

# MARIN CLEAN ENERGY

ENERGY EFFICIENCY BUSINESS PLAN  
2016





MCE's 2016 Energy Efficiency Business Plan was created by MCE in partnership with Potrero Group.

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# ACRONYMS

AMI — Advanced Metering Infrastructure

BayREN — Bay Area Regional Energy Network

BBEES — Big Bold Energy Efficiency Strategies

BPI — Building Performance Institute

CAS — Combustion Appliance Safety

CCA — Community Choice Aggregation

CEC — California Energy Commission's

CEUS — California Commercial End—Use Survey

CPUC — California Public Utilities Commission

CRM — Customer Relationship Management

CSI — California Solar Initiative

DG — Distributed Generation

DR — Demand Response

EE — Energy efficiency

EM&V — Evaluation, Measurement and Verification

EMIS — Energy Management Information Systems

ESAP — Energy Savings Assistance Program

ESCO — Energy Services Company

EUC — Energy Update California

EVs — Electric Vehicles

GHG — Greenhouse Gas

HOA — Home Owners Associations

HUD — Housing & Urban Development

HUR — Home Utility Report

HVAC — Heating, Ventilation and Air Conditioning

IDSM — Integrated Demand Side Management

IOU — Investor Owned Utilities

IPCC — Intergovernmental Panel on Climate Change

LED — Light—Emitting Diode

M&V — Measurement and Verification

MW — Megawatt

O&M — Operations & Maintenance

PA — Program Administrator

PACE — Property Assessed Clean Energy

POUs — Publicly Owned Utilities

QA — Quality Assurance

QC — Quality Control

RASS — Residential Appliance Saturation Survey

RENs — Regional Energy Networks

S—CEI — Strategic and Continuous Energy Improvement

SMB — Small to Midsize Business

SPOC — Single Point of Contact

TCAC — Tax Credit Allowance Committee

TRC — Total Resource Cost

USDA — United States Department of Agriculture

WIB — Workforce Investment Board

ZNE — Zero Net Energy

# INTRODUCTION

## A Competitive Opportunity for Energy Efficiency

The effects of our warming climate are here. They are currently being experienced in California and across the globe in the form of drought, flooding, severe weather, and sea level rise. We are now at a critical juncture with regard to stemming further climate change and its negative impacts. The Intergovernmental Panel on Climate Change (IPCC) has indicated that to avoid catastrophic warming, greenhouse gas (GHG) emissions have to be reduced by 80% from 1990 levels. California Governor Jerry Brown created an executive order to reduce the state's GHG emissions to 40% below 1990 levels by 2030. This should help put the state on target to achieve GHG emissions 80% below 1990 levels by 2050, a necessary action if we are to live sustainably on the planet.

Energy efficiency is California's preferred energy resource. It is an important approach to reducing GHG emissions and a necessary strategy to employ for meeting climate change targets. All scenarios of climate change mitigation rely heavily upon capturing the significant cost effective potential in energy

efficiency and strive toward zero net energy (ZNE) usage and a dramatic drop in GHG emissions.

Capturing the level of energy efficiency dictated by the AB 32 Scoping Plan, the Existing Building Energy Efficiency Action Plan, and the Governor's recent targets for energy efficiency will require

that we move beyond a "rebate per widget" mentality in energy efficiency program delivery. Reaching our climate change goals requires a bold new focus on energy efficiency and a notable reworking of the way energy efficiency programs are delivered in California. The old, top-down, investor-owned utilities (IOU) programs must be augmented and/or replaced by more nimble, localized approaches.

*"Reaching our climate change goals requires a bold new focus on energy efficiency and a notable reworking of the way energy efficiency programs are delivered in California."*

Effective reversal of climate change will also require significantly greater participation in demand-reduction programs by each market sector involved in energy efficiency programs. Program administrators need to move toward a future in which energy efficiency is the status quo and subsidies are no longer necessary to drive market participation in energy efficiency programs. In short, they must develop and articulate a vision for achieving

transformation in how California residents see and use energy on a daily basis.

Fortunately, there are more opportunities than ever for customers in every rate class to participate in energy reduction and efficiency. For example, powerful energy efficiency products and technologies now exist to give customers the ability to monitor and control their own energy use. Distributed generation from homes and businesses is helping to close supply gaps in renewables. Electric vehicles offer a no or low-carbon form of transportation that can also assist with renewable energy integration. Innovations such as these represent huge potential to drastically reduce energy demand and ratepayer utility costs as well as to increase the comfort, health, and sustainability of our communities and significantly stem the adverse effects of climbing GHG emissions.

These important emerging opportunities, however, can only be achieved through direct customer engagement and participation. Therefore, an organization's effectiveness with regard to energy efficiency is strongly dependent on an exceptional level of customer service. Those organizations that can react the fastest to ratepayer needs, be nimble in overcoming barriers, and work on the ground with place-based institutions to achieve deep market penetration are best poised to deliver energy efficiency programs with high participation and impact.

California's push toward ZNE and less carbon dependence is spurring massive change across the energy sector and leading to the development of energy producing organizations that are focused on this type of customer engagement and participation. New actors are entering the regulated markets of energy generation, distribution, and efficiency, bringing changes that challenge the notion that these activities must be carried out exclusively by utility providers. Where IOUs once held a regional

monopoly on energy generation, now renewable and distributed energy resources are changing the landscape. Changes are taking place on the procurement side, with local energy collectives and aggregators now purchasing energy from varied sources on behalf of their communities, breaking the regional monopsony of the few utilities that traditionally purchased and delivered power.

The changing landscape within the energy sector has given rise to the Community Choice Aggregation (CCA) energy supply model. This approach allows local governments to aggregate their buying power in order to secure alternative energy supply contracts on behalf of their constituents. CCAs are taking hold in a handful of states across the U.S. In fact, as of 2014, CCAs were serving nearly 5% of all Americans in over 1300 municipalities,<sup>1</sup> and this trend is rising.

Marin Clean Energy (MCE) was California's first operating CCA and is a mission-driven, not-for-profit electricity provider that is governed by local elected officials. Its mission and sole motivation is to address climate change by reducing energy-related GHG emissions through the use of renewable energy and energy efficiency. While the focus of this document is on energy efficiency, MCE's outlook is much larger than energy efficiency. Integrating energy and water efficiency, renewable energy, distributed generation, and energy delivery, MCE moves toward solutions that achieve maximum GHG reductions. MCE's goal is to drive market transformation by engaging more people than ever in energy reduction. Part of MCE's success derives from its community-based structure and strong local partnerships to achieve deep market penetration. With a focus on engaging customers in energy reduction initiatives, MCE aims to transform the energy market by decreasing the need for incentives and reducing reliance on subsidies.

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1 <http://www.leanenergyus.org/cc-by-state/>

MCE puts a high priority on delivering exceptional service and personalized value to its customers (who are also MCE's shareholders). MCE utilizes its local knowledge to effectively develop innovative programs that are well tailored to specific regions and result in high levels of customer participation (e.g., point-based incentives and project phasing in the multifamily sector). This approach has created points of entry for projects that were not well served under current statewide programs, while at the same time creating new models that can be implemented in other communities. MCE's customer-driven, tailored approach puts the organization in a strong position to achieve the levels of customer engagement and participation necessary for realizing the emerging energy efficiency opportunities that now exist.

MCE's uniquely customer-focused program ushers in a new approach to energy efficiency program planning that gives the organization a significant advantage in achieving deep market penetration. MCE's business plan outlines the key aspects of this focus on customer experience and the emphasis on localized solutions, along with a long-term vision

and strategies around market acceptance and penetration. The underlying foundation of MCE's program design is based on customers' needs; its strategic position as a leader in customer service forms the basis for its business approach to energy efficiency.

