE program (potentially offered through the BayREN program) to offset the capital requirements. Alternatively, the building owners will be able to apply on-line for financing.
- **Lack of energy efficiency knowledge in the multi-family-specific building trades.** Training will be provided to contractors in the HVAC and DHW sector of the multi-family trade.
- **Diversity of building types, which prevents a single approach for all buildings.** MFEET features customized technical assistance that will offer guidance tailored to each building's specific needs and challenges.
- **Diversity of upgrade scopes within the lifetime of a multi-family building.** During a multi-family building's lifecycle, there are specific times when it is most cost-effective and convenient for the owners to make energy and green upgrades. The TA providers will be cognizant of these trigger events and will recommend approaches that effectively leverage these opportunities. MFEET will also utilize software that is automatically triggered by key events detailed below in the "Measures and Incentive Levels" section.
- **Split incentives caused by tenants receiving the energy savings benefits of property owner investments.** The technical assistance provided will be tailored to the metering configurations and needs of each building. It may include assistance with green lease agreements and capital expense pass-through mechanisms to balance the split incentive. Utility tracking assistance may include guidance on obtaining utility bill data.

b) Sub-Program Energy and Demand Objectives

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

MEA Multi-Family Program			
Program Years			
	2013	2014	Total
kWh	1,956,988	1,730,685	3,687,674
Peak kW	721	663	1,385
Therms (millions)	190,075	155,622	345,697

c) Program Non-Energy Objectives

i. SMART non-energy objectives of the program:

- During the period 2013-2014, 24 contractors in the multi-family building trades will be trained in whole building audit, retrofit, and savings verification and tracking protocols.
- During the period 2013-2014, 750 units will undergo energy efficiency retrofits, through the MEA Program.
- During the period 2013-2014 40 projects, representing 1600 units, will receive technical assistance through the MEA program.
- During the period 2013-2014, the MEA will receive 100 calls as a result of marketing and property owner outreach.

- ii. *Relevant baseline data: See below*
- iii. *Quantitative program targets (PPMs): See below*

Table 3: Quantitative Program Targets (PPMs)

Target	2013	2014
Number of units incented	300	450
Number of multi-family contractors trained	12	12
Number of projects & units receiving technical assistance	16 projects 640 units	24 projects 960 units
Number of calls received by technical assistance providers	40	60
% of non-lighting vs. only lighting measures	40%	60%

d) Cost Effectiveness/Market Need

MEA has utilized the Energy + Environments and Economics for cost effective analysis.

e) Measure Savings/ Work Papers

MEA utilized the DEER database for estimating savings of selected cost effective measures.

Table 4: Work Paper Status

#	Work paper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review	Not Yet Submitted
1	Bundled Measure Incentive Program				X

10. Program Implementation Details

a) Timelines

Table 5: Sub-Program Milestones and Timeline

Activity	Year		
	2012	2013	2014
Premarketing and Customer Recruitment	Aug 15 - Dec 31		
Marketing Tools Development		Jan 1 - Mar 31	
Multifamily Portal Setup for customers, contractors, and administration		Jan 1 - Mar 30	
Marketing, Education and Customer Recruitment		Jan 1 - Dec 31	
Workforce training		Mar 1 - Apr 30	
Project Assessments and Development		Mar 1 - Dec 31	Jan 1 - Dec 31
ECO installation		Jun 1 - Dec 31	Jan 1 - Dec 31
Year –end Program Evaluation		30-Nov	30-Nov
Year-end Program Reporting		31-Dec	31-Dec

b) Geographic Scope

The Geographic Region where the MEA Program will operate is Climate Zone 2 and 3.

c) Program Administration

Table 6: Program Administration of Program Components

Program Name	Program Component	Implemented by: (X = Yes)			
		MEA staff	Contractors - competitive bid	Contractors – No competitive bid	Local government or other entity
Bundled Measures Incentive Program	Targeted Outreach	X			
	Technical Assistance			Onsite Support	Offsite Support
	Bundled Measure Rebates				X
	Software development			Consumer Engagement & Analysis Pilot	EUC Developed MF Tools
	Workforce Development			RichmondBuild / MEA Partner Collaboration	Trades Training

d) Program Eligibility Requirements:

- i. Customers in the MEA service area including Marin County and the City of Richmond.*

Table 7: Customer Eligibility Requirements

Customer Eligibility Requirement
Four or more units
Property located in MEA Service area

ii. *Contractors/Participants:*

Table 8: Contractor/Participant Eligibility Requirements

Role	Eligibility Requirement
TA Provider	Qualifications include required training and certifications to provide comprehensive energy efficiency multi-family building audits, ability to provide comprehensive energy efficiency technical assistance, including advice and referrals for non-EE DSM measures and non-energy measures.
Installation Contractors	Licensed in appropriate trade
QA Provider	Same requirements as TA Provider (may be same entity or subcontracted to another entity with equivalent qualifications).

e) Program Partners

i. *Manufacturer/Retailer/Distributor partners:*

This subprogram will not include any upstream activities, and therefore will not include any manufacturer/retailer/distributor partners.

Table 10: Manufacturer/Retailer/Distributor Partners

(N/A)

ii. *Other key program partners:*

- City of Richmond
- County of Marin
- Dominican University
- Lenders (including without limitation banks, credit unions)
- Marin City Community Development Corporation
- Marin Energy Watch Program (MEWP)
- Marin Employment Connection
- Marin Workforce Investment Board
- Marin Municipal Water District
- Pacific Gas& Electric
- Professional Building Operation and Management Companies and Organizations
- Real Estate Professional/Associations
- Professional Building Trade Associations
- Richmond Build

- Rising Sun Energy
- San Francisco Foundation
- Saving Neighborhood Energy to Generate Neighborhood Wealth (SNEGNW)

f) Measures and Incentive Levels

MFEED will provide direct incentives that cover energy assessment costs and also provide many additional services described in more detail below. MEA will offer a bundled measure incentive of up to \$50 per unit with a total cap of \$7,000 per facility that is aimed at filling the market gap between single-measure and whole building utility programs. The bundled measure approach is designed to capture projects that have a smaller budget and scope of work, and encourage installation of two or more measures that will result in an average of 15 percent energy savings.

The bundled measure approach will utilize a customized list of measures based on utility bill information, deemed savings and a site survey. The Technical Advisor will utilize program software to calculate projected savings. The estimated energy savings per measure will vary by building type and take into account interactive effects. The bundled measure approach will offer the following solutions:

- Incorporate actual utility usage data to inform measure recommendations
- Offer an alternative to costly energy audits for smaller project scopes and smaller buildings
- Provide property managers with basic energy savings information that may help them justify pursuing a more comprehensive audit later
- Reduce reliance on costly audits, that may depend upon energy models with questionable accuracy (they may not necessarily provide more savings assurance than a refined deemed savings calculation)
- Can motivate unplanned work, by layering complementary or additional measures onto a planned single measure
- Allow property owners to choose from a broad range of energy efficiency measures and utilize contractors that they trust

Measures eligible under the bundled measures incentive include those listed in Appendix A, and may include additional measures identified to achieve energy savings. The list will be refined based on program monitoring and feedback.

Table 9: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	MEA	
		Incentive Level	Installation Sampling Rate
Energy Assessment	Property owner	Up to \$50/unit and \$7,000 cap per building	N/A
Bundled Measures - Minimum 15%	Property owner	Based on savings TBD	10-15%

g) Additional Services

i. Technical Assistance to Identify Approach and Potential Measures, Begin Utility Tracking

The technical assistance offered through this program is intended to serve a broad range of properties at different points in building life cycle. It will assist property owners by providing them with customized recommendations and facilitating their participation in rebate and financing programs. The Technical Assistant will leverage newly developed information technology (IT) tools and additional analytic methodologies to identify the appropriate approach and retrofit measures for each building. The Technical Assistant will refer projects to the appropriate utility programs. Technical assistance will include referring owners to qualified energy auditors/raters, comparing financing options and contractor bids, and referring the owner to the utility whole-building rebate.

The opportunity to participate at this level is limited to a relatively small portion of the building. Thus, the technical assistance program is likely to have a higher degree of participation from building owners that are planning smaller scale improvements over time. The program will be tracking the participation of projects and expects that property owners will come back to do additional improvements throughout the life cycle of the building. Where appropriate, the Technical Advisor will refer projects to the utility single-measure rebate program). However, these programs do not include all measures that are of interest to building owners, and the incentive levels are based on individual measures, rather than the overall energy savings that can be achieved by pursuing multiple measures.

Table 10: Additional Services

Additional Services that the Sub-Program will Provide	To Which Market Actors	MEA
Software services to encourage owners/tenants to assess measures and connect to funding opportunities	Property owner	Fully incented
Benchmarking & utility cost tracking from a Technical Assistant	Property owner	Fully incented
Recommendations and support regarding upgrade approach from a Technical Assistant	Property owner	Fully incented
Referral to existing Statewide, Utility programs such as whole house retrofit or DSM programs	Property owner	Fully incented
Financing & project bid comparison from a Technical Assistant	Property owner	Fully incented
Bundled measures - site visit and recommendations	Property owner	Fully incented

h) Sub-Program Specific Marketing and Outreach

MEA will emphasize that there are options to fit any multi-family property, and that there is live technical assistance available to help decide on the best approach.

Targeted outreach will leverage existing organizational structures and communication channels, including customer contacts, industry associations, local government member agencies, and service providers and property management associations. Examples include:

- Property-owner organizations, including Apartment Owner Associations, Home Owners Associations, Real Estate Investment Trusts, the Nonprofit Housing Association of Northern California
- Public agencies and programs with a housing-related mission, including Marin Housing Authority and Marin City Community Development Corporation.
- Service providers, including property management companies, HVAC maintenance companies, mechanical engineers, general contractors, etc.

i) Sub-Program Specific Training

The bundled measure incentive uses an auditor/rater delivery model rather than providing training designed specifically for all qualifying participating professionals. Because of the high

number of specialized subcontractors on any given comprehensive multi-family rehabilitation project, it is not as effective to require a single contractor to obtain certification for all contractors and sub-trades. Rather, it is more effective to target specific professional training at the sub-trade that has the greatest potential for delivering efficiency improvements. To ensure that a pool of knowledgeable contractors is available to support the demand created by the incentive, training will be offered in partnership with the Marin City Community Development Corporation and Richmond Build for the following trades:

- Electrical contractors (C10)
- HVAC contractors (C20)
- Boiler contractors (C4)
- Roof installers
- Window contractors
- Plumbers (C36)
- Insulation contractors

Specialized training will give these contractors the expertise needed to optimize the specifications and operations of these systems. This training will focus on the efficiency gains to be made for conventional construction and operation practices. Contractors that have completed the training will be listed on MEA's website with credentials.

The following training courses will be provided for MFEEP:

- Safety and safety plans – 10hrs
- MFEEP: How does it work – 8 hrs
- Energy Codes (new T24) and Regulations – 24 hrs
- Energy Education for tenants of multifamily facilities – 12 hrs

j) Sub-Program Software and/or Additional Tools

Because an in-building audit can be costly and somewhat time consuming, some customers may prefer to use an automated audit combined with a customized action plan as a first step. This option would allow the customer to quickly determine what utility savings might be achieved by participating in the program. The automated audit and tracking will be offered to all customers at no charge to the customer.

Software has been developed and tested in the Sonoma County Energy Independence Program (SCEIP) that can automate the highly complex energy-economics optimization calculations needed for each unique building/unit. With such automation, many hours of in-building

analysis can be reduced to a number of minutes, allowing for streamlined identification of measures with the most potential for savings and a reasonable ‘pay back’ period.

A 20-question simulated on-line audit would be used that calculates long-term savings of a range of measures tailored to the customer. Results would be provided in the form of a “customer action-plan,” which is a prioritized list of measures for utility savings and costs. The action plan will also include a list of local services and next steps for implementation. By identifying customers with the most to save, making them aware of the savings potential, and giving them a no-cost audit online, participation in the Program is likely to be accelerated in the MEA service area.

Customers participating in the automated audit will be encouraged to also consider an in-building audit, but they would be able to do so with more information available and may be more likely to follow through with implementation.

The audit and tracking tool will also provide program administrators with feedback on actual savings per bundle of measures to refine savings estimates credited toward measures included in future projects applying for bundled measures.

The audit and tracking tool will utilize modeling calculations based on basic information about the existing building utility use and proposed improvements. These assumptions and algorithms will align with industry accepted modeling tools. However, the data input requirements will be less extensive than full modeling software programs, and will not require a full on-site audit. This assessment tool is designed to reduce the barrier to upgrades caused by the cost and time investment required to complete a full audit and energy model run.

- i. *Pre-implementation audit required* ___ Yes X No
- ii. *Post-implementation audit required* ___ Yes X No
- iii. *Audit Incentives*

Table 11: Post-implementation Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
80%	Customer or Contractor on behalf of customer

k) Sub-Program Quality Assurance Provisions

Table 12: Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Initial Site Visit - by Technical Assistant	100% of bundled measure (pre)	BPI Accredited
Post Implementation Site Visit by Technical Assistant	50% of on-site supported installations and 80% of "self-install" through software tool	BPI Accredited

l) Sub-Program Delivery Method and Measure Installation /Marketing or Training

MEA will partner with the key green workforce development programs that already exist in our service area including the Marin City Community Development Corporation and RichmondBUILD to provide jobs training and outreach in communities where multi-family buildings are concentrated. Because youth and adults will be hired locally from the communities in which they live they will in many cases serve customers from those communities. MFEEP will employ an economically, ethnically, and socially diverse group of youth and adults people representative of the diversity and culture of their community. This will allow them to become leaders and educators that challenge neighborhoods to become energy and water efficient. This combination of energy efficiency with job training will provide a delivery method while effectively raising awareness locally about the program.

