

# Marin Clean Energy

## Multifamily Sector

### Program Implementation Plan



# CONTENTS

INTRODUCTION .....	1
MARKET CHARACTERIZATION .....	1
Energy Consumption.....	1
Building Data .....	2
Barriers .....	3
Triggers .....	4
Key Market Actors .....	4
Adoption and Penetration .....	4
BUDGET .....	5
MULTIFAMILY PROGRAM .....	6
Combined Measure Incentives .....	6
Light Touch Measure Incentives .....	6
In-Unit Direct Install Service .....	6
Unit Turnover Program.....	7
Retrocommissioning and Maintenance Education Programs.....	7
Zero Net Energy (ZNE) .....	7
Tenant Education Strategies.....	7
Financing.....	7
<i>Green Property Loans</i> .....	8
<i>Property Assessed Clean Energy (PACE)</i> .....	8
IMPLEMENTATION ELEMENTS.....	8
Marketing and Outreach.....	8
Key Partners .....	9
Health and Safety .....	12
Quality Assurance and Quality Control.....	12
MEASURING SUCCESS.....	13
Logic Model .....	13
Performance Metrics .....	14
Evaluation, Measurement and Verification (EM&V).....	14

## TABLE OF TABLES

Table 1. Budget Summary.....	5
Table 2. Cost Effectiveness Summary.....	6
Table 3. Terms of MCE’s Green Property Loan.....	8
Table 4. Key Partners.....	11

## TABLE OF FIGURES

Figure 1. Electricity Use in Multifamily Building by End Use. (2010 RASS).....	2
Figure 2. Residential Building Vintage by Service Territory.....	3
Figure 3. Logic Model.....	13

# ACRONYMS

The following acronyms are used throughout the document:

- AMI - Advanced Metering Infrastructure
- CAS - Combustion Appliance Safety
- CRM - Customer Relationship Management
- EM &V - Evaluation, Measurement and Verification
- ESAP - Energy Savings Assistance Program
- ESCO - Energy Services Company
- HUD - Housing & Urban Development
- HVAC - Heating, Ventilation and Air Conditioning
- PACE - Property Assessed Clean Energy
- SPOC - Single Point of Contact
- TCAC - Tax Credit Allowance Committee
- TRC - Total Resource Cost
- ZNE - Zero Net Energy

# Implementation Plan: Multifamily

## Introduction

Marin Clean Energy (MCE) has identified the multifamily residential sector as an important area for tailored and strategic energy efficiency program offerings. The opportunities for and barriers to adoption of energy efficiency measures in multifamily buildings are distinct enough from those of single family homes to warrant a separate program approach within the residential sector. Multifamily properties are affected by the split incentive barrier, as owners bear the burden of investment costs for equipment upgrades while tenants reap the benefits of saving on energy bills. Many upgrades are invasive and time intensive. Property owners are reluctant to undertake projects that will disrupt tenants, particularly in market rate buildings.

MCE's Multifamily Energy Efficiency Program employs several strategies designed to reduce participation barriers. MCE will offer a phased approach allowing owners to create long-term project plans, coordinating upgrade timing with key trigger points, such as at unit turnover. Along with the phased approach, MCE will also offer a Single Point of Contact (SPOC) to guide property owners through the process of participating and technical assistance to help them understand the energy and resource conservation options that are a good fit for their property. To help address barriers related to equipment cost and split incentives, MCE will offer rebates on measures, direct install of free in-unit measures and financing.

## Market Characterization

MCE has analyzed energy consumption, building data, barriers, triggers, key market actors, and current energy efficiency adoption to better understand the opportunities that exist within the multifamily sector.