The pages that follow contain a further exploration of how MCE will leverage its strengths to expand the base of participating customers in its energy efficiency program. It is structured as a business plan, as we believe that MCE needs to make a business case for increased investment in energy conservation and GHG reduction. The organization will build on its success and reengage existing energy efficiency customers toward continuous improvement. MCE will closely track market transformation indicators and adjust incentives to increase cost effectiveness over time. As a local organization invested in creating mutual benefit with regional partners, MCE will also provide workforce development and other opportunities that generate additional community benefits. ■

# BACKGROUND

The mission statement of Marin Clean Energy (MCE) is to address climate change by:

- » Reducing energy related greenhouse gas emissions
- » Securing energy supply, price stability, and energy efficiency
- » Providing local economic and workforce benefits

MCE promotes the development and use of a wide range of renewable energy sources and energy efficiency programs, including, but not limited to, solar and wind energy production. MCE provides these utilities at competitive rates for all customers.

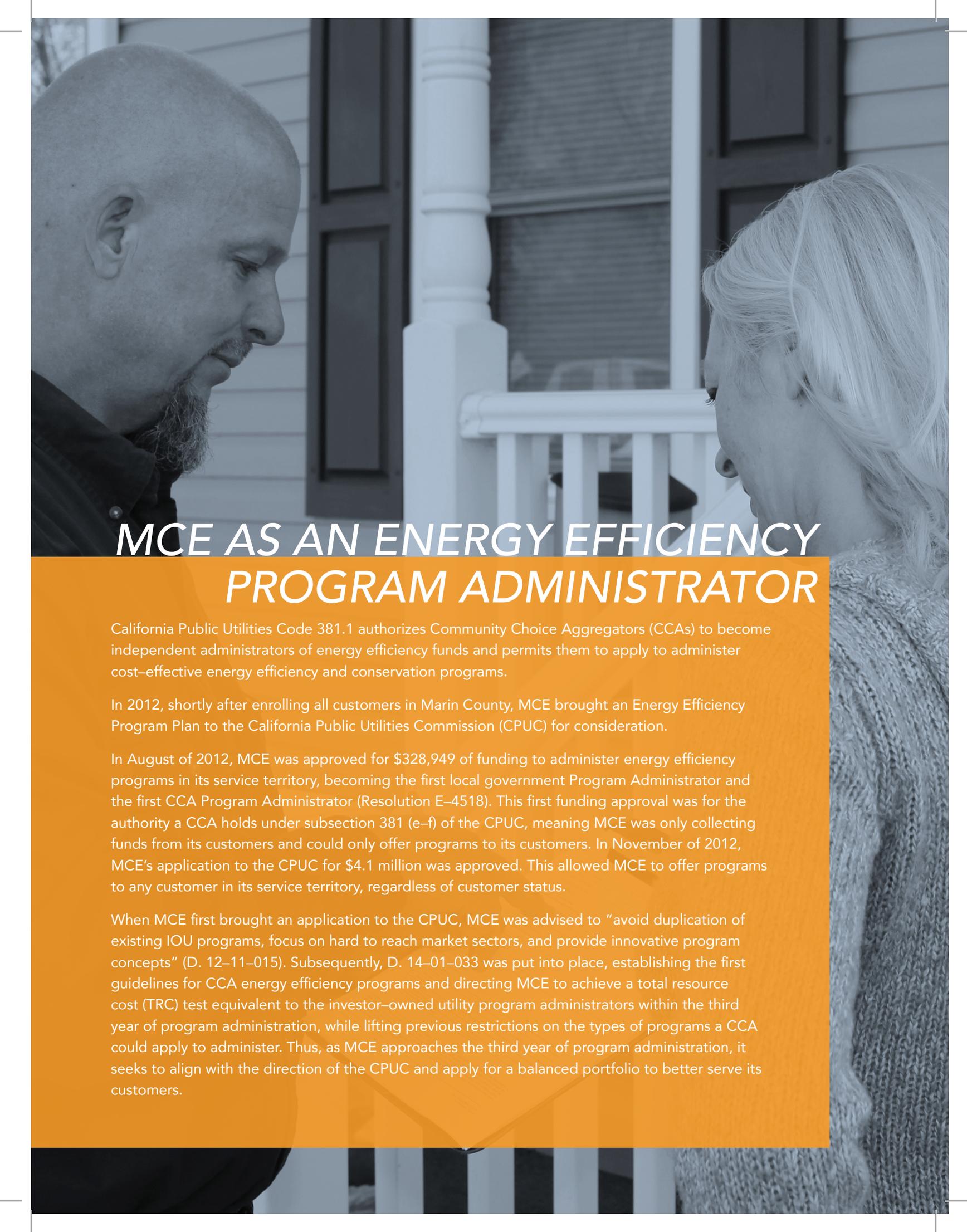
MCE has proven its business model, saving customers millions of dollars while also reducing GHG emissions and promoting local renewable generation and energy efficiency. MCE is also rapidly expanding its territory. MCE launched in Marin County in 2010 with about 9,000 customers. Today, MCE serves approximately 170,000 customers, and 2015 enrollment is expected to climb. MCE now includes the City of Richmond and is in its first year of providing service in unincorporated Napa County, as well as the communities of El Cerrito, Benicia, and San Pablo. Given the public's increasing interest in local control, utility bill savings, and GHG reduction, MCE expects interest from area municipalities to grow dramatically in the coming months and years.

MCE has administered ratepayer funded energy efficiency programs under the auspices of the California Public Utilities Commission (CPUC) since 2012, alongside PG&E (an IOU) and the Bay Area Regional Energy Network (BayREN, a local government Program Administrator (PA)). As a relatively new energy efficiency PA, MCE is not bound to legacy programs or business-as-usual planning traps. MCE is committed to testing innovative solutions and enacting continuous, measured improvements as the organization's reach grows.

## Changes to MCE's Energy Efficiency Directives

In the 2013–2014 Energy Efficiency Portfolio ruling, CPUC limited the roles of Regional Energy Networks (RENs) and CCAs to specific market segments. The CPUC asked that these organizations:

- » Target hard to reach market sectors (such as multifamily and small commercial customers)
- » Target gaps in current IOU statewide energy efficiency programs
- » Pursue innovative programs, technologies, and approaches



## MCE AS AN ENERGY EFFICIENCY PROGRAM ADMINISTRATOR

California Public Utilities Code 381.1 authorizes Community Choice Aggregators (CCAs) to become independent administrators of energy efficiency funds and permits them to apply to administer cost-effective energy efficiency and conservation programs.

In 2012, shortly after enrolling all customers in Marin County, MCE brought an Energy Efficiency Program Plan to the California Public Utilities Commission (CPUC) for consideration.

In August of 2012, MCE was approved for \$328,949 of funding to administer energy efficiency programs in its service territory, becoming the first local government Program Administrator and the first CCA Program Administrator (Resolution E-4518). This first funding approval was for the authority a CCA holds under subsection 381 (e-f) of the CPUC, meaning MCE was only collecting funds from its customers and could only offer programs to its customers. In November of 2012, MCE's application to the CPUC for \$4.1 million was approved. This allowed MCE to offer programs to any customer in its service territory, regardless of customer status.