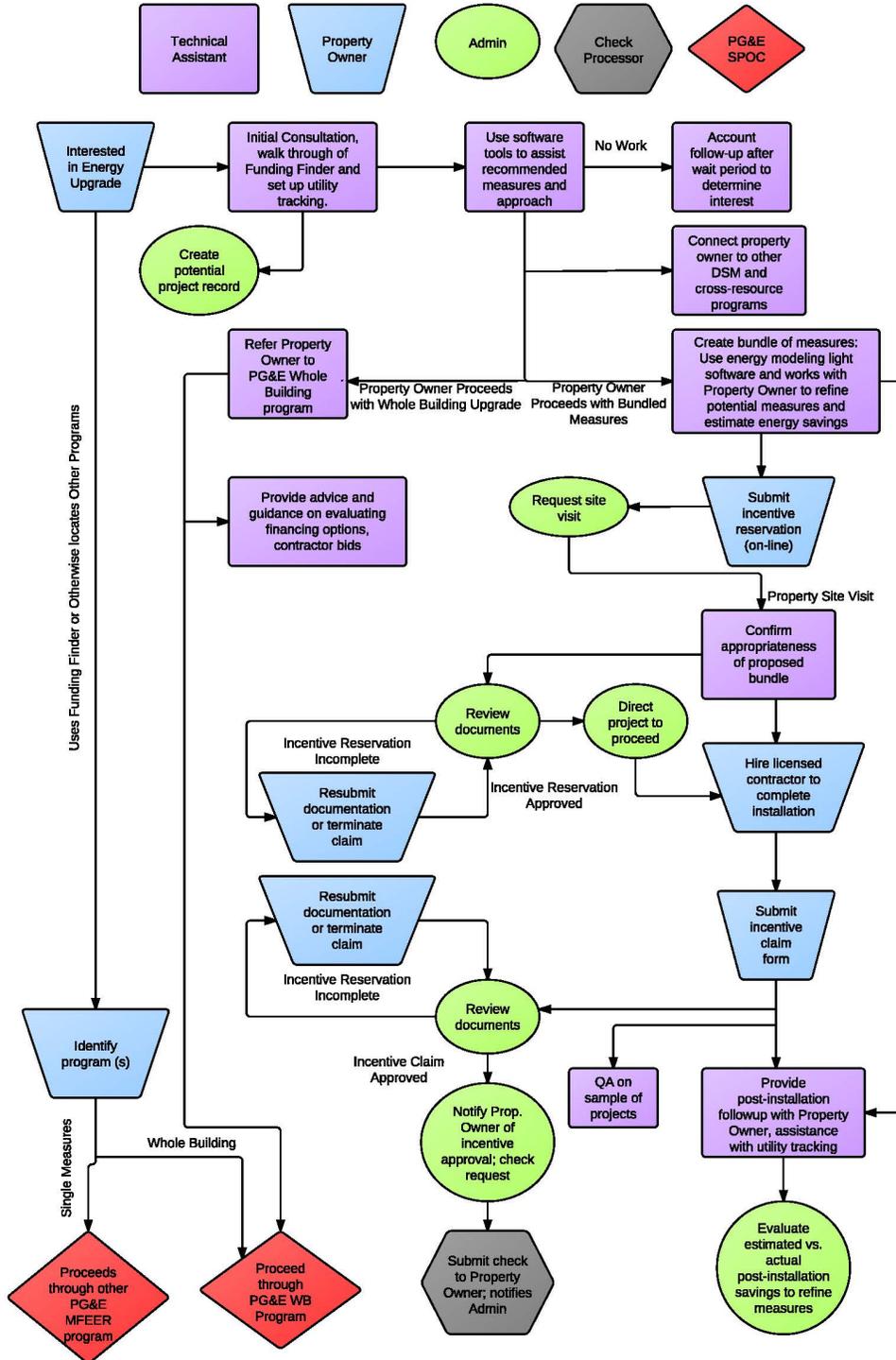
MFEEP will leverage existing customer relationships, build upon market research and collaborate with innovative partner companies to access community based organizations, schools, local companies, religious institutions and other organizations as drivers of energy efficient behaviors in hard to reach customer segments. MEA participates in over one hundred public community events annually and will utilize community events to communicate with hard-to-reach customer segments. MEA will also launch online social networking platforms to stimulate local behavior changes through online competition facilities.

Because MFEEP is designed to serve hard-to-reach residents including renters, non-English speaking households, and low-moderate income households, MEA will bring services directly to multi-family buildings by using bilingual contractors and job trainees. Because program contractors are hired directly from the communities they serve, their language skills mirror the community itself and allow increased access to non-English speaking households. MFEEP will

empower customers and local contractors to assist with promoting the program to their neighbors, friends and family to help spread information about the program through trusted channels.

m) Sub-Program Process Flow Chart

Figure 4.1: Program Process Flow Chart



n) **Cross-cutting Sub-Program and Non-IOU Partner Coordination:**

Table 13: Cross-cutting Sub-Program and Non-IOU Partner Coordination

Multi-family Program		
Other MEA Sub-Programs	Coordination Mechanism	Expected Frequency
Single Family	Direct service from TA	All potential projects, either through the TA or Contractors
Small Commercial	Direct service from TA	All potential projects, either through the TA or Contractors
Financing	Referral through TA	All potential projects, either through the TA or Contractors
Other IOU/PUC Sub-Programs		
MFEER	Meetings, communication, participating contractor and QA updates	Monthly
EUC - Whole Building	Meetings, communication, participating contractor and QA updates	Monthly
Single Point of Contact	Meetings, communication, participating contractor and QA updates	Monthly
Coordination Partners Outside CPUC (non-MEA and non-IOU)		
BayREN	Meetings, communication, participating contractor and QA updates	Monthly

o) **Logic Model**

The logic informing the MEA Multi-Family Sub-Program design is aligned with recommendations from industry stakeholders and best practices from existing programs. The MEA approach is very similar to the BayREN recommended approach with the exception of

added on-site technical assistance, additional software analysis tools for the owner and TA, additional training for trades and tenants, and minor differences in measures to reflect MEA service area building types. In anticipation of the planning efforts, MEA EE implementation partner, REM has already conducted detailed surveys in the Marin County and Richmond markets. Selected measures and approach reflect the findings.

During 2010 – 2011, the Home Energy Retrofit Coordinating Committee’s Multi-family Subcommittee was convened to gather the insights and recommendations from industry experts and professionals.

This program’s design largely reflects the findings from that stakeholder process, which have been compiled in the report *Improving California’s Multi-family Buildings: Opportunities and Recommendations for Green Retrofit & Rehab programs: Findings from the Multi-family Subcommittee of the California Home Energy Retrofit Coordinating Committee* dated April 11, 2011, (see Appendix B).

The program logic draws from the experience of local governments in administering pilot programs and built multi-family retrofit infrastructure through Energy Upgrade California. During this time, local governments provided outreach, customized technical assistance, rater training, and software development. The local programs were summarized in the report *Recommendations for Energy Upgrade California in the Bay Area* dated April 13, 2011, (see Appendix B).

Additionally, stakeholder input has been gathered by the local governments of Berkeley, Oakland, and Emeryville through a grant to study the multi-family sector and its barriers, particularly split-incentive. Their research included a survey of local government actions and policy options and compiled feedback from owners and tenants of multi-family properties. A report summarizing the policy options was published in October 2011 titled *Increasing Energy Efficiency in Existing Multi-family Buildings*, (see Appendix B).

The findings across these publications identify the components of this program as key strategies to removing barriers to multi-family retrofits. As described above, the desired outcome of MFEET is to address market barriers by:

- Providing customized technical assistance to overcome the diversity of building types and energy usage and billing configurations, and providing assistance with analyzing potential upgrade measures,
- Providing guidance through the complicated initial assessment of upgrade potential that could lead to a whole-building upgrade approach, and referring projects to existing utility programs,

- Providing a viable alternative to the whole-building performance-based incentive that is less capital intensive yet customized,
- Training trades that represent a large opportunity for energy savings in multi-family buildings, and are underserved by single-family training initiatives, and
- Creating a mechanism for data feedback on the actual performance of implemented upgrade measures to refine the accuracy of energy savings estimates used in multi-family energy modeling, and a better understanding of highest opportunity measures.

11. Additional Sub-Program Information

a) Advancing Strategic Plan Goals and Objectives

The MFEEP is strongly aligned with the CPUC Strategic Plan Goals and Objectives as illustrated in the table below. The Strategic Plan states that low to middle income multi-family units were not specifically addressed in the first Plan and recognizes that the market must be addressed in future iterations of the Plan.

Table 14: Strategic Plan Alignment

MEA Multi-Family Program Alignment with CA Long Term Energy Efficiency Strategic Plan		
Residential		
Strategy Number	Strategy	MEA MF Program Strategy
2-2	Promote effective decision-making to create widespread demand for energy efficiency measures	Multi-family decision support software and TA are designed to provide multi-family property owners with the expertise and analytical tools
Low Income		
Strategy Number	Strategy	MEA MF Program Strategy
2-1	Collaborate and leverage of other low-income programs and services	Referrals to other state, IOU, and local government low-income specific programs
Local Government		
Strategy Number	Strategy	MF Program Strategy
4-4	Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses	Tools and projects that integrate cross utility measures in all categories are an intended outcome of the comprehensive TA

b) Integration

i. Integrated/Coordinated Demand Side Management

The Program's targeted outreach and technical assistance are designed specifically to promote customer education and awareness of existing DSM programs and to support participation in the most appropriate DSM options.

Table 15.1: Non-EE Sub-Program Information

Non-EE Sub-Program	Rationale and General Approach for Integrating Across Resource Types
California Solar Initiative	Refer eligible and interested projects
Automated Benchmarking Service	Track & Compare Energy Performance setup by TA

ii. Integration across resource types

Table 15.2: Non-EE Sub-Program Information

Non-EE Programs – across resource types	
Non-Energy Programs	Rationale and General Approach for Integrating Across Resource Types
Water utility rebates	Leverage water utility rebates for hot water and water conservation energy measures; refer to Marin water utilities for other eligible measures

c) Leveraging of Resources

The program will leverage multi-family program infrastructure that was developed through ARRA funding as well as direct statewide incentives available for energy and water efficiency upgrades. There will also be cross-leveraging between the MFEEP and the MEA Finance Pilots. Leveraged resources will include:

- Software Tools:
 - Multi-Family Web Portal with Funding Finder and Compass Portfolio Tracker

- Action Planning tools
- Trained raters/auditors
- Technical Assistant Services Design

The Program will also leverage other sources of funding:

- BayREN Multi-Family Sub-Program (TBD)
- Federal, state, PG&E, MMWD, NMWD, and local government
- MEA Finance Pilot Program including on-bill repayment and standard offer for energy efficiency procurement

d) Trials/ Pilots

The MEA Multi-Family program is expected to begin operation in August 2012. This program will serve as a trial program for the more comprehensive Multi-Family Program described herein. Lessons learned from the 2012 Multi-Family Program will be incorporated into the MFEEP for 2013-14 to allow for continual improvement.

e) Knowledge Transfer

MEA staff and partners will regularly share program outcomes, benchmarks and milestones, and also track challenges, lessons learned, and necessary adjustments for all technical, administrative, and marketing aspects of program implementation. These data sets will be organized and transmitted to local government partners operating similar programs (e.g. County of Marin, City of Richmond, County of Sonoma); through regular meetings of local government forums (such as the Governor’s Office of Planning and Research, the LGSEC, Local Government Commission, Urban Sustainability Directors Network, etc.); regional NGO and institutional partners and through program updates provided to Commission and program partners.

12. Market Transformation Information

This program is not identified as a market transformation program.

13. Additional information as required by Commission decision or ruling or as needed:

N/A

V. Sub-Program MEA02 – Small Commercial

Program Description:

The MEA Small Commercial Program is a multi-measure program for high energy use customer segments. Customer segments include but are not limited to restaurants, retail, and professional services. It will lower barriers to retrofits by providing technical assistance and incentives to building owners. MEA will promote these retrofits through targeted outreach and training to property owners and contractors, and will make financing options available through MEA's on bill repayment program, MEA's standard offer for energy efficiency procurement and future BayREN Programs that may include PACE commercial and loan loss reserve.

1. **Sub-Program Name: MEA Energy Efficiency Small Commercial Program**
2. **Sub-Program ID number: MEA02**
3. **Type of Sub-Program: Core Third Party Partnership**
4. **Market sector or segment that this Sub-Program is designed to serve:**
 - a) **Residential**
 - i. *Including Low Income? Yes No;*
 - ii. *Including Moderate Income? Yes No.*
 - iii. *Including or specifically Multi-family buildings Yes No.*
 - iv. *Including or specifically Rental units? Yes No.*
 - b) **Commercial (List applicable NAIC codes):**
 - i. *54 – Professional, Scientific and Technical Services*
 - ii. *445120 – Convenience Stores*
 - iii. *7225 – Restaurants*
 - 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 Yes No**
 - c) **Market Transformation Program Yes No**
6. **Indicate the primary intervention strategies:**
 - a) **Upstream Yes No**
 - i. *Midstream Yes No*
 - b) **Downstream Yes No**

The Restaurant Energy Efficiency Project (REEP) will provide cost-effective direct installation services to some of the most energy intensive businesses in Marin's commercial building sector: restaurants. By packaging a combination of comprehensive measures tailored to restaurants, REEP will be a cost effective program for the underserved restaurant market segment. The need for REEP is high as restaurants use approximately 5 to 7 times more energy per square foot than other commercial buildings. High volume quick-service restaurants (QSRs) may even use up to 10 times more energy per square foot than other commercial buildings.²

Most commercial kitchen appliances are energy intensive. For example, a typical electric deep fryer uses more than 18,000 kilowatt-hours (kWh) of energy per year, which alone could cost the owner more than \$1,700 in electricity. REEP will combine bundled pre-packaged measures, including water measures, with direct installation, financing and customized incentives that bring the cost of measure installation down to extremely attractive levels for this energy intensive market segment.

Professional Services & Other Office Building Segments

The Professional Services Energy Efficiency Project (PSEEP) will provide cost-effective direct installation services to Marin's largest commercial building sector: professional services. MEA will package a combination of comprehensive measures tailored to office buildings for this sector, also an underserved energy efficiency segment. Beyond lighting measures, the energy efficiency market has been reluctant to implement energy efficiency programs and improvements into the smaller commercial professional services space for several reasons. Some of these reasons include split fiscal incentives between building owners and tenants, a general aversion to increased debt carried on buildings, information gaps on the value of benefits and co-benefits, and lack of financing options with favorable rates of return. PSEEP has the potential to address these barriers through internal-program, leveraging external partnership, leveraging opportunities for cash-neutral or cash-positive improvements, and providing financing tools that can be carried as an operating rather than debt expense. PSEEP will also utilize outreach and education programs to building owners, operators and managers on the potential for savings through updated methods for utility load management. As a result PSEEP has the potential to promote the larger-scale, deeper energy savings of commercial buildings.