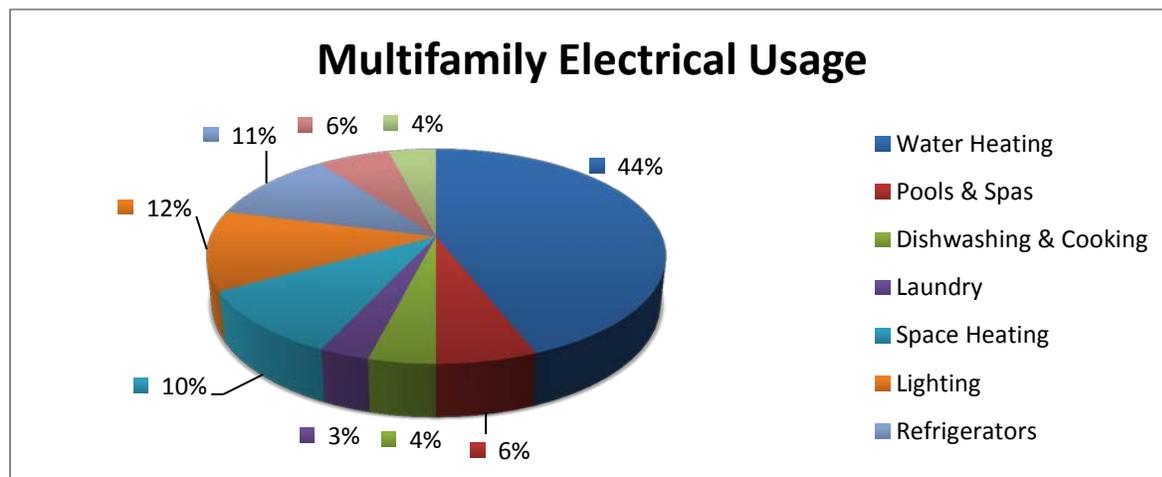
## Energy Consumption

The multifamily sector accounts for 11% of building energy use in California and approximately 24% of all residential energy use.<sup>1</sup> Water heating counts for the largest single end use of electricity in multifamily buildings at 44%, with lighting, space heating, and refrigeration making up another 33% of electrical use in the multifamily sector.

---

<sup>1</sup> Multifamily energy use is representative of all buildings with 2+ units. California Energy Commission, *Existing Buildings Energy Efficiency Action Plan (DRAFT)*, pg. 11. Available at [http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806\\_20150310T093903\\_California%E2%80%99s\\_Existing\\_Buildings\\_Energy\\_Efficiency\\_Action\\_Plan.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-05/TN203806_20150310T093903_California%E2%80%99s_Existing_Buildings_Energy_Efficiency_Action_Plan.pdf), posted March 10, 2015, accessed July 15, 2015.

Figure 1. Electricity Use in Multifamily Building by End Use. (2010 RASS)

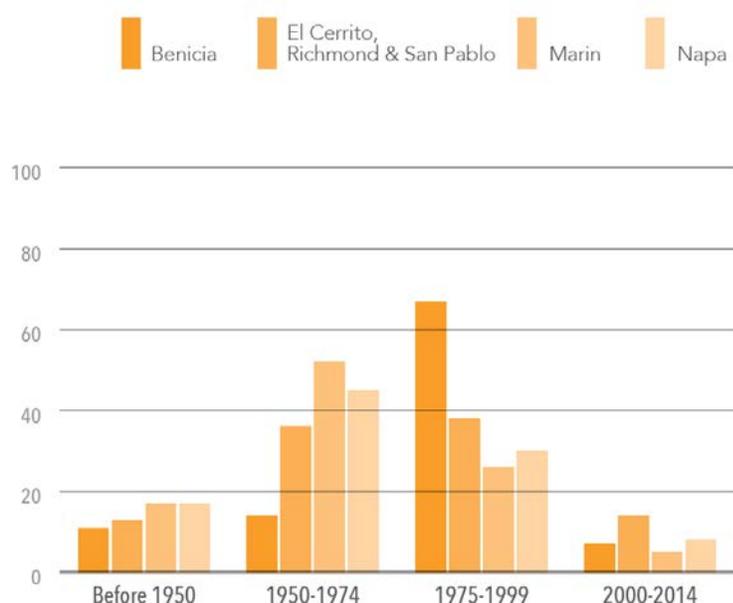


### Building Data

The vast majority of the residential building stock in MCE’s service area was built between 1950 and 2000, with approximately 50% of the buildings being built between 1950 and 1975. The exception is in Benicia where the majority of residential buildings were built between 1975 and 1999. Title 24 was established in 1978 by the California Energy Commission and set regulations regarding energy conservation standards for new residential and new non-residential buildings.<sup>2</sup> The pre-1978 building stock was not built with these set conservation standards. These older buildings present both an opportunity in that there is likely room for improvement but also a challenge as there will be costs associated with bringing those buildings up to code.

<sup>2</sup> California Energy commission. Conservation Division. *Regulations Establishing Energy Conservation Standards for New Residential and New Nonresidential Buildings*. July 26, 1978. Available at [http://www.energy.ca.gov/title24/standards\\_archive/1978\\_standards/CEC-400-1978-001.PDF](http://www.energy.ca.gov/title24/standards_archive/1978_standards/CEC-400-1978-001.PDF), accessed July 15, 2015.