When MCE first brought an application to the CPUC, MCE was advised to "avoid duplication of existing IOU programs, focus on hard to reach market sectors, and provide innovative program concepts" (D. 12-11-015). Subsequently, D. 14-01-033 was put into place, establishing the first guidelines for CCA energy efficiency programs and directing MCE to achieve a total resource cost (TRC) test equivalent to the investor-owned utility program administrators within the third year of program administration, while lifting previous restrictions on the types of programs a CCA could apply to administer. Thus, as MCE approaches the third year of program administration, it seeks to align with the direction of the CPUC and apply for a balanced portfolio to better serve its customers.

The CPUC initially chose a regional approach to cost effectiveness, rolling the budgets and savings of the CCAs into a larger IOU service territory-wide equation. During the 2013–2014 program cycle, the CPUC developed first-time regulations on CCA-administered energy efficiency programs. Decision 14–01–033 released CCAs from the previous program limitations and required them to achieve the same cost effectiveness as IOUs by the third year of their programs. The total resource cost (TRC) test measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utilities' costs, divided by the total benefits of the program, including energy cost savings.

The CPUC's new directive asks MCE to achieve a TRC of at least 1.25 and provides MCE with a good opportunity to revise its portfolio. Focusing on IOU program gaps in hard to reach markets while striving to attain the 1.25 TRC required of IOUs proves to be challenging. MCE is forecasting a more balanced portfolio that will allow it to attain the 1.25 TRC benchmark in the coming decade. MCE will shift its focus from being a niche provider to positioning itself as the primary provider of energy efficiency to the ratepayers in its territory. It will offer broader programs and rebates, including those it avoided in the past because of program overlap with other providers.

*“Because of its local connectivity, MCE can focus on the local needs and engagement of communities without the cumbersome responsibility of needing to manage a complicated and aging energy and distribution system.”*

## Opportunities in California's New Program Cycle

Beginning in 2015, the CPUC began moving from a 2–3 year approval cycle to a 10-year rolling cycle. 2015 is considered “Year 0” of the first 10-year rolling cycle. Portfolios approved in 2013–2014 are approved through 2025, with additional considerations for new Proposition 39-related school funding for the 2015 portfolio year. During this transition, the CPUC is encouraging PAs to consider the implications of a 10-year cycle on their program

planning and how the program administration process may be improved.

The switch to a 10-year rolling cycle presents yet another opportunity for MCE to look strategically at its efforts to date and to enact a bold vision for energy efficiency over the coming decade. The rolling cycle provides an opportunity to consider how cost effectiveness can be achieved within a long-term vision. For example, programs designed to promote market transformation over a 10-year period may begin

with low participation and high incentives, with these two reversing as the program matures. Programs that must focus on low-hanging fruit to achieve cost effectiveness will not easily bring customers from modest energy savings toward ZNE. Flexibility in cost effectiveness over a longer program cycle could help PAs invest in innovations that may not be cost effective in early years, but where reduced incentives in the later years of the program may balance initial costs.

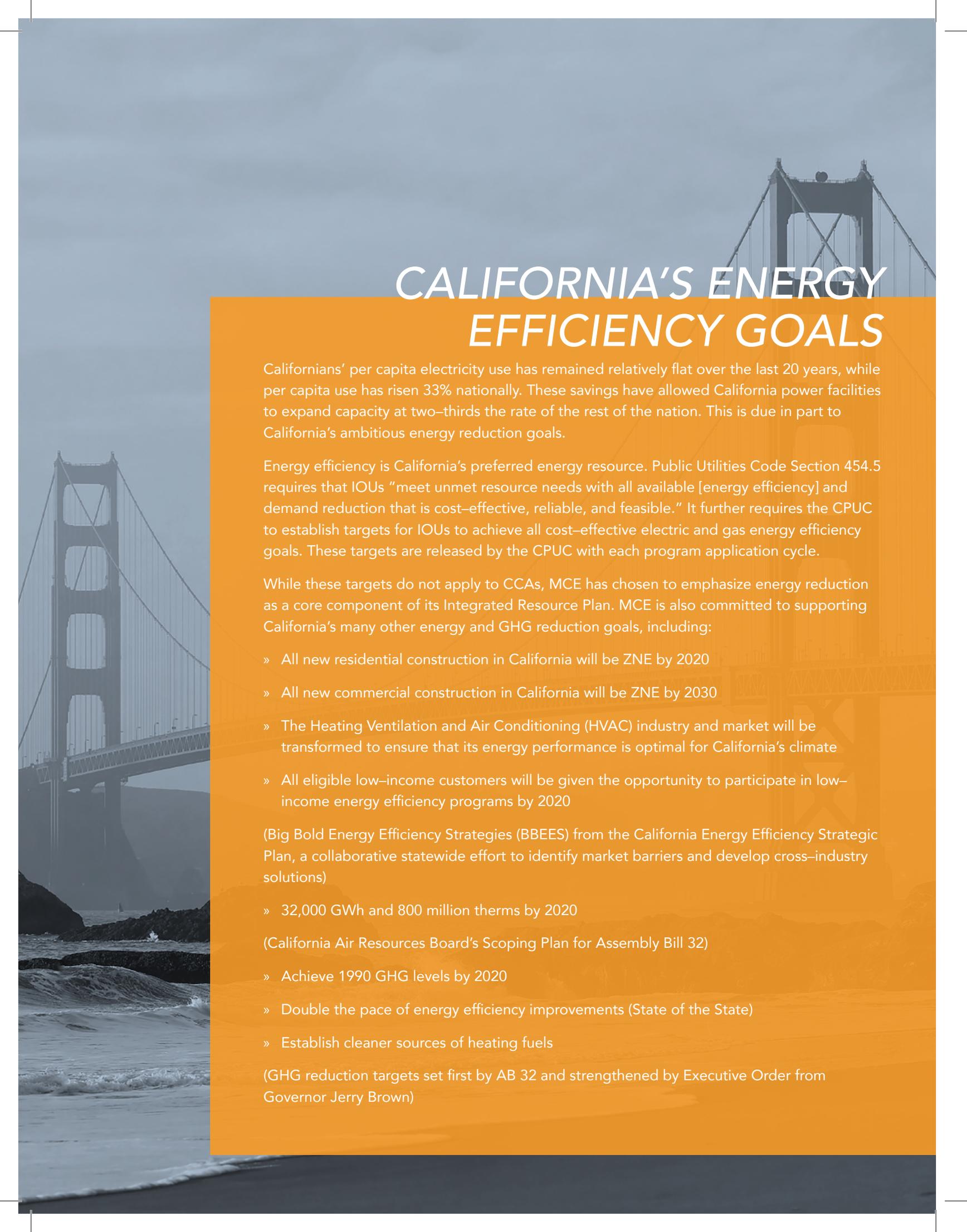
One of MCE's most important differentiators is that it is a utility provider designed with today's needs in mind.

Fortunately, MCE is in a unique position and does not suffer from these limitations. MCE can focus on energy efficiency, market transformation, and customer responsiveness in the service of effective and significant GHG reduction. MCE can be nimble and take advantage of the best new opportunities provided by smart grid technology, distributed energy, and new technologies. Most importantly, because of its local connectivity, MCE can focus on the local needs and engagement of communities.