² http://www.energystar.gov/ia/partners/publications/pubdocs/restaurants_guide.pdf

b) Sub-Program Energy and Demand Objectives

Table 2: Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year ³

	Program Years		
	2013	2014	Total
Sub-Program Name	Small Commercial		
kWh	4,727,466	4,445,504	9,177,976
Peak kW	808	719	1,526
Therms (millions)	87,486	87,578	175,064

c) Program Non-Energy Objectives

i. Quantitative program targets (PPMs):

Table 3: Quantitative Program Targets (PPMs)

Target	2013	2014
Convenience Stores Energy Efficiency Program	50	50
Restaurant Energy Efficiency Program	75	75
Professional Services Energy Efficiency Program	50	50

- Generate at least \$3,500,000 in energy efficiency upgrades for commercial buildings
- Complete a minimum of 350 commercial energy efficiency upgrades
- Complete energy efficiency upgrades to Commercial buildings encompassing at least 525,000 square feet (350 upgrades with average space of 1500 square feet).
- Provide outreach and education to at least 350 Restaurants, 150 Convenience stores, and 500 Professional Service Businesses

ii. Cost Effectiveness/Market Need:

MEA’s small commercial direct services will provide cost-effective direct installation services to some of the most energy intensive businesses in Marin’s commercial building

sector: restaurants and convenience stores. By packaging a combination of comprehensive measures tailored to these segments, MEA will provide cost effective solutions for these underserved market segments. The program will also target professional buildings, which are the most prevalent type of commercial building in the MEA service area. This will allow for streamlining a program that is applicable in a wide range of locations, resulting in greater cost effectiveness.

d) Measure Savings/ Work Papers

- i. *MEA utilized the DEER database for estimating savings of selected cost effective measures.*

Table 4: Work paper Status

#	Work paper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review	Not Yet Submitted
	LED Lighting				X

10. Program Implementation Details

a) Timelines

Table 5: Sub-Program Milestones and Timeline

Activity	Year	
	2013	2014
Premarketing and Customer Recruitment	Jan 1 - Apr 30	
Marketing Tools Development	Jan 1 - Apr 30	
Multifamily Portal Setup for customers, contractors, and administration	Jan 1 - Apr 30	
Marketing and Customer Recruitment	Whole Year	
Workforce training	Jan 1 - Apr 30	
Project Assessments and Development	March 1 - Dec 31	Whole Year
ECO installation	Jun 1 - Dec 31	Jan 1 - Dec 31
Year –end Program Evaluation	31-Dec	31-Dec

b) Geographic Scope

The Geographic Region where the MEA Program will operate is Climate Zone 2 and 3.

c) Program Administration

Table 6: Program Administration of Program Components

Program Name	Program Component	Implemented by:		
		MEA staff	Contractors - Competitive bid process	Contractors - No competitive bid process
Bundled Measures Incentive Program	Targeted Outreach	X		
	Technical Assistance			Onsite Support
	Bundled Measure Rebates			X
	Software development			Consumer Engagement & Analysis Pilot
	Workforce Development			Richmond Build/ MEA Partner Collaboration

d) Program Eligibility Requirements

- i. Customers in the MEA service area including Marin County and the City of Richmond.*

Table 7: Customer Eligibility Requirements

Customer Eligibility Requirement
Property located in MEA Service Area

ii. *Contractors/Participants:*

Table 8: Contractor/Participant Eligibility Requirements

Role	Eligibility Requirement
TA Provider	Qualifications include required training and certifications to provide comprehensive commercial building audits, ability to provide comprehensive Technical Assistance including advice and referrals for non-EE DSM measures and non-energy measures.
Installation Contractors	Licensed in appropriate trade
QA Provider	Same requirement as TA Provider (may be same entity) subcontracted to another entity with equivalent qualifications)

e) Program Partners

i. *Manufacturers in related trades.*

Table 10: Manufacturer/Retailer/Distributor Partners

(N/A)

ii. *Other key program partners:*

- City of Richmond
- County of Marin
- Dominican University
- Lenders (including without limitation banks, credit unions)
- Marin City Community Development Corporation
- Marin Energy Watch Program
- Marin Employment Connection
- Marin Municipal Water District
- Pacific Gas& Electric Rising Sun Energy
- San Francisco Foundation
- Marin Workforce Investment Boards

f) Measures and Incentive levels

For the small commercial segments, MEA proposes to pilot a bundled measure incentive to encourage building owners to initiate energy efficiency retrofits without overwhelming them with costs. The bundled measure approach is designed to capture

projects that have a smaller budget and scope of work, and encourage installation of two or more measures that will result in an average of 15 percent energy savings.

The bundled measures will provide a customized list of measures based on utility bill information, deemed savings and a site survey. The Technical Assistant will utilize program software to calculate projected savings. The estimated energy savings per measure will vary by building type and take into account interactive effects. The pilot is designed to offer the following solutions:

- Incorporates actual utility usage data to inform measure recommendations
- Offers an alternative to costly energy audits for smaller project scopes and smaller buildings
- Provides property owners and managers with basic energy savings information that may help them justify pursuing a more comprehensive audit later
- Can motivate unplanned work, by layering complementary or additional measures onto a planned single measure
- Allows property owners to choose from a broad range of energy efficiency measures and utilize contractors that they trust

Measures eligible under the bundled measures incentive include energy retrofits, LED lighting and lighting controls, HVAC, refrigeration, water conservation, and may include additional measures identified to achieve energy savings. The list will be refined based on program monitoring and feedback.

Table 9: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	MEA	
		Incentive Level	Installation Sampling Rate
Bundled Measures	Property owner and Operations Manager	Based on savings TBD	10-15 %
Res-Small Commercial Sector Pre-Project Energy Audits	Property Owner and Operations Manager (can sign for direct payment to contractor)	Based on savings TBD	10-15 %
Energy Assessment	Property owner and Operations Manager	Up to \$500	N/A

g) Additional Services

The technical assistance offered through this program is intended to serve a broad range of properties at different points in the building life cycle. A Technical Assistant will provide property owners with customized recommendations and will facilitate customer participation in rebate and financing programs. The Technical Assistant will leverage newly developed IT tools and additional analytic methodologies to identify the best approach and retrofit measures for each building. Technical Advisors will also refer projects to the appropriate utility programs, or single-point-of-contact where applicable.

h) Sub-Program Specific Marketing and Outreach

Marketing materials describing the project participation process and benefits will be prepared for direct mail and distribution to customers. Outreach and marketing will be provided to customers initially through direct mail and by telephone and electronic contact from MEA Account Managers. All convenience stores, restaurants, and other professional service customers located in MEA's service area will be eligible to participate in the project and will be provided with marketing material. Interested customers will then be evaluated to determine qualification for the program at this point in the process. To qualify, the customer will need to verify their interest in following through with project implementation and will also need to undergo credit evaluation for any required financing. After the customer meets the qualification criteria, a program participation agreement will be signed.

The Small Commercial Sub-Program will use marketing, education and outreach strategies to highlight the benefits of program and encourage participation. Benefits that will be highlighted in marketing and communications will include: social and environmental benefits such as, reduced fossil fuel consumption, reduced greenhouse gas emissions, improved indoor air quality and improved healthy spaces; economic benefits such as decreased electricity and maintenance costs, higher building performance, governmental incentives related to expedited plan review, permitting and inspection, and new valuations on energy efficiency such as Green MLS ratings. Marketing, education and outreach activities will also highlight the economic benefits of; MEA Financing Program options, contractor/supplier incentives; and energy savings achieved through improvements under the water-energy nexus.

In many cases owners are reluctant to pay for building improvements that appear to only benefit tenants. However, MEA will address this market barrier with outreach and education that highlights the benefits described above, as well as the value of co-benefits

achieved by combining MEA program options. MEA will also highlight the benefits and advantages of whole building retrofits that build energy efficiency and can leverage financing options and incentives to implement cash-neutral or cash-positive results. This occurs when upgrades provide cost avoidance that surpasses monthly loan expenses, and will serve as a compelling incentive to customers when communicated through outreach and education.

i) Sub-Program Specific Training

Similar to the Multi-Family Program, it does not make sense to require a single contractor certification for all contractors and sub-trades. Rather, it will be more effective to target specific professional training at the sub-trade that has the greatest potential for delivering efficiency improvements.

Specialized training will give these contractors the expertise needed to optimize the specifications and operations of these systems. This training will focus less on the verification methods and more on the efficiency gains to be made in conventional construction and operation practices. Trainings will be held by MEA and training partners (Rising Sun, RichmondBUILD, and Marin City Community Development Corporation) at least monthly in training forums. These training forums will also be offered through the web, both during the actual training and after by video.

To ensure that a pool of knowledgeable contractors is available to support the demand created by the incentive, training will be offered in partnership with the Marin City Community Development Corporation and Richmond Build for the following trades:

- Electrical contractors (C10)
- HVAC contractors (C20)
- Boiler contractors (C4)
- Roof installers
- Window contractors
- Plumbers (C36)
- Insulation contractors

The following training courses will be provided for the MEA Small Commercial Sub-Program:

- Safety and safety plans – 10hrs
- MEA Small Commercial Program: How does it work – 8 hrs
- Energy Codes (new T24) and Regulations – 24 hrs
- Energy Education for commercial facilities – 12 hrs

j) Sub-Program Software and/or Additional Tools

Because an in-building audit can be costly and somewhat time consuming, some commercial customers may prefer to use an automated audit combined with a customized action plan as a first step. This option would allow the customer to quickly determine what utility savings might be achieved by participating in the program. The automated audit and tracking will be offered to all customers at no charge to the customer.

Software has been developed and tested in the Sonoma County Energy Independence Program (SCEIP) that can automate the highly complex energy-economics optimization calculations needed for each unique building/unit. With such automation many hours of in-building analysis can be reduced to a number of minutes, allowing for streamlined identification of measures with the most potential for savings and a reasonable 'pay back' period.

A 20-question simulated on-line audit would be used that calculates long-term savings of a range of measures tailored to the customer. Results would be provided in the form of a "customer action-plan", which is a prioritized list of measures for utility savings and costs. The action plan will also include a list of local services and next steps for implementation. By identifying customers with the most to save, making them aware of the savings potential, and giving them a no-cost audit online, participation in the Energy Efficiency Program is likely to be accelerated in Marin.

Customers participating in the automated audit should also consider an in-building audit, but they would be able to do so with more information available and may be more likely to follow through with implementation.

The tool will also provide program administrators with feedback on actual savings per bundle of measures to refine savings estimates credited toward measures included in future projects applying for bundled measures.

The assessment and tracking tool will utilize some modeling calculations based on basic information about the existing building utility use and proposed improvements. These assumptions and algorithms will align with industry accepted modeling tools. However, the data input requirements will be less extensive than full modeling software programs, and will not require a full on-site audit. This assessment tool is designed to reduce the barrier to upgrades caused by the cost and time investment required to complete a full audit and energy model run.

The MEA software tools will integrate with Energy Star Portfolio Manager, a free web-based tool offered by the Environmental Protection Agency that allows building owners and operators to track and assess energy and water consumption in their buildings. Automated Benchmarking is a tool within Portfolio Manager that allows customers to have energy consumption data uploaded to their account from their utilities.

- i. Pre-implementation audit required ___ Yes X No
- ii. Post-implementation audit required ___ Yes X No
- iii. Audit Incentives

Table 10: Post-implementation Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
None	N/A

k) Sub-Program Quality Assurance Provisions

Table 11: Quality Assurance Provisions

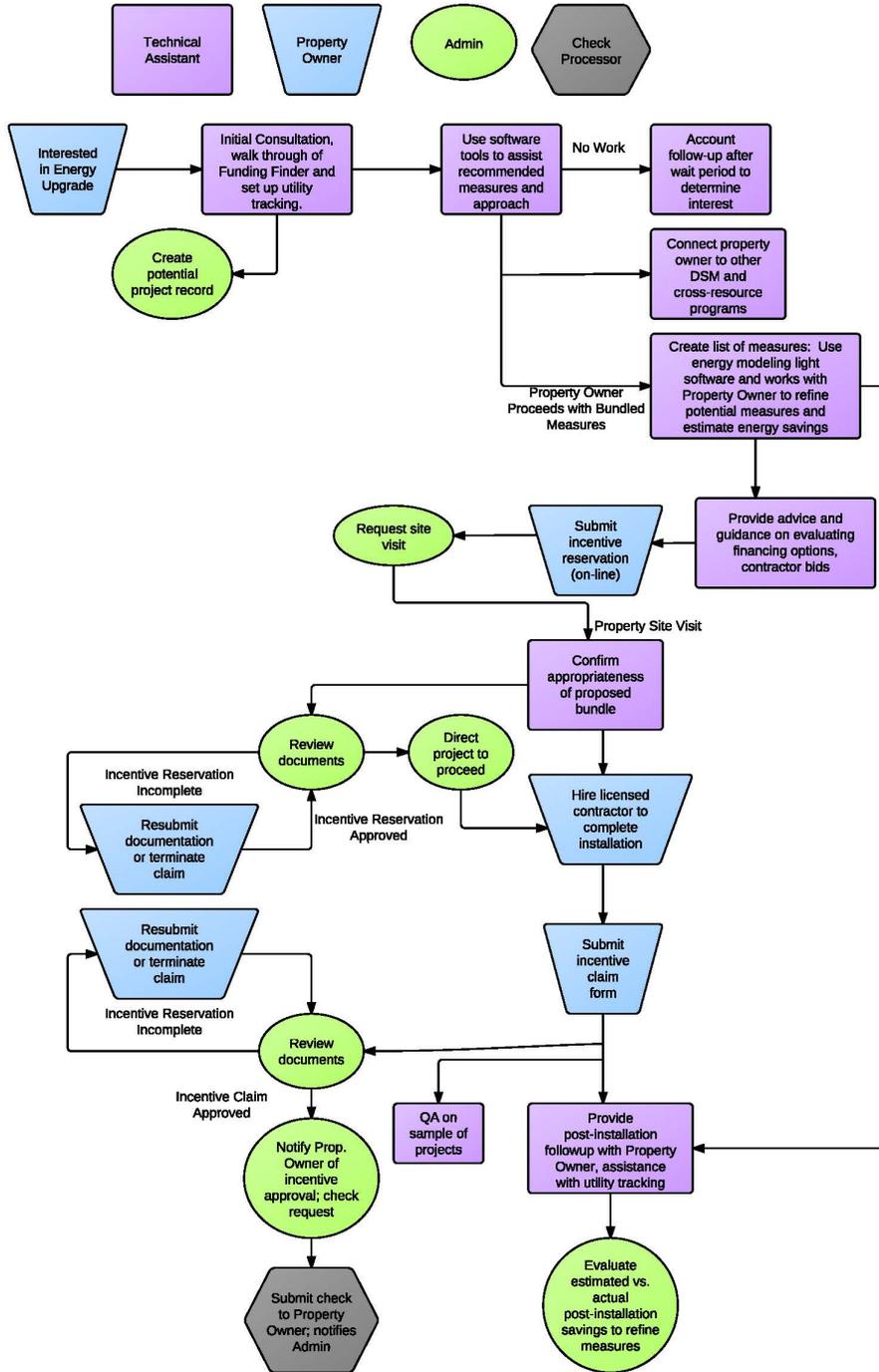
QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Site Visit - by program TA	100% of bundled measure (pre)	TBD
TBD - QA on post-installation for "self-install"	TBD	TBD

l) Sub-Program Delivery Method and Measure Installation /Marketing or Training

Sub-Program specific marketing and outreach is detailed in Section h above. Installation will be performed by Contractors, including contractors who have participated in the job training program described above. The customer can receive the incentive directly or can request that it go directly to the contractor.