Figure 2. Residential Building Vintage by Service Territory



MCE’s service area is primarily residential, with 85% of its customers on the residential rate schedule. MCE is unable to determine from billing data how many of these customers live in multifamily properties.

### Barriers

There are several barriers that may prevent the multifamily sector from fully taking advantage of energy efficiency opportunities. These barriers include:

- **Financial Constraints.** Energy efficient upgrades can be quite costly. Multifamily property owners face difficulty in taking out loans for energy efficiency upgrades, as the risk-adverse underwriting market and lack of existing valuation for energy efficiency upgrades often results in high interest rates.
- **Difficulty in Accessing Decision Makers.** The majority of large market rate properties are managed by property management companies. Within the structure of these companies, it can be difficult to communicate with property owners, who are often the primary decision makers when it comes to spending money on capital improvements.
- **Split Incentive Issue.** The vast majority of multifamily property residents rent the unit they occupy.<sup>3</sup> When renters are responsible for paying utility bills, building owners are disincentivized to invest in upgrades from which they won’t receive financial benefits.
- **Contractor Limitations.** Based on community feedback that MCE has received, there is a perception among some contractors that rebate programs are time and labor intensive. Therefore, some contractors give customers an out-of-pocket discount to avoid referring projects to existing rebate programs.
- **Negative Customer Experience.** Some past participants have given MCE negative feedback regarding the quality of past programs, leading to reluctance to participate in future programs.

MCE’s multifamily program is designed to address these barriers by reaching customers at trigger points and offering tailored solutions.

<sup>3</sup> Overlooked and untapped: Unlocking the Energy-Efficiency Potential in Multifamily Housing.” Benningfield Group. 2010.

## Triggers

Trigger points are moments of opportunity when the likelihood of engaging customers in an energy efficiency program is highest.

For example, there are particular times during the maturation of a multifamily building when it is most cost effective to make energy efficiency upgrades. MCE will tailor its offerings to capitalize on opportunities such as unit turnover, major rehabilitation and renovations, emergency equipment failure, and affordable housing financing cycles and annual budget requirements. Additionally, MCE will use upcoming or anticipated changes in codes, standards, and regulations as a trigger point to motivate multifamily customers to act on resource conservation.

MCE's objective is to utilize these trigger points to effectively engage customers in energy efficiency measures. To achieve this, MCE must identify and understand the entities that influence this sector.

## Key Market Actors

There are many entities that influence the multifamily sector. It is important that MCE understand the role that each entity plays and how this can affect efforts to promote energy efficiency:

- **Local Governments.** Local governments set local building and zoning laws, issue permits, and provide information to local residents and property owners. Local governments have a pre-existing relationship with their constituents and are attuned to the community's opportunities, needs, and challenges.
- **Property Owners, Home Owners Associations, and Management Companies.** Property owners are the primary decision makers and funders of expenditures on capital improvements, such as energy efficiency improvements. Property managers, facility managers, and property management companies are the "boots on the ground" for replacement and maintenance of capital equipment. These key players will be integral to the success of MCE's Multifamily Energy Efficiency Program. MCE must engage them in order to accomplish projects and will benefit from building lasting relationships.
- **Contractors/Builders/Designers/Architects/Engineers.** Contractors, builders, designers, and architects are key influencers of building owners and operators and are key to making referrals to energy efficiency programs. These key players often hold significant delegated authority regarding the energy efficiency and capital improvements to properties. MCE will provide targeted workforce opportunities to these players to create a shift in the building industry to better incorporate energy efficient decision making. They will also be integral to driving participants to the program.

MCE tracks key market actors in order to best understand policy opportunities and challenges, and the impact of these entities on a customer's energy efficiency decision-making.

## Adoption and Penetration

Before implementing multifamily program strategies, MCE evaluated current adoption and penetration of energy efficiency programs to identify opportunities and determine market gaps.

In the 2010-2012 program cycle, PG&E programs saved approximately 17 GWh and just under 2 MMTh in the multifamily sector.<sup>4</sup> MCE has not received data on how much of that occurred in MCE service territory. The vast majority of the electricity savings came from indoor lighting, with much smaller savings coming from HVAC, appliances, and water heating. On the gas side, water heating generated the greatest savings with HVAC and appliances contributing smaller savings figures.