MCE's focus on reducing GHG emissions, combined with its flexibility in addressing customer needs, sets its energy efficiency program apart from other ratepayer funded programs. MCE's commitment to helping customers embrace energy efficiency at all levels of engagement will drive meaningful market transformation: increased customer demand and decreased need for incentives and subsidies. As it establishes its track record, MCE recognizes that this momentum provides an important opportunity to fully articulate its vision and the business approach that will guide the next decade of its energy efficiency services. ■

## *Purpose of MCE's Business Plan for Energy Efficiency*

- » Clearly articulate MCE's value proposition
- » Establish a portfolio oriented to the customers' needs
- » Seize the opportunity of a transition to a 10-year rolling cycle to assess energy efficiency strategy
- » Set a strategic vision for energy efficiency as MCE's territory and reach grow
- » Articulate strategic advantages and position MCE as the primary provider in its service territory
- » Demonstrate MCE's local customer knowledge through its energy efficiency vision
- » Establish a commitment to innovation and continuous improvement



# CALIFORNIA'S ENERGY EFFICIENCY GOALS

Californians' per capita electricity use has remained relatively flat over the last 20 years, while per capita use has risen 33% nationally. These savings have allowed California power facilities to expand capacity at two-thirds the rate of the rest of the nation. This is due in part to California's ambitious energy reduction goals.

Energy efficiency is California's preferred energy resource. Public Utilities Code Section 454.5 requires that IOUs "meet unmet resource needs with all available [energy efficiency] and demand reduction that is cost-effective, reliable, and feasible." It further requires the CPUC to establish targets for IOUs to achieve all cost-effective electric and gas energy efficiency goals. These targets are released by the CPUC with each program application cycle.

While these targets do not apply to CCAs, MCE has chosen to emphasize energy reduction as a core component of its Integrated Resource Plan. MCE is also committed to supporting California's many other energy and GHG reduction goals, including:

- » All new residential construction in California will be ZNE by 2020
- » All new commercial construction in California will be ZNE by 2030
- » The Heating Ventilation and Air Conditioning (HVAC) industry and market will be transformed to ensure that its energy performance is optimal for California's climate
- » All eligible low-income customers will be given the opportunity to participate in low-income energy efficiency programs by 2020

(Big Bold Energy Efficiency Strategies (BBEES) from the California Energy Efficiency Strategic Plan, a collaborative statewide effort to identify market barriers and develop cross-industry solutions)

- » 32,000 GWh and 800 million therms by 2020

(California Air Resources Board's Scoping Plan for Assembly Bill 32)

- » Achieve 1990 GHG levels by 2020
- » Double the pace of energy efficiency improvements (State of the State)
- » Establish cleaner sources of heating fuels

(GHG reduction targets set first by AB 32 and strengthened by Executive Order from Governor Jerry Brown)

# MCE'S STRATEGIC ADVANTAGES

From an energy efficiency perspective, MCE is a leading provider due to its key differentiators:

- » GHG reduction is MCE's top priority
- » The customer is MCE's shareholder
- » MCE leadership is local and responsive to community needs
- » Local partnerships provide a foundation for deepening market penetration

**Greenhouse gas reduction is MCE's top priority.** Reducing GHG gases and mitigating the effects of climate change is MCE's central mission. MCE's carbon-reduction based orientation is in strong alignment with Governor Jerry Brown's executive order to establish GHG reductions 40% below 1990 levels by 2030, a necessary step to ultimately reaching 80% reductions by 2050. To support these goals, MCE evaluates and prioritizes activities across operations according to GHG reductions rather than energy savings per se. The energy world is rapidly changing; SmartMeter technology has enabled customers to be in control of how and when they use energy across their

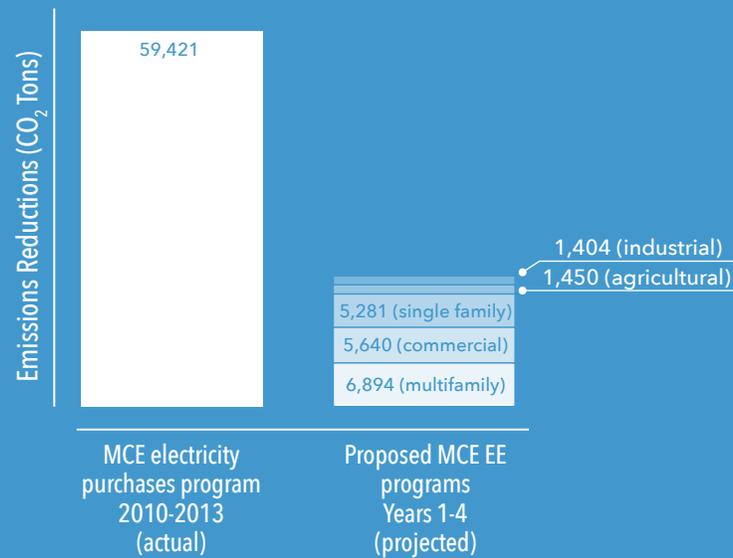
*"Because MCE serves communities not shareholders, ... MCE can optimize energy and efficiency without the pressure of making profits for [external] shareholders."*

properties, integrating energy conservation, energy efficiency, distributed generation, and demand response strategies into simple, easy to understand dashboards. These new strategies are enabling customers to become a part of the renewable energy solution, turning homes and businesses into providers of grid services. The energy solutions of tomorrow will not be focused on a single end use or single

conservation strategy. Achieving our carbon reduction goals as a state will require recognizing this changing landscape and utilizing these emerging integrated solutions as a key component of renewables integration and demand reduction.

MCE is developing an integrated demand-side tool that evaluates the marginal cost of carbon abatement across demand-side management programs to help prioritize investment on a portfolio level from a carbon perspective. See Figure 1 for an example of a marginal abatement cost curve for a potential portfolio of MCE programs.

MCE's multifamily program features a strong emphasis on high-efficiency natural gas measures, which can offer considerable GHG reductions. In

Figure 1. CO<sub>2</sub> Emission Reductions by MCE Program

addition, MCE proposes to run an innovative fuel-switching pilot.

MCE's primary focus on GHG reductions enables its energy efficiency strategy to drive market transformation in unique ways. Aligning incentives with market transformation indicators will allow MCE to take a long-term approach to energy efficiency program planning. A TRC considered over a 10-year program cycle will allow for more innovation and flexibility in early years, compensated for by higher participation as the measure matures and as demand increases. Programs like the California Solar Initiative have demonstrated the success of this approach, and similar logic could be applied to penetrate harder to reach markets or to bring customers in the later stages of energy efficiency to full ZNE. Continuing to reach beyond the low-hanging fruit and toward these deep, sometimes difficult to achieve energy savings is a key component of meeting California's carbon reduction goals.

**The customer is MCE's shareholder.** California is the nation's most populous state, and its ratepayers are geographically, demographically, and politically diverse. Engaging these diverse ratepayers in energy efficiency efforts will be critical in reaching California's ambitious energy reduction goals.

While certain statewide programs are beneficial to customers, the size of these programs can inhibit PAs from taking a more proactive approach in reaching customers. A strength of the CCA model is that its designed purpose is to meet the needs of local customers. Not only are MCE's local constituents its customers as well as its shareholders, but deep market penetration is how MCE creates "shareholder return" in the form of greater GHG reductions. As a result, MCE strives to understand customers' specific needs and motivators, which in turn drive the design of MCE's energy efficiency program. The program is designed for ease of use with greater accessibility to program staff that can navigate offerings and provide integrated, streamlined solutions. It includes activities that increase MCE's customer knowledge, such as use

of sophisticated CRM software, customer satisfaction feedback, and collaboration with organizations deeply seated in the local community.

MCE's customer-centered approach directly addresses the following barriers and missed opportunities:

- » There are a myriad of resource conservation programs made available by a variety of administrators, and customers have a hard time navigating their options or accessing multiple offerings within the scope of one project.
- » Because program offerings can be inflexible, many small- to medium-sized projects as well as projects that must happen in phases (as tenants move out, for example) often have a hard time taking advantage of incentives.
- » New technologies and incentives are frequently marketed broadly, rather than targeted to customers for whom the solution meets a clear need.
- » Opportunities to follow up with past energy efficiency customers are rarely utilized, often due to poor household/building data collection at the time of assessment.
- » Private interests often push IOUs to focus on opportunities that will offer the biggest shareholder incentives rather than toward integrated, customer-focused solutions that target overall GHG emissions.