m) Sub-Program Process Flow Chart^[SL1]

Figure 5.1: Small Commercial Sub-Program Process Flow Chart



n) Cross-cutting Sub-Program and Non-IOU Partner Coordination

Table 12: Cross-cutting Sub-Program and Non-IOU Partner Coordination

Financing Portfolio Sub-Program		
Other MEA Sub-Programs	Coordination Mechanism	Expected Frequency
Finance OBR	Project referrals	Concurrent with all potential projects, either through Technical Assistants or Contractors
Single-Family Sub-Program	Project referrals	Concurrent with all potential projects, either through Technical Assistants or Contractors
Multi-Family Sub-Program	Project referrals	Concurrent with all potential projects, either through Technical Assistance or Contractors, or Contractors
IOU Program Name	Coordination Mechanism	Expected Frequency
PG&E Smart Lights Program (Energy Upgrade California)	Meetings, communication, participating contractor and QA updates	Monthly
Coordination Partners Outside CPUC	Coordination Mechanism	Expected Frequency
BayREN	Meetings, communication, participating contractor and QA updates	Monthly

o) Logic Model

The logic informing the MEA Small Commercial Sub-Program design is aligned with recommendations from industry stakeholders and best practices from existing programs. The MEA approach is very similar to the MEA Multi-Family Sub-Program which includes on-site technical assistance, similar software analysis tools for the building owner and Technical Assistant, training for trades and tenants, with differences in measures to reflect the MEA small commercial building energy efficiency segment. In anticipation of the development of the Program, MEA has conducted initial outreach to small commercial representatives in the Marin County and Richmond markets to gauge interest and develop the initial design.

MEA has also conducted research and reviewed existing information in the field during the process of developing the Program. During 2010 – 2011, the Home Energy Retrofit Coordinating Committee’s Multi-family Subcommittee was convened to gather the

insights and recommendations from industry experts and professionals. Findings of this Committee have been used as a basis for some program elements. In addition, this program's design draws upon the findings from the report, "*Characterization and Analysis of Small Business Energy Costs*" by SBA Office of Advocacy April, 2008, (see Appendix B).

The desired outcome of the MEA Small Commercial program is to address market barriers by:

- Providing customized technical assistance to offer service for a wide range of building types, energy usage patterns, and billing configurations, while also providing assistance with analyzing potential upgrade measures,
- Providing guidance through the complicated initial assessment of upgrade potential that could lead to a whole-building upgrade approach, and referring projects to existing utility programs,
- Providing a viable alternative to the whole-building performance-based incentive that is less capital intensive yet customized,
- Focusing training on trades that represent a large opportunity for energy savings in small commercial buildings, and
- Creating a mechanism for data feedback on the actual performance of implemented upgrade measures to refine the accuracy of energy savings estimates used in small commercial energy modeling, and a better understanding of highest opportunity measures. (See Sub-Program 3, section j for additional information).

11. Additional Sub-Program Information

a) Advancing Strategic Plan Goals and Objectives

The MEA Small Commercial Sub-Program advances the following goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan:

Table 13: Strategic Plan Alignment

MEA Small Commercial Program Alignment with CA Long Term Energy Efficiency Strategic Plan		
Residential		
Strategy Number	Strategy	MEA Small Commercial Program Strategy
2-2	Promote effective decision-making to create widespread demand for energy efficiency measures	Small commercial decision support software and Technical Assistance are designed to provide small commercial property owners with expertise and analytical tools
Low Income		
Strategy Number	Strategy	MEA Small Commercial Program Strategy
2-1	Collaborate and leverage other low-income programs and services	Referrals to other state, IOU, and local government low-income and small business-specific programs
Local Government		
Strategy Number	Strategy	MEA Small Commercial Strategy
4-4	Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses	Tools and Projects that integrate cross utility measures in all categories are an intended outcome of the comprehensive technical assistance provided

b) Integration

i. Integrated/coordinated Demand Side Management

The Program's targeted outreach and technical assistance are designed specifically to promote customer education and awareness of existing DSM programs and to support participation in the most appropriate DSM options.

Table 14 - Non-EE Sub-Program Information

Small Commercial Bundled Measures Incentive Sub-Program		
Non-EE Sub-Program	Budget	Rationale and General Approach for Integrating Across Resource Types
California Solar Initiative		Refer eligible and interested projects
Automated Benchmarking Service		Track & Compare Energy Performance setup by TA

ii. Integration across resource types

Non-EE Programs – across resource types	
Non-Energy Programs	Rationale and General Approach for Integrating Across Resource Types
Water utility rebates	Leverage water utility rebates water conservation energy measures; refer to Marin water utilities for other eligible measures

c) Leveraging of Resources

The program will leverage multi-family program infrastructure that was developed through ARRA funding, including:

- Software Tools:
 - Action Planning tools
- Trained raters/auditors
- Technical Assistant Services Design

d) Trials/ Pilots

N/A

e) Knowledge Transfer

MEA staff and partners will regularly share program outcomes, benchmarks and milestones, and also track challenges, lessons learned, and necessary adjustments for all

technical, administrative, and marketing aspects of program implementation. These data sets will be organized and transmitted to local government partners operating similar programs (e.g. Marin County, City of Richmond, County of Sonoma); through regular meetings of local government forums (such as the Governor's Office of Planning and Research, the LGSEC, Local Government Commission, Urban Sustainability Directors Network, etc.); regional NGO and institutional partners, and through program updates provided to Commission and program partners.

12. Market Transformation Information

This program is not identified as a market transformation program.

13. Additional information as required by Commission decision or ruling or as needed:

N/A

VI. Sub-Program MEA03 – Single Family

1. Sub-Program Name: MEA Single-Family Utility Demand Reduction Program
2. Sub-Program ID number: MEA03
3. Type of Sub-Program: Partnership
4. Market sector or segment that this sub-Program is designed to serve:
 - a) Residential
 - i. Including Low Income? Yes No;
 - ii. Including Moderate Income? Yes No.
 - iii. Including or specifically Multi-Family buildings Yes No.
 - iv. Including or specifically Rental units? 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 No
 - b) Resource acquisition program Yes No
 - c) Market Transformation Program Yes No
6. Indicate the primary intervention strategies:
 - a) Upstream Yes No
 - b) Midstream Yes No
 - c) Downstream Yes No
 - d) Direct Install Yes No
 - e) Non Resource Yes No.
7. Projected Sub-Program Total Resource Cost (TRC) and Program Administrator Cost (PAC)
 - i. TRC = 1.76 PAC = 6.59

8. Projected Sub-Program Budget

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

Sub-Program	Program Year		
	2013	2014	Total
Admin (\$)	18,000	18,000	36,000
General Overhead (\$)	42,000	42,000	84,000
Incentives (\$)	0	0	0
Direct Install Non-Incentives (\$)	37,000	13,400	50,400
Marketing & Outreach (\$)	75,000	75,000	150,000
Education & Training (\$)	130,500	130,500	261,000
Total Budget (\$)	304,513	280,914	581,400

9. Sub-Program Description, Objectives and Theory

a) Sub-Program Description and Theory

The primary goal of the MEA Single-Family (SF) Utility Demand Reduction Program is to provide focus for Utility Demand Reduction Management through the use of education, tools, and services. This Sub-Program will focus primarily on savings and costs reductions through behavior changes, updated appliances, and water conservation measures that affect energy use. This funding application does not cover building shell enhancements as those are being covered by in the proposed BayREN program. While the MEA Single Family Utility Demand Reduction Program does not replicate funding or focus of the proposed BayREN Single-Family Retrofit Program, it will complement the BayREN Program in the MEA service area by eliminating key barriers to undertaking whole-house and future flex path retrofits. The barriers MEA is addressing with our outreach services and tools are lack of education and awareness that would lead to behavior changes. To address this barrier, MEA will provide outreach and education to residents so that they are informed and engaged. MEA will then facilitate response and action through simple behavior and retrofit enhancements.

The program addresses the following market barriers to utility demand reduction:

b) Lack of Consumer Awareness

Customers are generally unfamiliar with the details of how and when they use their energy, and actions they could take to reduce energy use that fit their needs.

In the energy efficiency industry there has been limited attention and focus on consumer utility usage management, behavior to create utility usage reduction. Under the ARRA SEP programs, most of the funding resources for single-family utility customers has been on the benefits of whole-house energy upgrades. One area that has been missing is engaging outreach services and tools to attract and more clearly educate consumers about their personal utility (electricity, gas, water) use including effect on costs, comfort, and environment, and then stimulate them to take action.

MEA proposes an automated priority action sequence for customers which will include a combination of changes in behavior, some simple and inexpensive do it your-self projects and technologies, or utility reduction retrofit projects.

This sub-Program will result in engaging marketing and outreach campaigns and services to targeted user segments that will increase customer participation in cross utility demand reduction to a more diverse set of customers

c) Visibility of Utility Reduction Opportunities, All in One Place

Customers do not currently have visibility to their utility use, the combined effect of energy and water, and how the combination of energy efficiency with renewable generation can be optimized to meet their needs.

While there is a wealth of information, programs, tools, and services available across communities to address utility demand reduction, customers do not see the combined affects and do not have the time, technical capacity, or patience to figure out the best course of action.

The MEA Single-Family Utility Demand Reduction Program will address this barrier through the combination of easy to use online support tools to optimize the customers' utility use and an action plan based on the customers' desired effect (utility costs, comfort, GHG reductions, etc.). In addition, if appropriate, the Program will connect the customer to resources to take action including information about qualified contractors, funding and other incentives that are available.

d) Understanding of Steps to Take Action

For those consumers that recognize the opportunities available to reduce their utility use and want to make change to realize benefits to fit their needs, many do not know where to start.

The MEA Single-Family Utility Demand Reduction Program will address this barrier by providing simple tools and services to dramatically increase actions taken by consumers on their utility demand reduction. This will be achieved by helping the customer find and connect to the appropriate qualified contractors, helping find the most suitable financing, and by providing a facility for automatic rebate/incentive submissions. All of these features will maximize consumer benefits, while minimizing consumer effort and investment needs.

e) High Cost of Energy Upgrades

Whole-house and even single measure upgrades are often beyond a customer's ability to pay. Initiating finance programs to defray the up-front costs will help but some will not be interested in financing the upgrades.

The MEA Single-Family Utility Demand Reduction Program will address this barrier by providing visibility to custom actions the customer can take by simple changes in behavior and high return on minor capital investments. The program will also provide cross linkage to MEA Finance Programs, such as on-bill repayment, which could be a good fit for the customer wanting to avoid up-front costs.

f) Sub-Program Energy and Demand Objectives

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

	Program Years		
	2013	2014	Total
Single-Family Advanced Support			
kWh	6,625,159 ⁴	6,625,159	13,250,218
Peak MW	2.3	2.3	4.6
Therms (millions)	429,497	429,497	858,994

The basis for these demand objectives is a 2010 study in Sonoma County by Planet EcoSystems, Inc. Their analysis was focused on identifying energy demand reduction strategies that could be eliminated with an economically positive outcome for the consumer. See analysis details entitled, “Projected Single Family Energy Demand Reduction” in Appendix B. The following are assumptions used in the analysis:

- 87,000 owner occupied households in MEA service area (as per 2010 census data).
- Households were grouped into 3 categories based on demand,
 - Households with average energy bills less than \$100/month,
 - Households with bills between \$100-\$300/month ,
 - Households with bills over \$300/month.
- Each group has its own average demand profile and characteristics.
- Total estimated residential MEA service area annual electricity demand = 556 million kWh; gas demand = 53 million Therms (based on average MEA total owner occupied households).
- Most homes likely to be principally motivated by actions to reduce demand that are 'economically positive' for them (i.e. those actions that will actually result in net savings).
- This program is largely driven by helping homeowners find the 'economically positive' actions that apply to their specific circumstances; using that information to motivate homes into action.
- The average 'economically positive' demand reduction potential per home for electricity is 3,200 kWh/Yr; for gas is 90 Therms/Yr.