In the 2013-2014 program cycle both MCE and BayREN introduced multifamily programs designed to motivate more comprehensive improvements in multifamily properties. Through mutual agreement between the two agencies, MCE was given the first choice to serve properties in MCE's service territory. BayREN's program has completed upgrades in over 8,000 units as of June 2015. The most commonly

---

<sup>4</sup> "California Energy Efficiency Statistics," accessed July 9, 2015, <http://eestats.cpuc.ca.gov/Views/EEDataPortal.aspx>

rebated end-uses under that program, in order of frequency, are water heating, building envelope, and lighting.

MCE's program provided technical assistance to more than 1,200 units and has completed upgrades in over 900 units. The program has achieved the greatest savings from domestic hot water measures and lighting.

In addition to the energy efficiency programs administered under Public Utilities Code section 381.1, there are also energy efficiency programs available to the low income sector. The Energy Savings Assistance Program (ESA) is administered in MCE's service territory by PG&E. The ESA program provides free installation of energy saving equipment and performs energy upgrades at no cost to program participants. To qualify for these services, household incomes must be at or under 200% of the federal poverty level.

In program years 2007-2012, PG&E provided ESA program services to 81,555 participants, or 21% of the eligible population<sup>5</sup>. Information for program year 2010-2012 shows that of 58,877 multifamily households served through the ESA program, the most commonly installed measures were lighting (89% of households received lighting), domestic hot water (84%), and building envelope and air sealing (82%).<sup>6</sup> Other measure categories included appliance replacement, primarily refrigerators (14%), cooling equipment (14%), and heating equipment (1%).<sup>7</sup> There is no information available as to what percentage of these installations occurred in MCE service territory.

Based on the market characterization analysis, MCE has developed, improved upon, or leveraged the multifamily program offerings and projected a budget for the first four years of the program.

## Budget

The proposed budget for the first four years of the multifamily program is as follows:

*Table 1. Budget Summary*

Budget Category	Year 1	Year 2	Year 3	Year 4
<b>Administrative</b>	\$ 91,823	\$ 180,465	\$ 207,123	\$ 207,123
<b>Marketing</b>	\$ 155,464	\$ 198,120	\$ 224,779	\$ 224,779
<b>Direct Implementation</b>	\$ 554,116	\$ 789,259	\$ 788,255	\$ 788,255
<b>Incentives</b>	\$ 179,211	\$ 662,999	\$ 747,702	\$ 982,219
<b>Evaluation, Measurement and Verification (EM&amp;V)</b>	\$ 36,789	\$ 72,246	\$ 82,909	\$ 82,909
<b>TOTAL</b>	<b>\$ 1,017,403</b>	<b>\$ 1,903,090</b>	<b>\$ 2,050,768</b>	<b>\$ 2,285,284</b>

<sup>5</sup> Energy Savings Assistance Program Multifamily Segment Study, Volume 1: Report. Cadmus, 2013. P.58.

<sup>6</sup> *Ibid*, p.62.

<sup>7</sup> *Ibid*.

The expected total resource cost (TRC) and estimated savings are detailed below:

Table 2. Cost Effectiveness Summary

Sector Summary	Year 1	Year 2	Year 3	Year 4
<b>Total Resource Cost (TRC)</b>	1.08		1.43	
<b>Budget</b>	\$1,017,403	\$1,903,090	\$2,050,768	\$2,285,284
<b>Estimated Savings</b>	210,714 kWh	631,653 kWh	918,695 kWh	1,144,949 kWh
	42,819 therms	127,774 kWh	201,192 therms	232,502 therms

## Multifamily Program

Based on the sector analysis, MCE will implement the following multifamily program offerings.

### Combined Measure Incentives

The combined measure incentive program provides free technical assistance to property participants, including an initial on-site assessment, help in soliciting bids for appropriate equipment, project management oversight, and post-project installation verification. Under this program, participants will need to complete at least two measures and incentives are offered on a per unit basis, with incentives increasing based on the depth of the project. Participation of at least 50% of the property's units in the direct install program (described below) counts towards the bundled measure incentive.

MCE requires a "good faith" deposit for all properties that participate in this program before moving forward with free technical assistance; the deposit will be reimbursed to the participant upon project completion. If upgrades will be completed over a longer period of time, MCE will support project phasing, however MCE will require monthly progress updates in order to continue to reserve rebates for a project with an extended completion schedule.