MCE provides a competitive advantage over IOUs when it comes to addressing customer engagement and participation barriers. MCE's programs take a flexible approach to the uniquely local characteristics of commercial, residential, industrial, and agricultural customers in its territory. CRM systems track previous

interactions with, and behaviors of, ratepayers. This allows MCE to anticipate customer needs and to target new technologies and incentives that best meet these needs. MCE is able to leverage and include statewide programs in its customized solutions for each customer, thereby increasing the overall value provided.

Because MCE's shareholders are also its customers, an important alignment takes place because the need to make profits for external shareholders is removed. MCE can make decisions that are in the very best interests of those it serves. This means that MCE can optimize energy and efficiency without the pressure of making profits for shareholders.

**MCE leadership is local and responsive to community needs.** As a CCA, MCE is governed by local elected officials and supported by community leaders and local institutions. Partnerships with community organizations and local banks, contractors, and technical assistants aggregate the opportunities available to MCE's ratepayers, while also fostering community connectedness and trust between parties. Ratepayer fees are invested in energy programs that directly benefit constituents without diverting funds to private investors. MCE's energy efficiency programs are discussed at publicly noticed board meetings; this offers transparency and allows for constituents to provide immediate feedback on program design and implementation.

MCE is governed by a board of directors comprised of elected officials from the communities it serves. Because these elected officials need to respond to their constituents, MCE also shares this responsibility for meeting the needs of the local community. This means that MCE can undertake local initiatives that would be unlikely to be led by IOUs.

Further, local governments are under strict mandates to manage carbon emissions. Because of MCE's

strong connectivity to local governments, MCE is uniquely positioned to partner with communities in order to help them address their most pressing needs.

**Local partnerships aid market penetration.**

MCE maximizes the strengths of a flexible, locally connected energy efficiency program by meeting ratepayers where they are. MCE collaborates with innovative partner companies to access community-based organizations, schools, local companies, religious institutions, and other organizations as drivers of energy efficient behaviors. Partnerships with place-based organizations that employ local residents as part of energy efficiency solutions engage customers not only as ratepayers, but also as contractors, employers, workers, and community leaders, resulting in behavior change across many important sectors. MCE's ability to deeply penetrate the local market helps to maximize program participation.

*“The program’s local partnerships also allow MCE to serve hard to reach residents, including renters, low to moderate income households, and non-English speaking households, who often miss out on services due to language barriers.”*

The program’s local partnerships also allow MCE to serve hard to reach residents, including renters, low to moderate income households, and non-English speaking households, who often miss out on services due to language barriers. With workforce partners, MCE brings 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 communities themselves and allow increased access to non-English speaking households. MCE connects with these segments by participating in over 100 public community events annually. This outreach empowers customers and local contractors to promote the program to their neighbors, friends, and family members to help spread information about energy efficiency through trusted channels. ■

# MARKET ANALYSIS

Like most businesses and organizations, MCE exists within three different market contexts: (1) the macro context, (2) the industry context, and (3) the local context. Understanding these contexts is important because they show why MCE is so well positioned to deliver energy efficiency programs to northern California customers.

**Macro Context.** The macro context includes those forces largely outside of a business' control that influence the conditions for the business to operate. The macro context for MCE is quite strong with the political, regulatory, and social/cultural environments favoring significant action on curbing GHG emissions. As a CCA, MCE is well poised to help dramatically cut GHG from energy usage. Because MCE was created for this purpose, it is much more effective than traditional utilities at providing low-carbon intensive energy at competitive rates. Further, its nimbleness allows MCE to quickly adopt and deploy new technologies and to work toward market transformation efforts. Finally, MCE has demonstrated its ability to provide local, high-paying "green" jobs such as solar installers and energy educators. These jobs are needed in many of the communities that MCE serves, and they help meet the goal of many

communities to be seen as leaders in environmental issues.

**Industry Context.** MCE exists in a highly regulated industry, with a long-established regulated monopoly as its primary competitor. While large companies may be good at providing reliable service, they have not proven themselves to be agile in meeting local community needs. MCE can provide targeted, relevant service focused on meeting the specific needs of its customers. Further, its size allows MCE to more readily adapt to new energy savings technologies. By its very structure and scale, MCE can take calculated risks and be more innovative, and thus create market transformation much faster than larger entities.

**Local Context.** The local context also strongly favors MCE, as many communities are frustrated with the large utilities and seeking alternatives that offer greater local control. MCE can provide its growing and diverse customer base with relevant options that provide energy with a much lower carbon footprint. Further, MCE creates an easy way for local elected officials to meet many of their climate goals. Finally, MCE's local and customized focus generates distinct solutions for the needs of particular customers.