⁴ E3 calculation output used a Net-to-Gross ratio of .8

- Expect an average of 13% of homes to undertake some action in 2013-2014 period.
- Homes that undertake some demand reduction actions capture an average of 32% of their 'economically positive' demand reduction potential.
- Therefore, expect a demand reduction by end 2014 to be 24 million kWh, 6.6 million kWh from behavior actions, and 0.5 million Therms, .43 million from behavior actions.
- This translates to an electricity peak demand reduction of 9.6 MW, with 2.3 MW resulting from behavior actions.

g) Program Non-Energy Objectives

i. SMART non-energy objectives of the program:

- During the period 2013-2014, marketing and outreach activities will create 8700 impressions resulting in the customer accessing the energy efficiency portion of the MEA website.
- During the period 2013-2014, the number of MEA customers that create actions plans (using MEA web services) will be 20 percent of the single-family residential owner occupied homes (OOH) or 17,400 homes.
- During the period 2013-2014, the average reduction of water use by customers that created actions plans will be 10%.
- During the period 2013-2014, 30 percent of schools will participate in MEA energy efficiency programs.
- During the period 2013-2014, 20 percent of employers will participate in MEA energy efficiency programs.

h) Relevant Baseline Data

The statistics on owner occupied homes in Marin County and City of Richmond are provided by the US Census Bureau (2010).

i) Quantitative program targets (PPMs)

Table 3: Quantitative Program Targets (PPMs)

Target	2013	2014
Number of single-family homes reached through outreach campaigns	21,750	21,750
Percentage of secondary education level students participating in MEA energy efficiency program	5%	10%
Number of employers participating in MEA energy efficiency program	125	250
Number of owner occupied households that develop action plans using MEA web services	8700	8700
Number of owner occupied households participating in utility demand reduction competitions (school and employer outreach)	4350	4350

j) Cost Effectiveness/Market Need

The MEA Single Family Utility Demand Reduction Sub-Program will provide cost-effective support services to homeowners by utilizing targeted outreach and software services. This free service will educate customers about their personal property footprint, help them assess priorities based on return on investment to reduce utility costs (whether it be behavior, do it yourself, or retrofit measures they can take). By providing this software, MEA will provide cost effective solutions for the single family market (as well as multi-family and small commercial segments).

k) Measure Savings/ Work Papers

i. Savings estimates source for this sub-program are as follows:

- HVAC / Building Shell – ACCA Manual J, DEER Database
- Water Heater – Lutz Model, DEER Database
- Appliances / Lighting / Gadgets – DEER Database, Energy Star Database, Association of Home Appliance Manufacturers, Department of Energy LBL Home Energy Saver, Residential Appliance Saturation Survey
- Water – EPA Watersense, DEER Database, The American Water Works Association Research Foundation, Residential End Uses of Water
- Solar – PVWatts
- Default Building Characteristics – California Building Code

- Rebates – Based on Utility Programs
- Tax Credits – Incorporated and allocated appropriately for each measure
- Costing – DEER Database, Market Analysis
- Pricing – Based on Water, Gas and Electric Utility Rate Incorporating Baselines (Based on Location / Plan), Tiered Pricing Plans (Calculating at the Marginal Cost and also Compare Between Alternatives), Growth Rates
- Usage - Modeling based on Actual Energy Consumption, Optimized across Fuels during calculation
- Cost of Capital – User Modeled
- Cost of Financing – User Modeled

Table 4: Work paper Status

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review	Not Yet Submitted
1	None				X

10. Program Implementation Details

a) Timelines

Table 5: Sub-Program Milestones and Timeline

Milestone	Date
Project Initiation Meeting	9/1/2012
Marketing and Outreach Plan Design	11/1/2012
Web Services Definition	11/1/2012
Media program design	1/1/2013
Local Data Integration	1/1/2013
Campaign Programs for events/schools/employers	2/1/2013
Action Planning Tools Deployed	2/1/2013
Quarterly Progress Reports	3/31/2013 – 12/15/2014

b) Geographic Scope

The Geographic Region where the MEA Program will operate is Climate Zone 2 and 3.

c) Program Administration

Table 6: Program Administration of Program Components

Program Name	Program Component	Implemented by MEA staff	Implemented by contractors
MEA03	Program Administration and Oversight	X	
	Marketing and Outreach Program		X
	Web Services		X
	Program Design and Setup		X
	Program Implementation: Web Deployment, MEO, Quality Assurance		X
	Program Reporting	X	
	Rewards Incentive Implementation	X	

d) Program Eligibility Requirements

- i. Customers in the MEA region including Marin County and the City of Richmond.*

Table 7: Customer Eligibility Requirements

Customer Eligibility Requirement
Single-Family Detached Housing
Property located in MEA service area

- ii. Contractors/Participants:*

Table 8: Contractor/Participant Eligibility Requirements

Contractor Eligibility Requirement
Participating Contractor, including meeting all license and certification requirements

e) Program Partners

i. Manufacturer/Retailer/Distributor partners:

This sub-program will not include any upstream activities, and therefore will not include any manufacturer/retailer/distributor partners.

Table 10: Manufacturer/Retailer/Distributor Partners

(N/A)

ii. Other key program partners:

- City of Richmond
- County of Marin
- Green Building Associations/Green Building Labeling Programs
- GreenSave
- Marin Workforce Investment Boards
- Pacific Gas & Electric Company
- Marin City Community Development Corporation
- Marin Energy Watch Program
- Marin Employment Connection
- Marin Municipal Water District
- Rising Sun Energy
- San Francisco Foundation
- Planet EcoSystems
- Utilibill

f) Measures and Incentive Levels

Table 9: Summary Table of Measures, Incentive Levels and Verification Rates

Measure Group	Market Actor Receiving Incentive or Rebate	MEA	
		Incentive Level	Installation Sampling Rate
Program Participants	Residential Customers	100%	15%

g) Additional Services

Table 10: Additional Services

Additional Services that the Sub-Program will Provide	To Which Market Actors	MEA
Marketing & Outreach	School program administrators & employers(to reach single-family homeowners)	N/A
Data Analytics	Administrators for campaign management and program performance reporting	N/A

h) Sub-program Specific Marketing and Outreach

Marketing and outreach is a key element of this sub-program to increase customer awareness and action for utility demand reduction. The program will include the following components:

- Targeted outreach campaigns for employers, schools, and neighborhood profiles, and other targeted profiles.
- Segment data analysis for automated campaign management.
- Customized web services customized for specific consumers properties to engage, educate, and keep track of projects and new service offerings that match consumer needs.
- Outreach through other relevant market actors and partners. MEA will work with private and public outreach partners for campaigns to employers, schools, and neighborhoods.
- Integration of Energy Efficiency Program into the existing MEA brand.
- Social network tools to stimulate utility reduction activities by encouraging continued changed behavior and enabling collaboration. Tools will include testimonials, actual measures savings, ratings of measures, profile matching for consumers to share information on how they can save energy, water, and money, and demand reduction competitions among consumer groups.
- For marketing and outreach programs for schools, employees, and events, the MEA Program will provide:
 - Web tools with an educational toolkit for outreach programs to teach families about energy efficiency,
 - a Configured input questionnaire & solution outputs for each program,
 - the Ability to setup groups by school or classroom, and
 - a facility that delivers analytics so teachers, employers, and event coordinators can see results.
 - Interactive games at approximately 100 community events annually that engage community members and drive them to participate in the program.

i. Outreach

Outreach funds will be focused primarily on building awareness of MEA demand reduction services and driving community members to MEA energy efficiency web services through the following channels:

- MEA website
- Customer direct mail and electronic communications
- Homeowner workshops
- Contractor outreach and support
- Community events participation at approximately 200 local events annually
- Employee workshops
- Printed and electronic media
- MEA social media
- Home Energy/Water conservation kits for students

ii. Search Engine Marketing

Search engine marketing (SEM) through search engine optimization (SEO) techniques to attract more local web users to the MEA site and services.

iii. Website Content Customization

The website is a critical tool to move consumers from a state of being merely interested in learning more about the Program, to actually contacting a contractor. The site will include provide a secure contractor portal for listing and update of company information as well as access to relevant program information for the contractor. MEA staff will have secure access to the on-line content management system enabling prompt action for customer interface and website updates.

Table 11: MEA Marketing Activities[JGW2]

Task	Description	Objective
Homeowner outreach programs	Creative outreach programs with help of service partners to stimulate demand reduction activities in MEA’s service area.	Connect directly with homeowners through employer, schools, and events.
Social and Search Engine Marketing	Maximize results in attracting consumers to the website through integration with social tools and search engine optimization.	Increase awareness, website visits, community connection and demand reduction through social tools.
Website Customization	Enable content management for immediate update capability by MEA program stakeholders.	Provide local, custom flavor to website; provide forum for local programs and ideas to be promoted.

i) Sub-Program Specific Training

On-line (free) training and videos for program staff and contractors regarding administration features for social marketing, reporting, and content management. In addition, videos and on line training will be provided for contractors, staff and consumers.

j) Sub-Program Software and/or Additional Tools

The following software features will provide the infrastructure for the Residential Utility Demand Reduction sub-Program:

i. Consumer Engagement Software Tools:

- **Information Aggregators:** Aggregates information from numerous government and public sources and organizes the information to make it easy for customers to understand, and take beneficial actions.
- **Utility System Optimizer:** Outputs an action plan for property owners segmented by utility bill, health/comfort, or green factors. The action plan is a priority list of behavior, simple do-it yourself, or retrofit measures designed to reduce utility demand.
- **Finders:** Access applicable rebates, qualified contractors, and financing (if required) for the custom list of measures.
- Social Networking Facilities
- **Assemblers:** Assembles groups with similarities to organize for group action (i.e. group discount purchases)
- **Compare & Compete:** Compare with neighbor or similar building structures. Competition tools to disseminate via schools, companies, and local governments.
- **Project Status/Alert Tools:** Project management, energy management and monitoring tools.

ii. Administrative Tools:

MEA will have a back-end system with features for the following administrative functions: Campaign management, program performance tracking, consumer analysis, and rebates and awards administration.

k) Assessment Incentive Program

- i. Pre-implementation audit required Yes No
- ii. Post-implementation audit required Yes No N/A[SL3]

l) Audit Incentives

Table 12: Post-implementation Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
N/A	No direct rebates offered in this program

m) Sub-Program Quality Assurance Provisions

Table 13: Quality Assurance Provisions

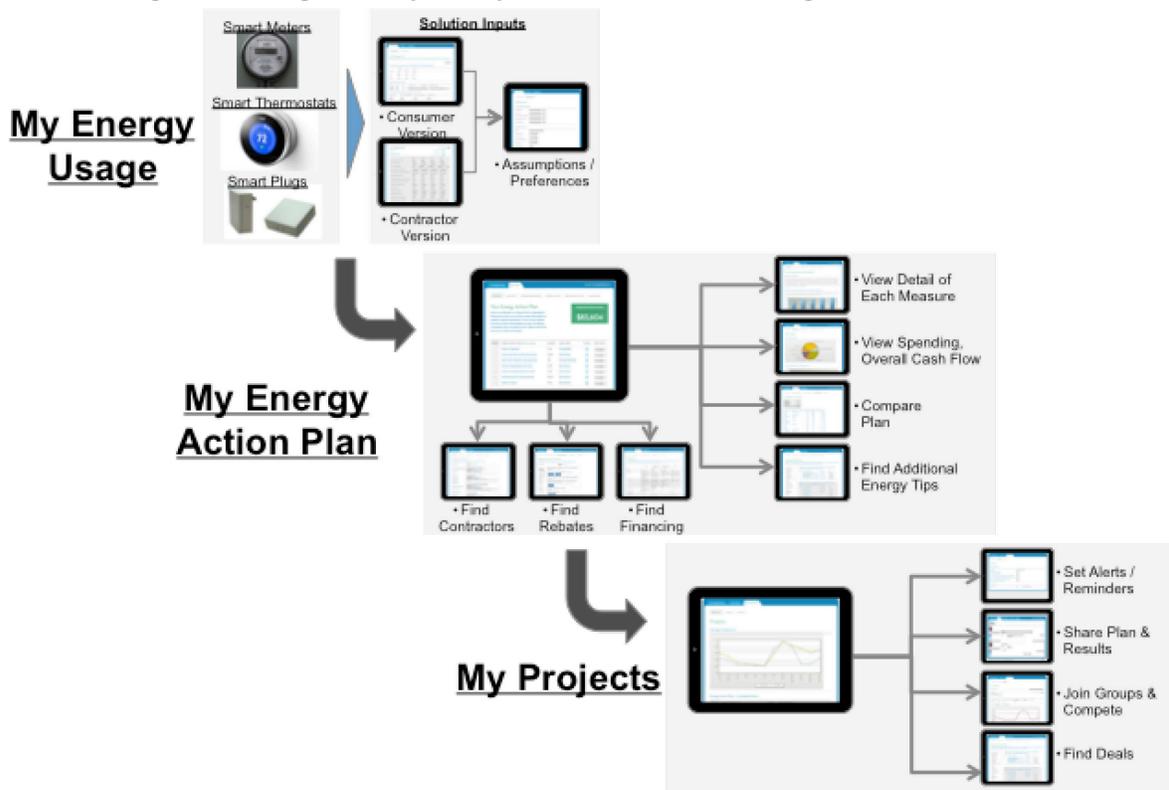
Program Element	QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Software Database	Measure database to ensure it is up to date with accurate costs per measure	100 % pre/post	MEA staff in Energy Efficiency Division
	Contractor list holds valid license and meets eligibility requirements	100 % pre/post	MEA staff in Energy Efficiency Division
	Rebates list accurate and up to date	100 % pre/post	MEA staff in Energy Efficiency Division

n) Sub-Program Delivery Method and Measure Installation /Marketing or Training

N/A[SL4]

o) Sub-Program Process Flow Chart

Figure 6.1: Single Family Utility Demand Reduction Program Process Chart



p) Cross-Cutting Sub-Program and Non-IOU Partner Coordination

Table 14: Cross-cutting Sub-Program and Non-IOU Partner Coordination

MEA Single-Family Sub-Program		
Other MEA Sub-Programs	Coordination Mechanism	Expected Frequency
Multi-Family	Campaigns for all residential (SF and MF). Tools can be used for both SF and MF.	School, employee, or event competitions
Financing (OBR)	Software workflow	If retrofit required and is financing desired by consumer
Coordination Partners Outside CPUC	Coordination Mechanism	Expected Frequency
Non-MEA Financing Programs for SF	Project referrals, meetings, other regular communication	Quarterly or as needed
Local Workforce Investment Boards	Meetings, other regular communication	Quarterly or as needed
Community Based Organizations, Religious Institutions, Educational Institutions	Meetings, other regular communication	As needed as part of marketing efforts

q) Logic Model

The MEA Single-Family Utility Demand Reduction Program builds largely upon experience in Sonoma County conducting program activities and pilots in support of the Sonoma County Energy Independence Program (SCEIP) and Energy Upgrade California (EUC) from 2009-2012. These programs supported the PG&E Whole House Program, SCEIP, and Energy Upgrade California through marketing, contractor training, customer support, additional incentives, professional outreach, and the development of a one-stop web resource for consumer engagement, contractor support, and administration activities. Through these activities and experiences, MEA has identified strategies for addressing market barriers for its energy efficiency programs. The market barriers are described above.

In sections b, c, d, and e, the desired outcome of the MEA Single-Family Program is to address these significant market barriers by:

- Increasing awareness through stimulating outreach programs with web services that assist consumers in reducing costs of energy by altering their behavior.
- Providing a web service that:

- Encourages activity by aggregating relevant energy efficiency information sources
 - Makes visible priority actions for consumers and enable them to take actions through connected services to local service providers
 - Organizes common interest groups such as MEA single-family, multi-family, or small commercial stakeholders for through social network tools
 - Provides tools to support local contractor activities
 - Facilitates participation in on-bill repayment and standard offer purchase programs
 - Provides program oversight of project performance and campaign management
- Lowering cost, education, and process barriers to participating in the PG&E Whole House Program by providing assessment incentives, conducting broad awareness and targeted customer outreach, and providing an independent third party to advocate for the customer.
 - Equipping contractors with the skills to successfully penetrate the market and navigate the complicated energy efficiency program landscape while providing quality services to clients through training and mentoring activities.