### Light Touch Measure Incentives

MCE will offer rebates on light touch measures to get properties engaged with our program. Examples of light touch measures would be small lighting projects, appliance replacements in 50% or less of units, window replacements, and pool pump replacements. These light-touch measures allow properties to complete smaller, cost effective energy savings upgrades with little to no tenant disruption. The primary objective of this offering will be to introduce more properties to MCE's programs without requiring a commitment to a more comprehensive project. The multifamily SPOC will work with light touch measure incentive recipients to identify good candidates for further upgrades through the combined measure incentive offering.

### In-Unit Direct Install Service

MCE will offer a no-cost direct install service in partnership with water districts to multifamily properties in its service area. Representatives of MCE will install LEDs and high performance faucet aerators in participating units. This service will be offered in two formats:

- As a stand-alone offering for tenants who would like to upgrade their energy and water saving equipment.
- As part of a larger combined measure project scope at the request of the property owner or manager. This offering will include conservation education for tenants.

The direct install service is a component of MCE's workforce development program. As described in detail in MCE's Workforce Program Implementation Plan, MCE will partner with local workforce development organizations to provide outreach and equipment installation trainings. In addition to installing equipment, direct install team members will educate tenants on energy and water conservation, the equipment being installed, and any larger upgrades being undertaken at the property.

### **Unit Turnover Program**

MCE has found that property owners and managers are more willing to invest in energy efficient upgrades in tenant units when the unit is vacant. Thus, MCE has begun piloting a process to help property managers schedule in-unit upgrades at the time of unit turnover. Normally, a property would have to do in-unit upgrades in at least 75% of units to be eligible for in-unit measure incentives under the combined measure rebate offering. However, MCE will work with property owners who commit to a phased schedule to pay out incentives incrementally as units are upgraded.

### **Retrocommissioning and Maintenance Education Programs**

In order to support ongoing energy savings beyond equipment replacement or retrofit, MCE will offer support for property managers to develop long-term energy management plans. These plans will achieve energy savings and help ensure persistence of previously realized savings through quality management techniques. Strategies employed under this offering could include incentives for retrocommissioning and operations and maintenance training for building staff.

### **Zero Net Energy (ZNE)**

The California Public Utilities Commission and the California Energy Commission have reinforced a commitment to increased development of ZNE buildings in California. For the purposes of this program offering, MCE defines a ZNE building as one that annually produces at least as much energy on site as it consumes. To achieve statewide carbon mitigation goals, ZNE buildings will be crucial, and deep retrofits for existing buildings will be necessary, while significant design and technical assistance will be required for new construction.

MCE will offer additional incentives and technical assistance to multifamily properties that are interested in reducing their energy consumption to the point that they could reasonably offset their full load with on-site generation.

Outreach and education about the value of ZNE to generate interest within the multifamily sector and to ensure that there is a robust trained network of professionals will also be a significant component of this offering. MCE will work with ZNE and passive house advocates and local governments to advocate for codes and standards that will facilitate successful development of ZNE projects.

### **Tenant Education Strategies**

MCE will develop an online platform specifically for tenants within its residential web tool. The platform will provide how-to and DIY resources aimed specifically at renters and resources to provide property management or owners with information on MCE's rebate program offerings to support property wide upgrades.

For all web tool users (owner or renter) MCE plans to integrate advanced metering infrastructure (AMI) data to provide detailed information to tenants on when energy is being used in their home. MCE will explore opportunities to integrate the web tool with home automation devices and programmable thermostats, enabling tenants to participate in emerging residential side demand response programs. The SPOC will facilitate access to these programs where appropriate on behalf of interested tenants.

### **Financing**

MCE will help customers navigate the landscape of financing offerings available and encourage them to participate to the extent that it facilitates energy efficiency upgrades. Financing structures that are tied to the building, and not the participant, can possibly stimulate investment where the split incentive would otherwise present a barrier. Specific financing strategies are described below.

### Green Property Loans

This provides eligible customers with a low interest loan they can repay on their monthly utility bill. MCE proposes to continue offering this product. The loan terms and conditions are detailed below.

Table 3. Terms of MCE's Green Property Loan

Interest Rate	5% APR
Loan Terms	5-10 years
Security	UCC-1 Fixture Filing
Eligible Projects	Multifamily properties participating in an MCE rebate program

### Property Assessed Clean Energy (PACE)

PACE is a tool where property owners can voluntarily opt into a tax assessment, which is then tied to the property. Advantages of PACE include transferability with the property, helping to mitigate concerns over payback period and average tenancy in a building, and the fact that it is paid on property taxes. PACE financing also enables investment in renewable energy and water savings improvements, and in some cases can be a source of financing for new construction projects.<sup>8</sup>

Currently MCE is working with the County of Marin to establish an Open Market PACE model where any provider who can agree to a minimum set of best practices would be eligible to operate in Marin. MCE will seek to work with other parts of its service territory to expand this approach to PACE. MCE maintains a financing marketplace web portal where information about all available financing products is presented to the customer. Additionally, SPOCs will refer customers to PACE providers.