Figure 2. Market Context for MCE

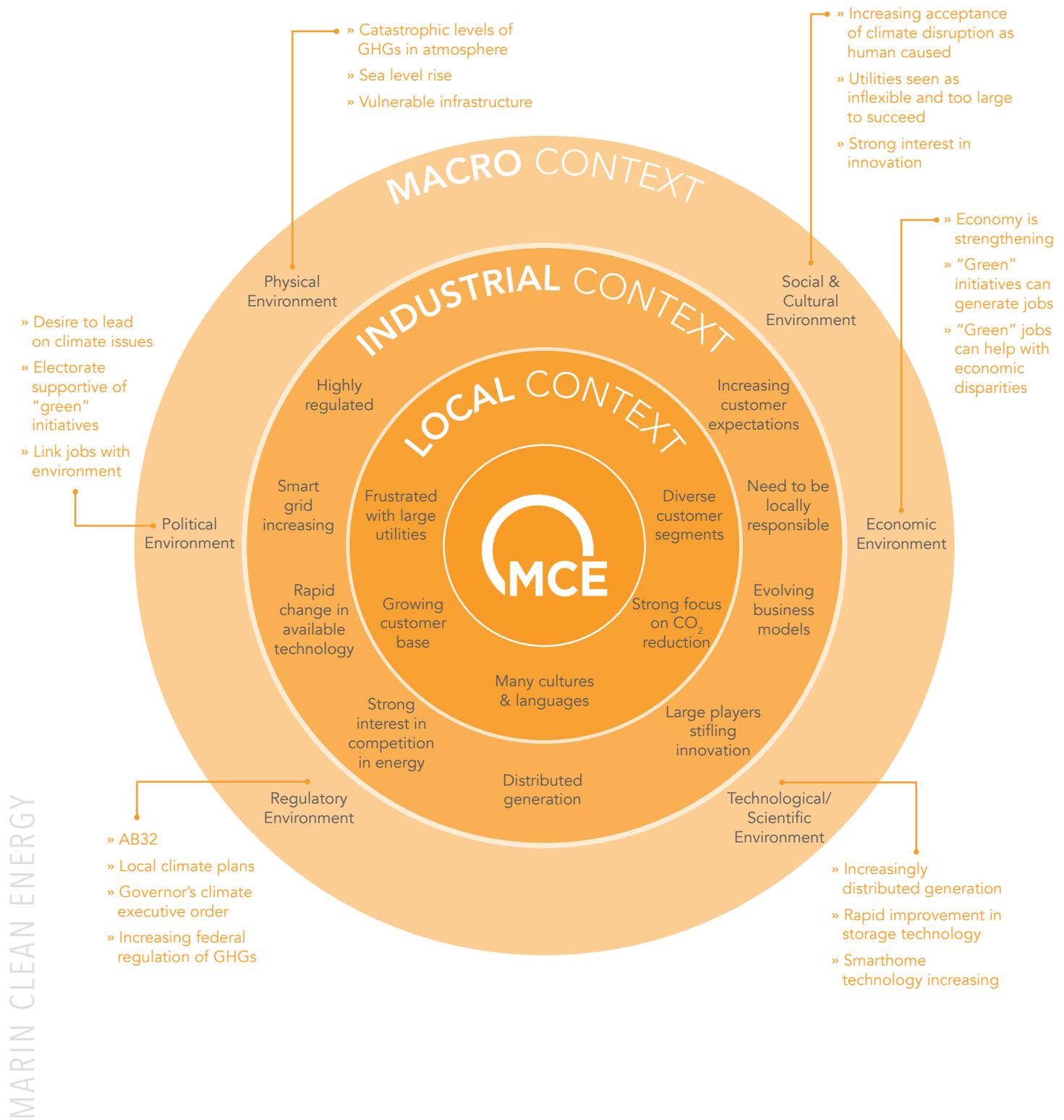
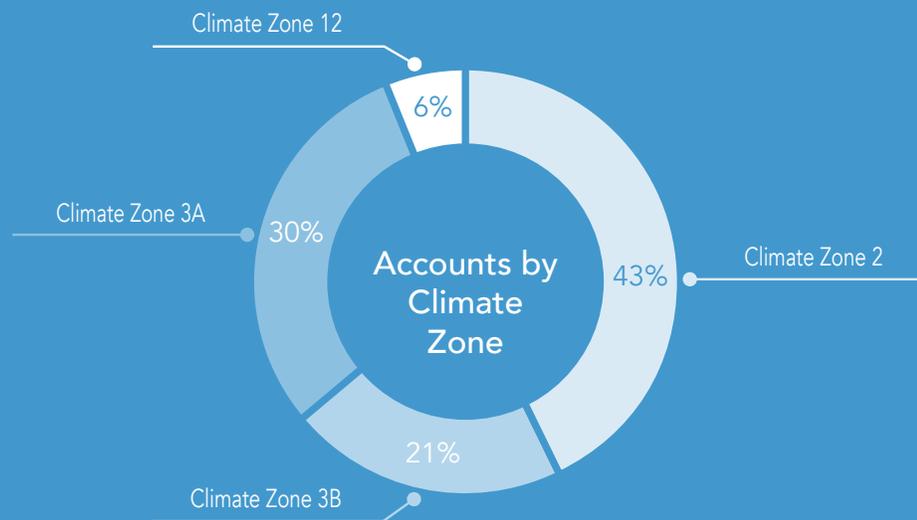


Figure 3. Accounts by Climate Zone



## Current Market Boundaries

MCE serves a much broader and more diverse territory today than it did in its founding years. MCE's territory has grown from the largely residential and small commercial customers in Marin to include some of the San Francisco Bay Area's agricultural, industrial, and large commercial ratepayers. MCE's expanded energy efficiency portfolio provides programs designed for all customers in its expanded territory. MCE's territory now spans four Title 24 Climate Zones (Figure 3).

## Customer Segments

MCE serves customers in the following sectors:

- » Residential: Multifamily
- » Residential: Single Family

- » Industrial
- » Agricultural
- » Commercial

The residential segment characterizes the largest number of energy users in MCE's territory at 234,385 accounts, or nearly 90% of all ratepayers. However, MCE's high-consuming energy accounts in industrial, agricultural, and commercial make up 50% of its estimated electricity consumption and over 20% of estimated natural gas consumption, representing an equally important opportunity for efficiency<sup>2</sup>.

<sup>2</sup> Natural gas consumption is not applicable to agricultural customers. In CZ 12—MCE's newest territory—gas consumption data is not yet available.

### Unincorporated Napa County

- » Climate Zone 2
- » Characterized by large, high-energy use single family homes
- » More pronounced air conditioning load
- » Hotels and vineyards comprise large commercial and industrial/agricultural accounts

### Cities in Marin County

- » Climate Zones 2 & 3b
- » Characterized by residential and small commercial accounts
- » High electric vehicle adoption
- » Agricultural uses include dairy and small organic farms

### City of Benicia

- » Climate Zone 12
- » Characterized by large industrial accounts and higher energy-use homes
- » Cooler winters and hotter summers than neighboring climate zones; more pronounced air conditioning load

### Cities of El Cerrito, Richmond & San Pablo

- » Climate Zone 3a
- » Characterized by large industrial accounts
- » El Cerrito has highest "Deep Green" (100% renewable energy) opt-in rates, indicating possible early adopters for new measures and technologies
- » High diversity of languages spoken in Richmond and San Pablo, including Mandarin and Spanish

Napa County

Solano County

Marin County

Benicia

Richmond

San Pablo

El Cerrito

Contra Costa County

## Market Opportunities

Consideration of the following opportunities will help guide energy efficiency efforts. Indicators for potential savings include:

- » Buildings constructed prior to California’s building energy code (Title 24)
- » HVAC systems installed prior to 2000 (expected lifespan: 15–20 years)
- » Considering water/energy nexus: residential and small-commercial water fixtures installed before 1995 (Energy Policy Act) and agricultural irrigation systems
- » Lighting upgrade potential, “leapfrogging” incandescent to LED where possible
- » Communities/segments with larger per-account usage compared to others in MCE’s territory

## Building Stock and Energy Efficiency

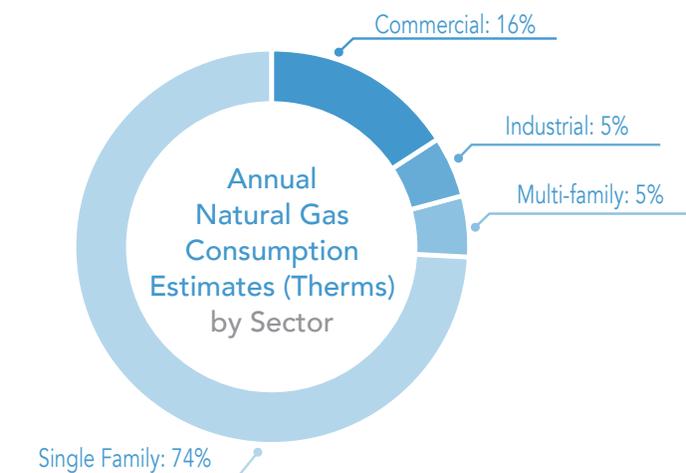
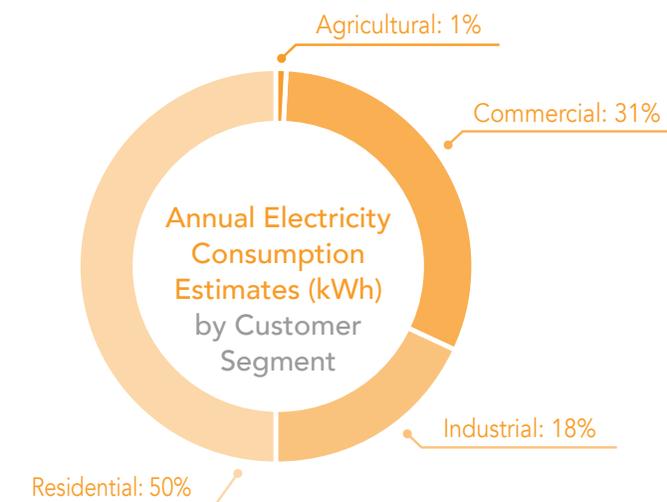
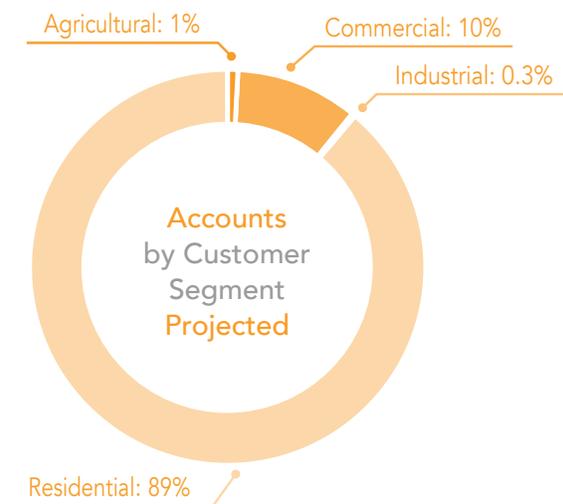
MCE analyzed information from Housing Elements reports, US Census Bureau State & County QuickFacts, and county assessor data to gain insights into building characteristics<sup>3</sup>. This information informs program design, marketing and outreach efforts.