11. Additional Sub-Program Information

a) Advancing Strategic Plan Goals and Objectives

Table [JGW5] 15: Strategic Plan Alignment

MEA Single--Family Program Alignment with CA Long Term Energy Efficiency Strategic Plan		
Residential		
Strategy Number	Strategy	MEA Single Family Utility Reduction Program Strategy
2-2	Promote effective decision-making to create widespread demand for energy efficiency measures	This is a key element of MEA Single Family program. MEA will conduct broad outreach and awareness campaigns to customers and provide support around decision making through software.
3-2	In coordination with Strategy 2-2 above, develop public awareness of and demand for highly efficient products	See 2-2 above.
DSM Coordination and Integration		

Strategy Number	Strategy	MEA Single Family Utility Reduction Program Strategy
1-1	Carry out integrated marketing of DSM opportunities across all customer classes	MEA marketing efforts will be coordinated with IOU Whole House Program, Local Government Partnerships, Weatherization Programs, and other DSM programs available in the region.
Marketing, Education and Outreach		
Strategy Number	Strategy	MEA Single Family Utility Reduction Program Strategy
1-3	Use social marketing techniques to build awareness and change consumer attitudes and perceptions	The innovative MEA marketing campaign will build upon initial market research conducted, and draw from innovative partner companies to access customers through community based organizations, schools, local companies, religious institutions and other organizations as drivers of energy efficient behaviors. Campaigns will also use online social networking platforms to stimulate activity through online competition facilities, and enable customers with common interest to share information on how they can reduce utility demand and save money.
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. MEA will coordinate with BBP Pilots that activate schools as “Energy Ambassadors” to spread energy efficiency message to students and parents.
Local Government Goals		
Strategy Number	Strategy	MEA Single Family Utility Reduction Program Strategy
4-4	Develop local projects that integrate energy efficiency, DSM, and water/wastewater end uses	MEA software service will promote cross-resource DSM offerings as well as installations of water conservation measures. BayREN marketing will be coordinated with cross-resource BBP pilots such as On-Water Bill Financing in Sonoma County.
5-2	Develop model approaches to assist local governments participating in regional coordinated efforts for energy efficiency, DSM, renewables, green buildings, and zoning	MEA and partners will engage local governments at multiple levels as member agencies to support outreach campaigns and ensure local government is aware and encouraging other state-wide DSM program offerings.

b) Integration

i. Integrated/Coordinated Demand Side Management

Through software and outreach services, MEA will continuously identify opportunities to promote indoor and outdoor water efficiency, green product rebates, and other programs to consumers. MEA will promote cross-program services through the integrated, one-stop online service for customers to learn about all IOU, Marin County, City of Richmond, water utility, and other local DSM offerings. The online service will also help property owners optimize their energy and water use based on their property footprint and personal preferences. In addition, a significant part of homeowner marketing will be cross promotion efforts between MEA and Marin Municipal Water District programs to ensure that, whether through media, collateral, web, or targeted outreach, homeowners are made aware of all program options and provided opportunities to participate in all relevant programs.

Table 16: Non-EE Sub-Program Information

Single-Family Retrofit Sub-Program		
Non-EE Sub-Program	Budget	Rationale and General Approach for Integrating Across Resource Types
MMWD and NMMWD Utility Indoor Water Efficiency Incentives Programs	Varies depending on incentive	Cross promotion
Local Government Outdoor Water Efficiency Programs	Varies depending on incentive	Cross promotion

c) Leveraging of Resources

The program will leverage single-family program infrastructure that was developed through ARRA funding, including:

- Software Tools:
 - Sonoma County Action Planning tools
- Trained raters/auditors

The program will also leverage other sources of funding, including:

- BayREN Single-Family Sub-Program (TBD)

d) Trials/ Pilots

MEA will coordinate closely with 2013 pilot efforts conducted by MEA partners. These include the On-Water Bill Financing Pilot conducted through Sonoma County (www.windsorefficiency Pays.com), and the community-based social marketing program Energize for the Prize in Alameda County (www.energizetheprize.org). Results from these pilots will inform marketing and other offerings to be conducted in 2014 and beyond.

e) Knowledge Transfer

MEA staff and partners will regularly share program outcomes, benchmarks and milestones, and will also track challenges, lessons learned, and necessary adjustments for all technical, administrative, and marketing aspects of program implementation. These data sets will be organized and transmitted to local government partners operating similar programs (e.g. County of Marin, City of Richmond, County of Sonoma); through regular meetings of local government forums (such as the Governor's Office of Planning and Research, the LGSEC, Local Government Commission, Urban Sustainability Directors Network, etc.); regional NGO and institutional partners, and through program updates provided to Commission and program partners.

12. Market Transformation Information

a) Market Transformation Objectives

The market transformation objectives of the MEA Single-Family Retrofit Program are the following:

- Develop increased general knowledge and awareness amongst homeowners of energy efficiency practices and benefits, and encourage a long-term transition towards energy efficient behaviors and purchases
- Create high level of awareness of energy efficiency among relevant professional industries, including real estate, building trades, manufacturing/supply, and other industries
- Streamlined coordination of DSM programs with PG&E, local governments, and other organizations
- Development of a skilled and motivated professional building workforce that makes energy efficient best practices standard practice in service delivery.

b) Market Description

Market actors include:

- **Building Performance Contractors** - Deliver Whole House Energy Retrofits 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.
- **Residential Property Owners** - Owners of property desiring to reduce utilities and resulting costs, increased health and comfort, and/or greenhouse gas reductions.
- **PG&E** - Operated energy efficiency incentive programs, primarily Energy Upgrade California. Conduct contractor management, quality assurance, program administration for Energy Upgrade California.
- **MEA** - Implement energy efficiency programs in MEA service area. Support PG&E energy efficiency programs through professional and customer outreach. Coordinate amongst local actors to ensure enforcement of codes. Pilot energy efficiency programs. .
- **Workforce Training Organizations** - Marin community colleges, Marin City Community Development Corporation RichmondBUILD , Marin Workforce Investment Boards, and other nonprofit programs that provide job training and placement services for new professionals.
- **Non-Energy Efficiency and Conservation Programs** - County of Marin, Marin Municipal Water District (MMWD), North Marin Municipal Water District

- (NMWD), 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.

c) Market Characterization and Assessment

Many of the market barriers associated with the single-family energy efficiency and whole house markets are described above in sections b, c, d and e. The following market characterization and assessment is based on experiences of MEA partners and by *Recommendations for Energy Upgrade California in the Bay Area* report dated April 11, 2011.

i. Homeowner Awareness and Behavior

Most homeowners are not aware of their energy and water use behavior patterns and how they could save money, increase comfort, and reduce negative impact on the environment through energy efficiency. Building broader awareness and deeper knowledge will be key to future program implementation and market transformation.

Also, homeowners vary in their level of education and their primary motivation for undertaking energy and water efficiency work in their homes, including saving money, increasing comfort and health, and protecting the environment (among others). Given this, as well as the demographic, economic, and ethnic diversity in the MEA service area, there is no one marketing approach that will reach or resonate with everyone. There is a need to market to different segments with different strategies to include social media, school and employer programs, public events, radio, television, workshops, etc. Such multi-faceted marketing will be employed in the Program. To maximize marketing success and increase action by consumers, MEA will leverage the character of the community, and communicate through local events, and trusted messengers.

Today, there's a lack of coordinated efforts for marketing, education and outreach to provide an integrated approach for single-family utility demand reduction programs. Additionally, awareness amongst other industry actors is relatively low as energy/water efficiency considerations have not yet entered into standard business practice for many

relevant market actors. Through the Single-Family Utility Demand Reduction Program, MEA partners will engage these actors through cross-promotion and marketing efforts so energy efficiency can be a core consideration.

Other market barriers as described in the Sub-Program Description and Theory, including general lack of awareness, low visibility of utility demand reduction opportunities, and high cost of energy, has limited customer interest in participating in energy efficiency programs offered (i.e. EUC and PG&E programs) with no coordinated solution being provided to address many of these barriers.

ii. Coordination of DSM Programs

The ARRA period prompted a degree of collaboration between actors by helping establish relationships between ARRA program participants in Marin County and Richmond.

Despite this initial collaboration, there are still significant challenges associated with coordination and confusion among the actors in the marketplace. This in turn causes confusion to consumers. Notable examples include the coordination of marketing and outreach messages among programs, coordination of incentive program offerings and messaging around those offerings, cross promotion of programs and benefits of water/energy offerings, and sharing of program data amongst organizations for program evaluation. It is clear that there is a need for increased and continued coordination and education between the actors, and additional facilities and tools for increase customer awareness that will limit confusion, and stimulate action for modifying behavior and retrofit activity.

d) Proposed Interventions

Proposed interventions have been detailed throughout this Sub-Program description. In addition, the Financing Pilots Sub-Program (MEA04) includes proposed interventions to address market trend formation. These proposed interventions are summarized in the table below.

Table 17: Market Transformation Barriers and Interventions

Barrier	Proposed Intervention
Lack of customer awareness	Broad and targeted marketing campaigns
Visibility of opportunities for cross utility demand reduction	One stop resource for education, analysis, and connection with service providers to take action
Required audit and audit costs	Assessment incentives
Program cost barriers	OBR and SO financing (MEA04)

e) Logic Model

Targeted marketing campaigns and the availability of integrated utility demand reduction tools combined with incentive programs that reduce audit costs and provide retrofit financing, will significantly increase actions through behavior and energy/water conservation retrofits.

f) Market Transformation Indicators (MTIs) and Evaluation Plans

Resolution E-485 lists adopted Market Transformation Indicators for the 2010-2012 Energy Efficiency Portfolio. To ensure consistency with adopted Market Transformation Indicators and Program Evaluation strategies, MEA proposes the following Market Transformation Indicators:

- Costs to customers of whole house retrofits, including costs of materials, equipment, and labor.
- The proportion of households that elect not to perform comprehensive energy upgrades due to various barriers such as lack of available financing, lack of qualified contractors, undesirable payback period, lack of urgency, “hassle” of upgrade, or uncertainty that the upgrades will provide appreciable benefit.

Program evaluation will be conducted according to standard EM&V practices in place and established by the Commission. MEA will participate in data collection and interpretation activities, as needed according to Commission Rulings.

VII. Sub-Program MEA04 – Financing Pilots

Program Description:

The high up-front installation costs for energy efficiency have prevented the market from responding on a broad scale to energy saving opportunities. MEA will pilot two innovative programs to ensure that funding is available and that retrofits are financially competitive and accessible to a broader and more diverse range of property owners for each of MEA's direct service elements. The two programs are, 1). an On-Bill Repayment (OBR) Program and, 2).a Standard Offer (SO) Energy Efficiency pilots program. The funding for this Sub-Program will be used to help build the OBR and SO frameworks to enable financing of underserved markets.

The OBR program will streamline loan application and enrollment processes, offering customers and contractors continuity, consistency and support to a wider, deeper reach for energy efficiency retrofits, and will itself be leveraged with other MEA sub-Programs and sub-program elements (such as Workforce Education and Training, software services, and other customer incentives).

To leverage private capital, the OBR program will allow private banks or financing entities to provide financing to building owners, with the repayment charge placed as a line item on the bill. In particular, MEA will partner with organizations implementing financing pilots (including OBR) that can address underserved markets – including moderate and middle income homeowners, owners of multifamily housing serving affordable populations, and owners of small businesses without easy access to financing. Program funds would be used to help build the OBR framework, including use as OBR-related credit enhancement for programs meeting the needs of underserved borrowers, such as moderate/middle income homeowners. They may also be used to help establish credit enhancement strategies for private financing solutions where OBR is not possible, and would be intended to supplement other available EE financing options.

The OBR Program will allow the customer to avoid the up-front cost associated with substantial energy upgrades and instead allow pay-back to occur on the monthly electricity bill.

In addition to the customer-based financing options, MEA will also pilot a standard offer for energy efficiency procurement. This program will be modeled after similar programs in place in the Texas market and in the New England market. Rather than targeting property owners, this program will be tailored to third party vendors who bid

energy savings to MEA as a way to reduce MEA resource adequacy procurement. The third party vendor would work directly with customers to obtain savings.

1. **Sub-Program Name: MEA Energy Efficiency Financing Program**
2. **Sub-Program ID number: MEA04**
3. **Type of Sub-Program: Core Third Party Partnership**
4. **Market sector or segment that this sub-program is designed to serve:**
 - a) **Residential**
 - i. *Including Low Income? Yes No.*
 - ii. *Including Moderate Income? Yes No.*
 - iii. *Including or specifically Multi-family buildings Yes No.*
 - iv. *Including or specifically Rental units? Yes No.*
 - b) **Commercial (List applicable NAIC codes: _____)**
 - i. *54 – Professional, Scientific and Technical Services*
 - ii. *445120 – Convenience Stores*
 - iii. *7225 – Restaurants*
 - c) **Industrial (List applicable NAIC codes: _____)**
 - i. *See above for Commercial; plus*
 - ii. *236210 – Industrial Building Construction*
 - d) **Agricultural (List applicable NAIC codes: _____)**
 - i. *Included in Commercial/Industrial*
5. **Is this Sub-Program primarily a:**
 - a) **Non-resource program Yes No**
 - b) **Resource acquisition program Yes No**
 - c) **Market Transformation Program Yes No**
6. **Indicate the primary intervention strategies:**
 - a) **Upstream Yes No**
 - b) **Midstream Yes No**
 - c) **Downstream Yes No**
 - d) **Direct Install Yes No**
 - e) **Non Resource Yes No.**

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

MEA has allocated all savings from this sub-program into the cost savings calculations for sub-programs MEA01, MEA02, and MEA03. The costs for this sub-program are included in the E3 cost savings calculations and are reflected in the total MEA Program TRC and PAC.

8. Projected Sub-Program Budget

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

Sub-Program	Program Year		
	2013	2014	Total
Admin (\$)	36,000	26,000	62,000
General Overhead (\$)	14,000	11,000	25,000
Incentives (\$)			
Direct Install Non-Incentives (\$)	500,000	560,000	1,060,000
Marketing & Outreach (\$)	24,000	21,000	45,000
Education & Training (\$)	0	0	0
Total Budget (\$)	569,513	626,514	1,192,000

9. Sub-Program Description, Objectives and Theory

a) Sub-Program Description and Theory

i. Sub-Program – MEA Financing Elements:

On Bill Repayment Program and Standard Offer Procurement in Support of Single Family, Multi-Family, and Small Commercial Programs

One of the impediments to participation in energy efficiency programs is the relatively large upfront cost, especially by building owners who have relatively little access to private or low-cost financing. These include moderate and middle income homeowners, as well as owners of multifamily apartment buildings, and small businesses. MEA plans to address this up-front cost obstacle with two pilot programs, On Bill Repayment (OBR), and Standard Offer Procurement.