## Implementation Elements

Across the multifamily program offerings, MCE will utilize these implementation strategies to help customers achieve energy reductions.

### Marketing and Outreach

MCE will undertake the following activities to market the program and promote awareness of energy efficiency and resource conservation in its service territory:

- **Single Point of Contact (SPOC).** The SPOC will manage relationships with customers in the multifamily program. MCE's Customer Relationship Management (CRM) software organizes data for lead generation and follow-up. The SPOC will use this data to engage existing participants in additional energy efficiency opportunities, converting leads into active and completed projects.
- **Targeted Outreach.** MCE will use energy usage data to conduct outreach campaigns at properties with high energy consumption. These campaigns will be aligned with trigger points. MCE will also use property specific data, such as assessor records and AMI data, to develop pre-assessment opportunity reports to present to decision makers. This information will be a powerful tool for the SPOC to use in communicating with customers about opportunities and benefits of the program.
- **Messaging.** MCE will produce data-driven, segment-specific marketing materials to distribute at events, on MCE's website, and via partner channels. MCE's energy efficiency message will also be distributed via print ads, television, and radio channels. There will be a broad social media effort. MCE will develop its own YouTube channel, combining original content with Energy Upgrade

<sup>8</sup> Some PACE providers utilize SB 555 (2012) as the enabling legislation; this follows the Mello-Roos style assessment (rather than the Streets and Highways Code assessment enabled under AB 811 [2008]), which can be used for new construction.

California resources and other online videos on energy efficiency and renewable energy. This enables the community to begin associating MCE as a resource for energy efficiency information.

- **Recognition Campaigns.** MCE will host award ceremonies conducted by an emcee or local luminary to recognize customers with the greatest energy savings and contractors who provide the most customer leads or complete the greatest number of projects. These local energy efficiency leaders will be given free publicity on the MCE website and may be featured in MCE's Energy Efficiency Demonstration Room. MCE will also work to develop labeling campaigns for customers who have completed projects, such as signage, window stickers, and other public recognition.
- **Referral Bonuses.** Technical assistance providers, contractors, and property management professionals are encouraged and incentivized to refer participants to the program. Referrals that result in a completed project will receive a bonus.

### Key Partners

MCE will partner closely with other organizations promoting resource conservation, including water districts, climate coalitions, renewable and distributed generation companies and installers, and electric vehicle companies. MCE will communicate regularly with these entities to ensure that they are armed with the latest program information. MCE will facilitate program participants' applications for rebates with these partner agencies and to the extent possible integrate those applications with the MCE application to streamline the participation process.

MCE will adjust its partnership strategy throughout the program cycle based on key performance indicators, and customer needs and drivers. MCE constantly seeks new partnership opportunities to help achieve its end goal of deeper energy and greenhouse gas savings.

Some of the key partners include:

- **Building Industry Partners.** MCE will work with builders and contractors to generate referrals. MCE will reach out to building industry partners through local organizations, such as the Marin Builders Association, and through direct outreach. MCE will partner with local building permit officials to identify the contractors pulling the most permits in the region, and will conduct targeted outreach to these contractor groups.
- **Technical Assistance Providers/Raters/Inspectors.** MCE will conduct outreach and educate technical assistance providers, raters, and inspectors for referrals. MCE will work with professional organizations such as the Building Performance Institute to identify trained professionals in its service territory, and will use this information to reach out to professionals and ensure they are aware of the MCE program offerings. MCE will also use these channels to communicate the availability of specific incentives such as the referral bonus.
- **Lending Institutions.** MCE will partner with local lending institutions to offer loans for upgrades with on-bill repayment.
- **Energy Services Company (ESCO)/Tax Credit Allowance Committee (TCAC)/Housing & Urban Development (HUD).** MCE will work with ESCOs, TCAC providers, and HUD to ensure affordable housing developers are aware of MCE's multifamily program offerings.
- **Local Governments.** MCE will work with local governments to advocate for codes and standards that support the inclusion and ease of implementation for Zero Net Energy measures and equipment.
- **Manufacturers.** MCE will partner with manufacturers to provide demonstrations and trainings on the use of new equipment and technologies.
- **Community Based Organizations.** MCE will partner with community programs offering services and support around health and safety issues to conduct education and outreach.
- **Real Estate Agents/Moving Companies.** Real estate professionals and moving companies have access to multifamily property decision makers and tenants at key trigger points. Working with these entities will enable access to properties at the right time to influence upgrades.
- **Building Supply Stores.** MCE will work with equipment supply stores to create awareness around available rebates. Opportunities here include labeling eligible equipment on the store shelves and working with stores to host outreach materials at checkout counters. Many stores also have

established relationships with the contractor community through special programs; MCE will work with local stores to identify these relationships and gain access to these communication channels where possible.