### Residential Building Stock Characteristics

Construction in the residential sector has followed relatively similar trends within Marin’s service territory, with the majority of the building stock aged from 1950–2000, and close to 50% of the buildings

<sup>3</sup> The data presented in the three following charts comes from county assessor data; Marin commercial data is from a February 2014 Navigant study “BayREN Commercial PACE Financing Market Research Survey.”

Figure 4. Customer Segmentation



between 1950–1975. The exception is Benicia, which saw its greatest growth in the 1975–1999 timeframe.

**Commercial Building Stock Characteristics**

Figure 6 illustrates the diversity of commercial building vintage within MCE’s service territory, and can provide insights into trends affecting construction and growth at these locations. Marin County, for example, has seen declining growth since the mid 1970’s due to growth limits and planning regulations, while Benicia has seen considerable growth and expansion during that same time period. Building

vintage provides useful insights into energy efficiency program planning and marketing strategies.

The information presented in Figure 7 provides insights into the types of energy efficiency programs best suited to each of MCE’s service territories. For example, small commercial offerings will be better suited to Richmond, El Cerrito and San Pablo (with the greatest number of commercial buildings under 5,000 square feet); meanwhile, there may be opportunities for large commercial upgrades in Napa and Marin (which have the greatest share of commercial facilities over 100,000 square feet). ■

Figure 5. Residential Building Vintage by Service Territory

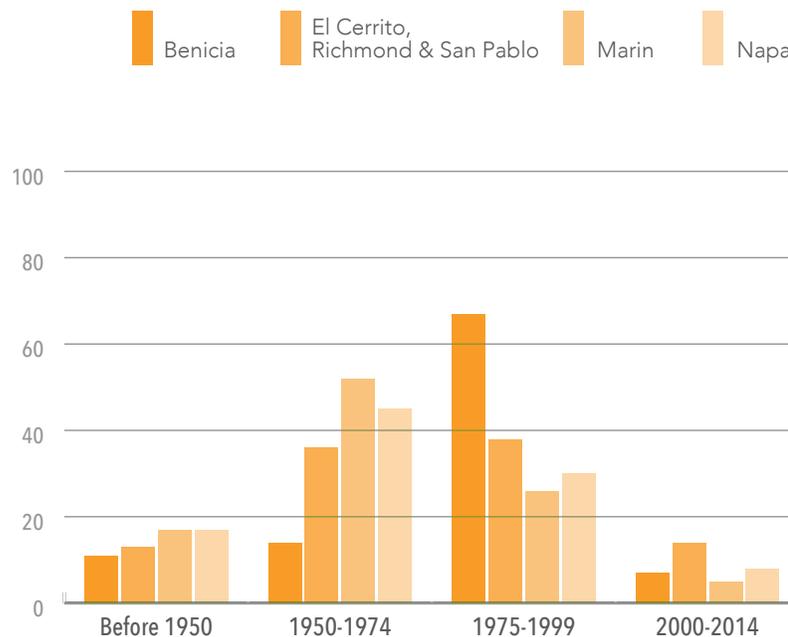


Figure 6. Commercial Building Vintage by Service Territory

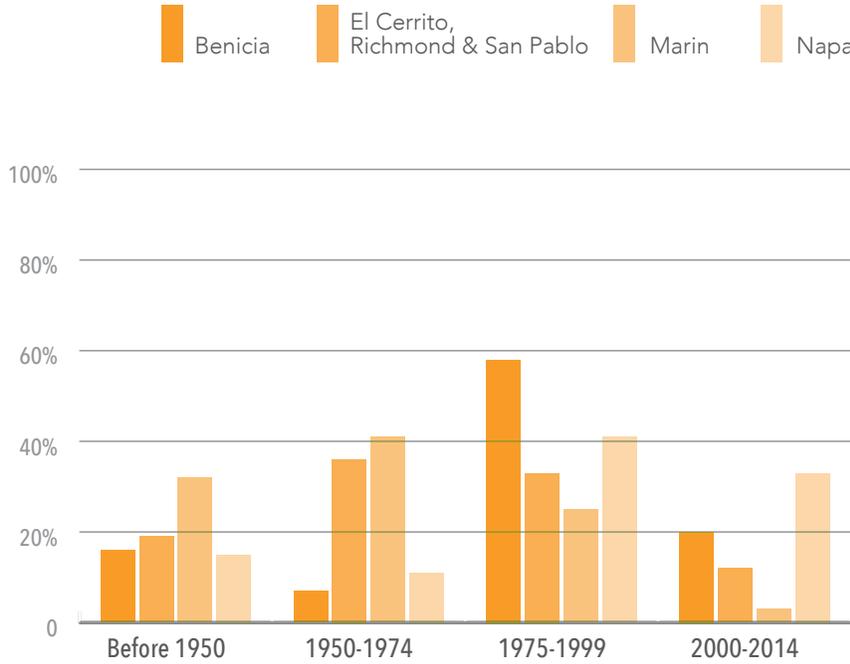
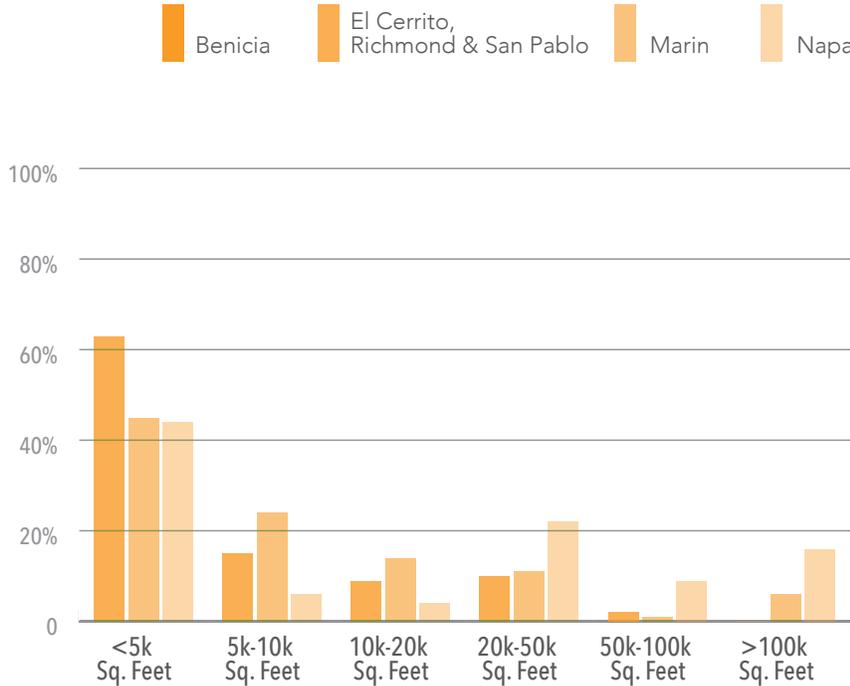


Figure 7. Commercial Building Size by Service Territory. \*Data not available for Benicia.