The MEA OBR program will include a streamlined loan application and enrollment processes, offering customers and contractors continuity, consistency and support to a

wider and deeper range of energy efficiency retrofits. The program will be leveraged with other MEA sub-Programs and sub-program elements (such as Small Commercial, Multi-Family and Single-Family Programs). Another fundamental objective governing the development of the OBR Program is utilizing and leveraging these mechanisms as financing options for underserved communities and attaining greater socio-economic equity in the implementation of energy efficiency programs.

OBR Program In Support of Residential Single Family Program

The OBR Residential Program will allow the customer to avoid the up-front cost associated with substantial energy upgrades by allowing pay-back to occur on the monthly electricity bill. A loan loss reserve (LLR) may be used to help customers access the available financing. Without the LLR, the interest rate for an unsecured loan is approximately 170 basis points higher. Leveraging the LLR acts to mitigate the market's credit barrier. The funds requested under the MEA OBR Sub-Program would facilitate financing for an additional 200 single family energy upgrade loans worth approximately \$2 million.

OBR Program In Support of Residential Multi-Family Program

The LLR subsidy will enable leverage with the MEA Multi-Family Sub-Program for deeper, large-scale energy efficiency retrofits. This Sub-Program will stimulate uptake in multi-family home energy efficiency projects by matching responsible lending criteria with a security/assurance mechanism that promotes increased lender engagement. Also, the Sub-Program education and outreach will target, among other groups, building operators and managers, who influence investment decisions. In this manner, the OBR Sub-Program will balance upfront cost concerns with information financing options, tax credits, and co-benefits. The funds requested under the MEA OBR Sub-Program would facilitate financing for an additional 25 multi-family energy upgrade loans worth approximately \$0.5 million.

OBR Program in support of Small Commercial Program

The OBR Program will align with the MEA Small Commercial Sub-Program to drive energy efficiency upgrades for office building, restaurants and convenience store facilities. This market sector has been reluctant to implement energy efficiency improvements for a number of reasons, including the split fiscal incentives between building owners and tenants, aversion to increased debt carried on buildings, and information gaps on the value of benefits and co-benefits, and financing options/rates of return. Through intra-program and external partnership leveraging, outreach to building owners, operators and managers on potential for cash-neutral or cash-positive

improvements, and providing a financing tool that can be carried as an operating rather than debt expense, this Sub-Program has the potential to promote the larger-scale, deeper energy retrofits currently untapped in many commercial buildings. The funds requested under the MEA OBR Sub-Program would facilitate financing for 175 small commercial energy upgrade loans worth approximately \$2.65 million.

Standard Offer Procurement in support of MEA Hard-to-Reach Customers

In addition to the customer-based OBR finance option, MEA will also pilot a standard offer for energy efficiency procurement. This program will be modeled after similar programs in place in the Texas market and in the New England market. Rather than targeting property owners, this program will be tailored to third party vendors who bid energy savings to MEA as a way to reduce MEA resource adequacy procurement.

The Standard Offer will establish a cost to be paid for demand reduction in the MEA region and will provide the opportunity for third party vendors to submit a bid to sell the demand reduction to MEA. To achieve the demand reduction the third party will need to identify cost-effective opportunities and work directly with building owners to ensure completion of measures.

Under the Standard Offer program MEA pays for the demand reduction only after the third-party vendor has verified and delivered the proposed savings. This approach transfers risk to the implementer, as they are in the best position to manage the risk.

The Standard Offer Sub-Program is designed to create competition in the marketplace for energy efficiency projects. This market competition will naturally lead third party vendors away from market sectors that have already been served, and prompt them to seek hard to reach sectors in the community who are not already being served. The Standard Offer Sub-Program structure encourages innovation and new approaches that will yield energy savings that are currently untapped.

b) Sub-Program Energy and Demand Objectives

MEA has allocated all savings from this sub-program into the cost savings calculations for sub-programs MEA01, MEA02, and MEA03. The costs for this sub-program are included in the E3 cost savings calculations and are reflected in the total MEA Program TRC and PAC.

c) Program Non-Energy Objectives

i. Quantitative program targets (PPMs):

Table 2: Quantitative Program Targets (PPMs)

Target	2013	2014
Energy Efficiency Building Loans – Single Family Residential	90	110
Energy Efficiency Building Loans – Multi-Family	13	17
Energy Efficiency Building Loans – Small Commercial	65	75
Energy efficiency projects resulting from Standard Offer Procurement	120	148

ii. OBR PPMs

- Generate at least \$2,000,000 in energy efficiency upgrades for single-family homes
- Complete a minimum of 200 single-family home energy efficiency upgrades financed through OBR
- Produce an average of at least 15% energy efficiency improvement in single-family home projects
- Complete energy efficiency upgrades to single-family homes encompassing at least 300,000 square feet
- Complete a minimum of 30 multi-family home energy efficiency upgrades under OBR
- Generate at least \$600,000 in energy efficiency upgrades for multi-family buildings through OBR program (30 upgrades with average of \$20,000 for each upgrade)
- Produce an average of at least 15% energy efficiency improvement in multi-family buildings
- Complete a minimum of 140 small commercial building energy efficiency upgrades under the Small Commercial OBR option
- Complete energy efficiency upgrades to Commercial buildings encompassing at least 210,000 square feet (140 projects with average of 1,500 square feet per project)

- Provide outreach and education to at least 350 Restaurants, 150 Convenience stores regarding the OBR Sub-Program

iii. Standard Offer Procurement PPMs

- Generate at least \$1,000,000 in energy efficiency upgrades for single-family homes
- Complete a minimum of 150 single-family home energy efficiency upgrades through SO Procurement
- Generate at least \$1,000,000 in energy efficiency upgrades for multi-family buildings through SO program
- Complete a minimum of 18 multi-family home energy efficiency upgrades under SO
- Complete a minimum of 100 small commercial building energy efficiency upgrades under the Small Commercial SO option

d) Cost Effectiveness/Market Need

In developing the MEA Finance Sub-Program MEA reviewed relevant information to address market needs appropriately and to ensure cost effectiveness in program design. *Scaling Energy Efficiency in the Heart of the Residential Market: Increasing Middle America's Access to Capital for Energy Improvements*, published April 4, 2012 (see Appendix B) outlines the need for financing to promote broader adoption of energy efficiency strategies.

The Role Of Local Governments And Community Organizations As Energy Efficiency Implementation Partners: Case Studies And A Review Of Trends, published February 2012 (see Appendix B) outlines the need for finance programs to avoid up-front costs, and also articulates why local government organizations, like MEA, are in a strong position to operate cost-effective programs due to their relationship with the community and with partner organizations.

Both the OBR and SO Programs address stated needs for finance options and innovative approaches that are cost effective. The SO program will use a price structure that is based on actual capacity costs in the California market, including pricing from the California Independent Operator (CAISO). Basing pricing on the actual cost of capacity will ensure cost-effectiveness of the program. The design of the program will also

prevent MEA from paying for additional or unanticipated costs; MEA will only pay for the demand reductions that are actually delivered to MEA.

e) Measure Savings/ Work Papers

Source of savings for On –Bill- Repayment: Measures financed as per DEER database.

Source of savings for Standard Offer Procurement: After the installation is verified for work completed, savings will be calculated using deemed savings from DEER database.

Table 3: Work paper Status: N/A

10. Program Implementation Details

a) Timelines

Table 4: Program Administration of Program Components

Activity	Year		
	2012	2013	2014
OBR Program and SO Design	Sept 1 - Dec 31	Sept 1 - Dec 31	
Contracts w/ Banks (OBR)	Sept 1 - Dec 31	Jan 1 - Apr 31	
Lead Contractor Agreements (OBR)	Sept 1 - Dec 31		
Integrate OBR with MEA Customer Billing	Sept 1 - Dec 31		
SO Outreach and contractor training		Jan 1- Mar 31	
Finance Portal Setup for customers, contractors, and administration	Sept 1 -	Jan 31	
MEA Technical Committee sets proposed rates (by kW, by year) for Standard Offer energy efficiency deliveries	Jan 1- Feb 1		
MEA Board Approves SO rates for energy efficiency deliveries	March 1- April 1		
ECO installation		Jan 1 - Dec 31	Jan 1 - Dec 31
Year –end Programs Evaluation		30-Nov	30-Nov
Year-end Programs Reporting			Jan 31

b) Geographic Scope

The Geographic Region where the MEA Program will operate is Climate Zone 2 and 3.

c) Program Administration

Table 5: Program Administration of Program Components

Program Name	Program Component	Implemented by MEA staff	Implemented by contractors to be selected by competitive bid process	Implemented by contractors NOT selected by competitive bid process
Financing Portfolio Program	Program Administration	Supervisory Administration		X
	Project Tracking & EMV			X
	Financial Program Marketing	X		X
	Assessment Incentive Program Implementation			X
	Financial Program Marketing	X		X
	Financial Program Outreach – Target Markets	X		X
	Program Reporting	X		

d) Program Eligibility Requirements

Table 6: Customer Eligibility Requirements

Sub-Program	Eligibility Requirements
Single-Family OBR & SO Sub-Program	Single-Family Detached Home
	Located in Marin/Richmond Region
	Meets Responsible Lending Criteria
	Energy Efficiency Improvement Threshold
Multi-Family OBR & SO Sub-Program	Multi-Family Building of at least 4 Units
	Located in Marin/Richmond Region
	Meets Responsible Lending Criteria
	Energy Efficiency Improvement Threshold
Commercial OBR & SO Sub-program	Small Commercial Building
	Located in Marin/Richmond Region
	Energy Efficiency Improvement Threshold
	Meets Definition of "Commercial" Building/Facility

Table 7: Contractor/Participant Eligibility Requirements

Sub-Program	Eligibility Requirements
OBR	Must be Participating Contractor, including meeting all license and certification requirements
SO	Implementer must be licensed in measures implemented
SO EM&V	Verifier must be EM&V certified

e) Program Partners

i. Manufacturer/Retailer/Distributor partners: N/A [SL6]

Table 8: Manufacturer/Retailer/Distributor Partners (N/A)

ii. *Other key program partners:*

- City of Richmond
- CleanFund
- County of Marin
- Dominican University
- Lenders (including without limitation banks, credit unions)
- Marin City Community Development Corporation
- Marin Energy Watch Program
- Marin Employment Connection
- Marin Municipal Water District
- Pacific Gas& Electric Rising Sun Energy
- San Francisco Foundation
- Saving Neighborhood Energy to Generate Neighborhood Wealth
- Wells Fargo

f) Measures and Incentive Levels

Table 9: Summary Table of Measures, Incentive Levels and Verification

Recipient Sub-Program	Additional Services	Recipient Market Actors	Expected Charges	Incentives
Single-Family OBR	Financial Toolkit	Homeowners	Service Fees (\$99 to Apply)	N/A
Multi-Family OBR	Financial Toolkit	Building Owners and Tenants	Service Fees (\$99 to Apply)	N/A
Small Commercial OBR	Financial Toolkit	Building Owners, Operators and Managers	Service Fees (\$99 to Apply)	N/A

g) Additional Services

N/A

h) Sub-Program Specific Marketing and Outreach

The MEA Financing Sub-Program is designed to overcome market barriers caused by a lack of credit and financing options. The Sub-Program will utilize marketing, outreach and education (ME&O) for specific stakeholders and partners in the single-family, multi-family and commercial sectors.

The OBR program will leverage existing outreach occurring to the residential and commercial customers as part of the program elements described above, the interface with the EUC Program and the City of Richmond and Marin County Energy Watch Program. It will also leverage outreach related to the PACE program after development through the BayREN PACE Program.

The Finance Sub-Program will use marketing, education and outreach strategies to highlight the benefits of program and encourage participation. Benefits that will be highlighted in marketing and communications will include: social and environmental benefits such as, reduced fossil fuel consumption, reduced greenhouse gas emissions, improved indoor air quality and improved healthy spaces; economic benefits such as decreased electricity and maintenance costs, higher building performance, governmental incentives related to expedited plan review, permitting and inspection, and new valuations on energy efficiency such as Green MLS ratings. Marketing, education and outreach activities will also highlight the economic benefits of; MEA Financing Program options, contractor/supplier incentives; and energy savings achieved through improvements under the water-energy nexus.

In many cases owners are reluctant to pay for building improvements that appear to only benefit tenants. However, MEA will address this market barrier with outreach and education that highlights the benefits described above, as well as the value of co-benefits achieved by combining MEA program options. MEA will also highlight the benefits and advantages of whole building retrofits that build energy efficiency and can leverage financing options and incentives to implement cash-neutral or cash-positive results. This occurs when upgrades provide cost savings that surpass the usual monthly electricity bill, and will serve as a compelling incentive to customers when communicated through outreach and education.

i) Sub-Program Specific Training

The Financing Sub-Program will engage skilled consultants, contractors and implementers, and will not require independent training.

j) Sub-Program Software and/or Additional Tools

i. Consumer Engagement, Contractor, and Administration Portals

MEA will leverage software developed for Sonoma County for finance programs. The software will enable a streamlined workflow that is initiated through customers and contractors in each of the customer segments with options for extended services for financing. The MEA energy efficiency web portal will include consumer and contractor portals as detailed in Sub-Program MEA 03, Single Family Utility Demand Reduction Program. Consumers and contractors, on behalf of their clients, will be able to apply for financing for selected and qualified measures. The automated application will route them through a process to qualify customers, validate eligible measures, and financing, (including online purchasing for any required fees) and uploading required documents. The backend Administrator Portal receives alerts for new finance applicants with workflow processing for underwriting, and tracking/ reporting status of applications, projects and program performance including jobs data, projects, and energy/carbon reduced.