The table below maps strategies to key partners. It is not intended to be fully comprehensive, but rather, a visual representation.

Table 4. Key Partners

Multifamily Strategies										
Key Partners		Combined Measure Incentives	Light Touch Measure Incentives	In-unit Direct Install Service	Unit Turnover	RCx and Maintenance Edu	ZNE	Tenant Edu	Financing	Marketing + Outreach
	Building Industry Allies	X	X		X	X	X		X	X
	Technical Assistance Partners	X	X	X	X	X	X	X	X	X
	Lending Institutions								X	X
	ESCO/ TCAC/ HUD	X	X	X		X		X	X	
	Local Governments						X	X	X	X
	Community Organizations			X		X	X	X	X	X
	Real Estate Organizations				X		X			X
	Building Supply Stores							X		X

## Health and Safety

MCE will ensure proper Combustion Appliance Safety (CAS) testing has been completed when gas appliances are being replaced and/or when there have been significant impacts to the building's pressure dynamics, in accordance with California Multifamily Home Energy Retrofit Coordinating Committee<sup>9</sup> protocol. MCE will also train auditors and technical assistance providers in testing for natural gas leaks while on site.

MCE will provide tenants with resources to identify and understand the threats of health and safety issues. The online platform will also provide access to available services and information for tenants to share with their landlords. MCE's online platform will also educate tenants on how energy efficiency upgrades can help address health and safety issues in their units.

## Quality Assurance and Quality Control

- **Single Point of Contact (SPOC) as QA.** The level of engagement and customer service provided by the SPOC creates an inherent level of quality assurance, by preventing and/or addressing any issues that arise and instituting continuous improvement practices in real time. The SPOC will also seek post project feedback in the form of a survey.
- **Pre-Installation Existing Conditions Verification.** MCE will conduct pre-project assessments on 100% of projects referred by contractors until they have completed 10 projects with no issues. At this point contractors will be able to submit photos and other documentation, including name plate efficiency, existing wattage, etc. that sets a baseline for measures. MCE will then conduct for pre-project verification on 15% of projects submitted by a contractor. If a contractor is noted to have provided false information, they will again be subject to 100% on-site verification until they provide 10 projects with no errors.
- **Certified/Licensed Contractors/Raters.** MCE will work with contractors who are certified to conduct ASHRAE level I & II audits, contractors who are properly licensed and bonded for the scope of work, and BPI Building Analysts or HERS Multifamily Raters. In some instances MCE may require contractors and/or raters to submit documentation showing they meet the minimum qualifications.
- **Post-Project Site Verification.** MCE's technical implementer will conduct post-project site verification to ensure proper equipment installation on 100% of the projects, unless the project is currently participating in a program with equivalent rigor on on-site inspection / verification (for example, projects participating in the Tax Credit Allocation Committee process). Installation contractors will be required to sign and agree to the program's minimum installation and performance requirements for that measure before the project is accepted in the program queue. This will serve as the basis for the post-construction site verification.
- **Monitoring Savings.** MCE will use software tools such as Portfolio Manager to monitor actual program savings against expected project savings to monitor real time energy impacts. This will provide MCE with valuable information about realization and persistence of energy savings as well as identify opportunities for ongoing operations and management training.

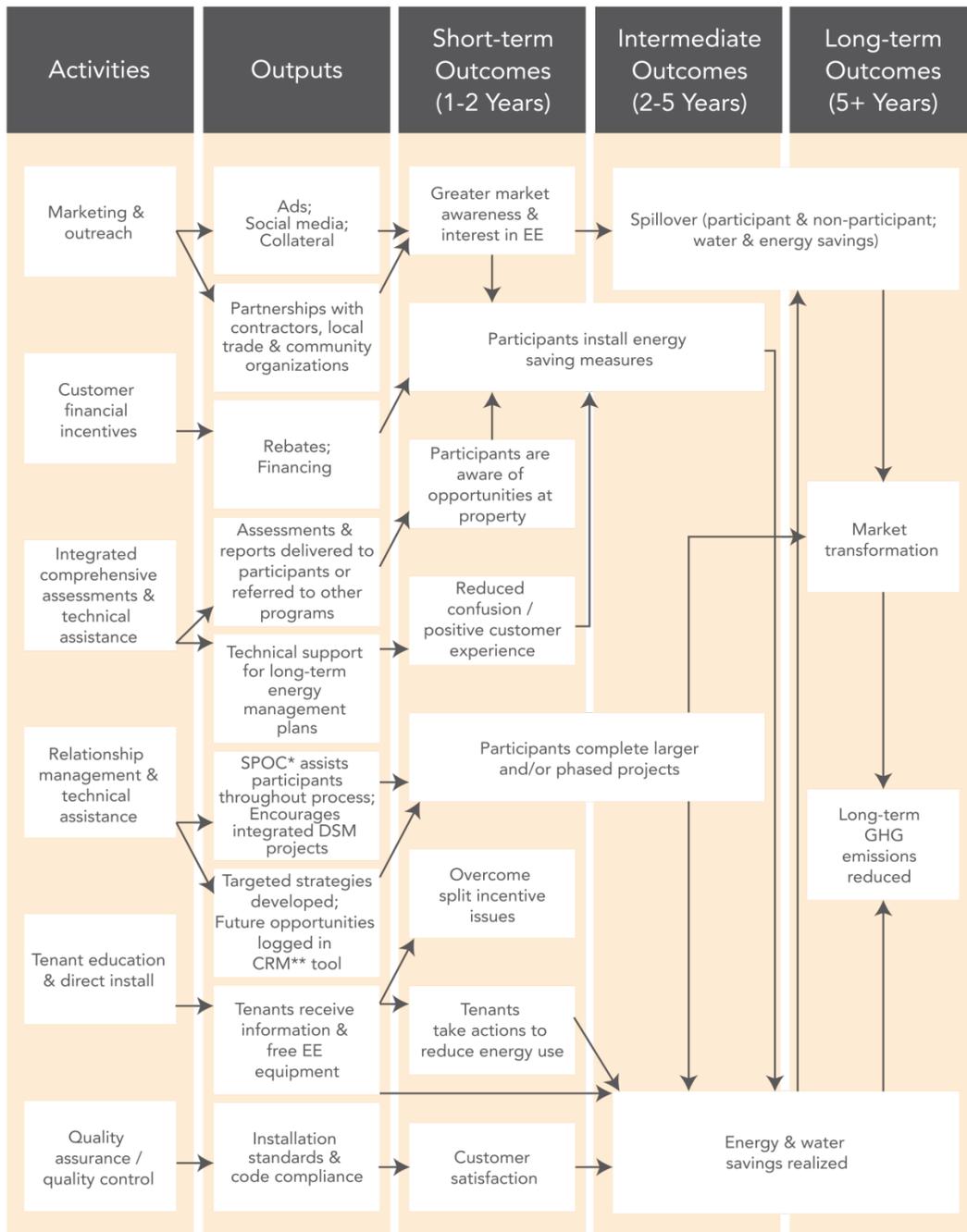
---

<sup>9</sup> Multifamily Subcommittee of the California Home Energy Retrofit Coordinating Committee. *MF HERCC Recommendations Report 2015 Update*. January 25, 2015

# Measuring Success

## Logic Model

Figure 3. Logic Model



\* SPOC = single-point-of-contact

\*\* CRM = customer relationship management

### Performance Metrics

MCE will use data from the 2013-2015 program to develop a baseline for performance metrics where applicable.

1. Number of comprehensive energy assessment reports delivered
2. Number of units/buildings receiving energy
3. Number of water savings measures installed
4. Number of ZNE projects
5. Number of loans provided
6. Number of contractor referrals
7. Number of contractor or property manager trainings
8. Number of tenants provided with educational information

### Evaluation, Measurement and Verification (EM&V)

MCE will undertake a process evaluation at the end of year two of the Unit Turnover Strategy. The evaluation will explore the extent to which the phased approach helps property owners commit to larger projects and the expected rate of turnover in participating properties. Based on the findings the evaluation will offer recommendations about program continuation and recommendations for improvement.

Additionally, MCE will also conduct a cross-program process evaluation of the SPOC offering to determine to what degree it helps alleviate customer confusion and encourages repeat participation through project phasing.