The portal will also integrate payments with the MEA billing system.

ii. X Yes ___ No

iii. Pre-implementation audit required X Yes ___ No

iv. Post-implementation audit required X Yes ___ No

Table 10: Post-Implementation Audits

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
For OBR audits are funded after final building inspection completed (evidence required).	Contractor
Not applicable for SO Program	N/A

k) Sub-Program Quality Assurance Provisions

Table 11: Quality Assurance Provisions

QA Requirements	QA Sampling Rate (Indicate Pre/Post Sample)	QA Personnel Certification Requirements
Property must meet eligibility requirements	100 percent pre-	None
Property Owners Must Meet Responsible Lending Criteria	100 percent pre-	None
Contractor holds valid license and meets eligibility requirements (Energy Upgrade Participating Contractor or participant in other qualified program)	100 percent pre/post	None
Project meets requirements of program	100 percent pre/post	BPI-BA
Field Verification of Measures Installed	100 percent for SO & OBR	BPI-BA

l) Sub-Program Delivery Method and Measure Installation /Marketing or Training

Marketing for this Sub-Program is described in section h. No additional marketing or training will be provided.

m) Sub-Program Process Flow Chart

Figure 7.1: OBR Finance Process

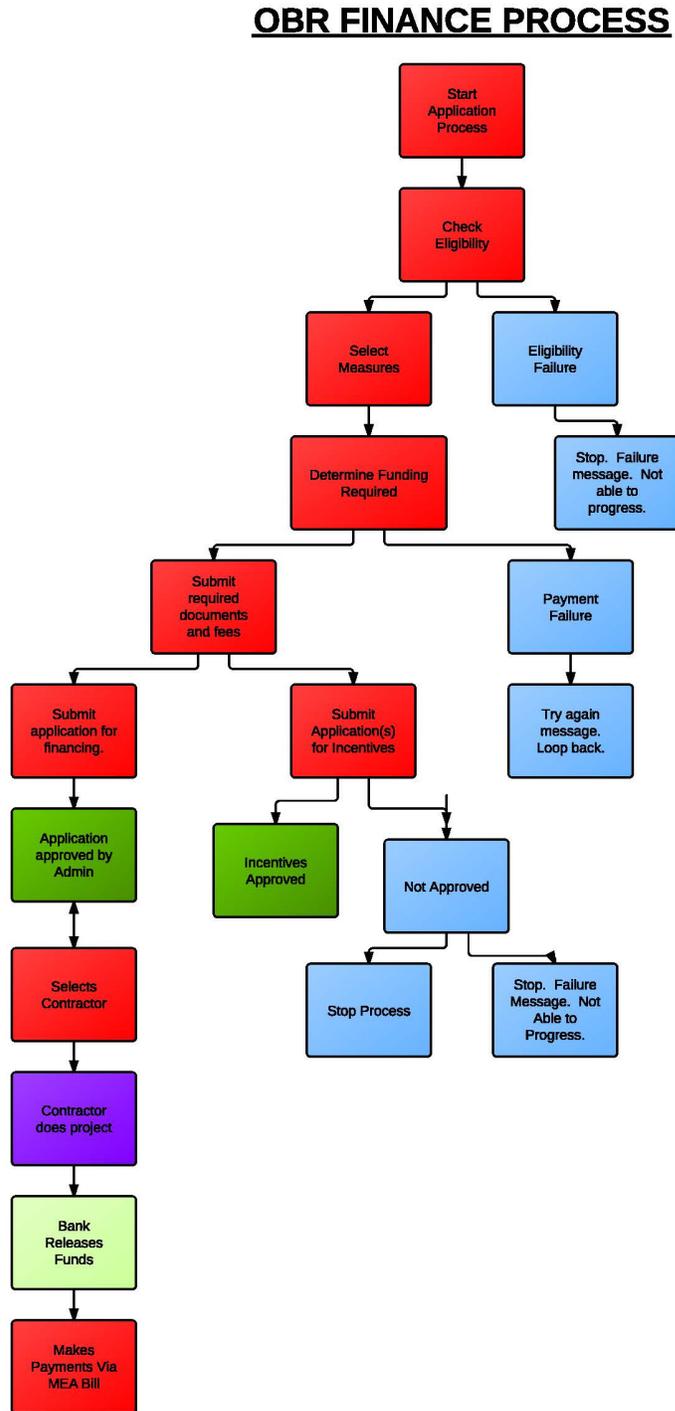
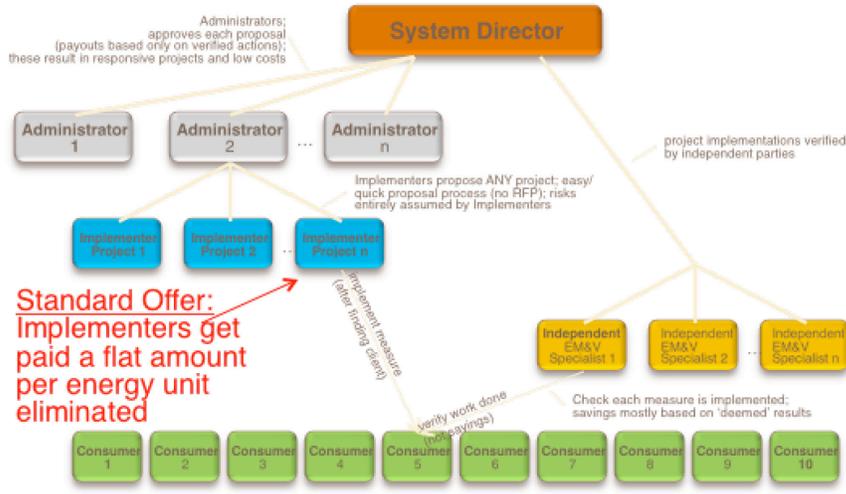


Figure 7.2: MEA Standard Offer

MEA Standard Offer



5 roles...

System Director (MEA)

Administrator

Implementer designed to be... any qualified party!

EM&Vers designed to be... specialist contractors

Consumer can be... ind'l, comm'l, resident'l

¹That is not filling some other role in the program

n) Cross-cutting Sub-Program and Non-IOU Partner Coordination

Table 12: Cross-cutting Sub-Program and Non-IOU Partner Coordination

Financing Sub-Program		
Other MEA Sub-Programs	Coordination Mechanism	Expected Frequency
Single-Family Sub-Program	Project referrals	Continuous coordination through weekly meetings
Multi-Family Sub-Program	Project referrals	Continuous coordination through weekly meetings
Small Commercial	Project referrals	Continuous coordination through weekly meetings
IOU Program Name	Coordination Mechanism	Expected Frequency
REN Financing Programs (LLR, PACE, etc.)	Meetings, communication, participating contractor and QA updates	Monthly
PG&E Smart Lights Program	Meetings, communication, participating contractor and QA updates	Monthly
Coordination Partners Outside CPUC	Coordination Mechanism	Expected Frequency

o) Logic Model

Scaling Energy Efficiency in the Heart of the Residential Market: Increasing Middle America’s Access to Capital for Energy Improvements, published by Lawrence Berkeley National Laboratories, April 4, 2012 (see Appendix B) outlines the need for financing to promote broader adoption of energy efficiency strategies.

The Role Of Local Governments And Community Organizations As Energy Efficiency Implementation Partners: Case Studies And A Review Of Trends, published by the American Council for an Energy Efficient Economy and the Energy Efficiency Strategy Project / Massachusetts Institute of Technology, February 2012 (see Appendix B) outlines the need for finance programs to avoid up-front costs, and also articulates why local government organizations, like MEA, are in a strong position to operate cost-effective programs due to their relationship with the community and with partner organizations.

Both the OBR and SO Programs address stated needs for finance options and innovative approaches that are cost effective. The SO program will use a price structure that is based on actual capacity costs in the California market, including pricing from the

California Independent Operator (CAISO). Basing pricing on the actual cost of capacity will ensure cost-effectiveness of the program. The design of the program will also prevent MEA from paying for additional or unanticipated costs; MEA will only pay for the demand reductions that are actually delivered to MEA.

11. Additional Sub-Program Information

a) Advancing Strategic Plan Goals and Objectives

The MEA Financial Sub-Program advances the following goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan:

Implementation of MEA's Energy Efficiency Program will produce cost-effective energy savings. The reduction in customer demand will benefit customers through long-term savings on energy bills. In addition, the program will contribute to the safe and reliable operation of the electric distribution grid by reducing peak demand. The focus on multi-family dwellings furthers the alignment with State goals described in Public Utilities Code section 399.4 and also aligns with the CPUC Strategic Plan. The collaboration with local community-based organizations and local programs conforms with State Public Utilities Code requirements as well as state and regional goals to add value to existing programs. MEA is structuring the Program to address the water-energy nexus, and to provide incentives and opportunities for small commercial and residential.

b) Integration

i. Integrated/coordinated Demand Side Management:

The OBR Program will promote customer education and training as described in section h, I and j above. The SO portion of the Finance Sub-Program incorporates the option for DSM in the simple design allowing for any form of capacity reduction. DSM options will be encouraged for SO in web-based information and other outreach information. Because this is a market-based program it is likely that some SO bids will include DSM to achieve the proposed reductions.

Table 13.1: Non-EE Sub-Program Information

Non-EE Sub-Program	Rationale and General Approach for Integrating Across Resource Types
California Solar Initiative	Refer eligible and interested projects
Automated Benchmarking Service	Track & Compare Energy Performance setup by TA

ii. Integration across resource types (energy, water, air quality, etc.):

Table 13.2: Non-EE Sub-Program Information

Non-EE Programs – across resource types	
Non-Energy Programs	Rationale and General Approach for Integrating Across Resource Types
Water utility rebates	Leverage water utility rebates for hot water and water conservation energy measures; refer to Marin water utilities for other eligible measures

c) Leveraging of Resources

The Financing Sub-Program will leverage the following programs:

- Energy Upgrade California Brand
- PG&E Whole House Incentive Program-Basic Contractor Credentials Quality Assurance Support, Marketing Channels
- Marin Energy Watch-Co-Marketing Channels
- Other local government energy and sustainability efforts and campaigns
- Other local government programs within relevant agencies and bureaus, such as building, permitting and inspection departments
- Marin Municipal Water District
- Saving Neighborhood Energy to Generate Neighborhood Wealth

d) Trials/ Pilots

The OBR Program will be launched initially as a pilot program in collaboration with the San Francisco Foundation and a non-profit organization, Saving Neighborhood Energy to Generate Neighborhood Wealth (SNEGNW). This pilot program will test OBR in up to three neighborhoods/regions in California targeted to home-owning families whose incomes are too high to qualify for grant funding, but too low to be interested in or qualify for other unsecured financing. The SNEGNW program is structured to catalyze consumer demand using neighborhood-based marketing and aggregation approaches, focusing on ordinary California working families, and integrating private community-based capital into the utility bill repayment mechanism.

SNEGNW would structure an OBR pilot with MEA and a private lender targeted to moderate/middle income homeowners in Marin and Richmond. The pilot is intended to test these financing innovations in the County of Marin and the City of Richmond while building scalable models for California and the nation.

e) Knowledge Transfer

MEA staff and partners will regularly share program outcomes, benchmarks and milestones, and also track challenges, lessons learned, and necessary adjustments for all technical, administrative, and marketing aspects of program implementation. These data sets will be organized and transmitted to local government partners operating similar programs (e.g. Marin County, City of Richmond, County of Sonoma); through regular meetings of local government forums (such as the Governor's Office of Planning and Research, the LGSEC, Local Government Commission, Urban Sustainability Directors Network, etc.); regional NGO and institutional partners (e.g.), and through program updates provided to Commission and program partners.

12. Market Transformation Information

The Finance Sub-Program will help transform the market by reducing or eliminating the key barrier to energy efficiency upgrades: customer upfront cost. In addition, the SO Program will bring a new concept to the California market that is used effectively in other states to create energy demand reductions through market competition.

a) Market Description

Market actors include:

- **Building Performance Contractors** - Deliver Whole House Energy Retrofits 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.
- **Residential Property Owners** - Owners of property desiring to reduce utilities and resulting costs, increased health and comfort, and/or greenhouse gas reductions.
- **Lenders** - private banks or financing entities to provide financing to building owners
- **PG&E** - Operated energy efficiency incentive programs, including Energy Upgrade California. Conduct contractor management, quality assurance, program administration for Energy Upgrade California.
- **MEA** - Implement energy efficiency programs in MEA territory. Support PG&E energy efficiency programs through professional and customer outreach, coordination amongst local actors, enforcement of code. Pilot energy efficiency programs. .
- **Workforce Training Organizations** - Marin Community colleges, Marin City Community Development Corporation (MCCDC) and RichmondBUILD (RB), Marin workforce investment boards, and other nonprofit programs that provide job training and placement services for new professionals.

- **Marketing & Outreach Partners** - Saving Neighborhood Energy to Generate Neighborhood Wealth (SNEGNW) , SF Foundation and other partners to design and drive utility demand reduction campaigns.
- **Non-Energy Efficiency and Conservation Programs** - County of Marin, MMWD, NMWD, 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.

b) Market Characterization and Assessment

Major market barriers associated with residential and non-residential energy efficiency retrofits are described above in section a. Sub-Program Description and Theory. The barriers of upfront retrofit costs, secure lending, increased debt aversion and access to customers is described more fully below. This market characterization and assessment is based on experiences provided by MEA partners and by *Recommendations for Energy Upgrade California in the Bay Area* report (see Appendix B).

c) Upfront Retrofit Costs

Large upfront costs have a stagnation effect on market movement for all residential and non-residential market segments. This is particularly an issue for building owners who have relatively little access to private or low-cost financing

d) Secure Lending

Lenders have expressed an interest in working with customers through an OBR program because such a program provides a security/assurance mechanism to the lender. Linking the repayment to the energy bill is an approach that promotes increased lender engagement. If selected, the threat of disconnecting utility service in the case of default can provide additional security for lenders, enabling more lender participation, lower interest rates, and thus a higher attraction rate to consumers.

e) Building Owner Aversion to Increased Debt Carried on Buildings

Building owners in most MEA market segments, and particularly in small commercial and multi-family segments, are averse to carrying additional debt. Having a finance program that converts debt into an operating expense will allow deep energy efficiency projects to become a realistic option for building owners.

f) Proposed Interventions

Proposed interventions have been described throughout this sub-program description. Along with the Financing Pilots Subprogram (MEA04), these proposed interventions are summarized in the table below:

Table 14: Market Transformation Barriers and Interventions

Barrier	Proposed Intervention
Upfront Retrofit Costs	Broad and targeted marketing campaigns
Secure Lending	OBR Attracts lenders and lower finance rates
Owner Debt Aversion	OBR removes debt from balance sheet
Program cost barriers	OBR and SO financing (MEA04)
Access to hard to reach customers	Standard Offer creates competition in underserved markets

g) Logic Model

Targeted marketing campaigns and the availability of integrated utility demand reduction tools combined with incentive programs that reduce audit costs and provide retrofit financing, will significantly increase actions through behavior and energy/water conservation retrofits. See logic model in section o. above for more information.

h) Market Transformation Indicators (MTIs) and Evaluation Plans

Resolution E-485 lists adopted Market Transformation Indicators for the 2010-2012 Energy Efficiency Portfolio. To ensure consistency with adopted Market Transformation Indicators and Program Evaluation strategies, MEA proposes the following Market Transformation Indicators:

- Program evaluation will be conducted in coordination with EM&V activities conducted on behalf of the Commission and PG&E.
- MEA will participate as possible in all data collection and interpretation activities, as directed by the Commission.
- MEA will report to Board and Partner organization on outcomes for all relevant Programs