# MARKET TRANSFORMATION & DECREASING INCENTIVES

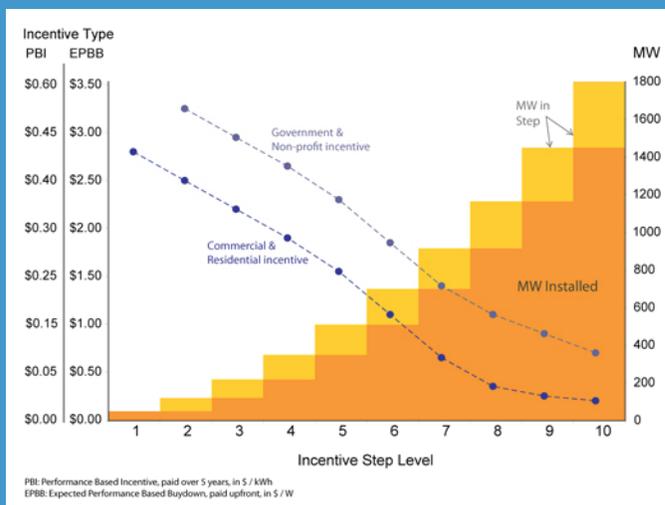
MCE has designed its 10-year energy efficiency program using market transformation logic. As demand increases for any given energy measure, MCE predicts that incentives will be less necessary to increase participation or adoption. Decreasing incentives help move the market to be more demand-driven and less subsidy-dependent. Thus, MCE has set program participation rates that will trigger step-wise incentive decreases at pace with market adoption. At the same time, declining incentives cause the measure's TRC to increase over the life of the program.

The California Solar Initiative (CSI) is an example of a statewide program designed with similar logic. As the solar market has grown, solar electric system costs have dropped and incentives offered through the program have declined according to participation targets. The CPUC divided the overall megawatt goal for the incentive program into ten programmatic incentive level steps. They also assigned a target amount of capacity in each step to receive an incentive based on dollars per-watt or cents per-kilowatt-hour. The megawatt (MW) targets in each incentive step level were assigned to particular customer classes (residential, commercial, and government/non-profit) and allocated across the three IOU service territories, in proportion with each group's contribution to overall state electricity sales.

Once all the MW targets in a particular incentive step level were reserved via CSI application—which could occur at different times for each customer class in each utility service territory—the incentive level offered by the CSI Program automatically reduced to the next lower incentive step level. This created a demand-driven incentive program that adjusted solar incentive levels based on local solar market conditions.

The figure below shows how CSI incentives declined as the program progressed through the ten steps and more MWs were installed.<sup>4</sup> The CSI incentive levels have declined by customer class and utility from January 2007 to the present.

Figure 8. CSI Incentive Step Down Approach.



<sup>4</sup> <http://www.cpuc.ca.gov/puc/energy/solar/aboutsolar.htm>

# BUSINESS MODEL

MCE is one of California's CCAs. Community choice aggregation allows communities, residents, businesses, and municipal facilities to pool their electricity demand in order to increase their purchasing power and scale. CCAs also have the authority to administer ratepayer funded energy efficiency programs on equal footing with the existing IOU PAs<sup>5</sup>.

With its vision to engage more customers in energy reduction, MCE leverages its local knowledge and customer proximity to penetrate its market. MCE's energy efficiency programs present integrated solutions—including opportunities for distributed generation, on-site energy storage, and water reduction measures—and track opportunities for further engagement with customers. Not only does an integrated approach provide streamlined rather than piecemeal pathways for customers, it also aligns all of MCE's key activities behind its mission of GHG reduction. MCE has carefully considered and invested in the partnerships required to provide customers with integrated solutions. It has built upon customer knowledge to create channels that reach customers where they are and provide a suite of programming that is relevant to customer needs.

## Value Proposition: Provide a One-Stop Shop for Energy Savings

MCE helps customers plan energy reductions holistically by providing integrated, one-stop service. MCE presents customers with complete solutions that best suit their needs by acting as a hub that coordinates all relevant opportunities for energy savings. MCE takes the onus off of customers to navigate all applicable ratepayer programs, including demand response and distributed generation incentives; municipal, county, and regional programs; water utility incentives; trained contractors and technicians; and other local offerings. MCE recognizes its proximity to customers as its core strength, allowing MCE to provide tailored, relevant solutions in each of the key segments in its territory.

MCE supports its role as program hub with two customer relationship features: Single Point of Contact staff and sophisticated Customer Relationship Management software.

**Single Point of Contact.** MCE makes navigating energy savings opportunities simple by providing customers with a Single Point of Contact (SPOC). Across customer segments, the SPOC serves as a facilitator and participant advocate, helping to guide the property owner through the process from initial contact to project completion. The SPOC develops

<sup>5</sup> California Public Utilities Code Section 381.1 (a-f); California Public Utilities Commission Decision 14-01-033.

Figure 9. MCE as a Critical Hub



an integrated assessment process streamlining multiple program offerings into one customer report.

MCE is able to effectively remove barriers for residents that face implementation challenges with the aid of the SPOC. The SPOC helps customers take maximum advantage of MCE's energy efficiency program by providing the following:

- » **Uniform and Bundled Presentation of Opportunities.** Projects are more attractive to customers and easier to accomplish when all savings opportunities are bundled together and follow a clear, uniform presentation. Moving

incentives toward a point-based system allows customers to easily calculate the possible incentive from a bundled measure project and combine points to qualify for bigger incentives. The SPOC also helps complete applications for multiple programs, eliminating extra work and information redundancies as well as streamlining the process for customers.

- » **Personalized Attention and Follow-Through.** A SPOC delivery model provides more personalized attention and more follow through to reduce customer confusion and increase project completion rate.

- » **Project Phasing.** MCE remains in contact with participating properties over time and encourages property owners to implement projects in phases. This allows customers to take advantage of large project incentives without having to implement improvements all at once.
- » **Increased financing options.** MCE partners with local banks to serve building owners who have limited access to private or low-cost financing for retrofits and are underserved by the existing marketplace.

Coordinating a full service solution provides huge value to MCE's ratepayers and helps ensure that customers stick with energy efficiency solutions all the way to the end of MCE's value chain. At the conclusion of each energy efficiency project, the SPOC conducts a satisfaction survey and develops a case study that serves as a learning tool for MCE and a communications tool with potential customers.

#### **Customer Relationship Management System.**

Sophisticated Customer Relationship Management (CRM) allows for an ongoing relationship between the property and the program. MCE aims to provide solutions across customer segments that meet customers' needs, budgets, and levels of readiness for change. By providing resource conservation solutions for customers at any level of desired investment, MCE helps ensure a good customer experience. This increases the likelihood that customers who are not early adopters will consider efficient equipment at future key trigger points, such as at times of equipment failure or refinancing.

Evolving customer relationships supported by CRM will be key to moving MCE's customers toward ZNE. Sophisticated CRM software allows for an ongoing relationship between the customer and the program by providing a "menu of nudges" based on previous

interactions and property knowledge to ultimately move the customer toward ZNE buildings.

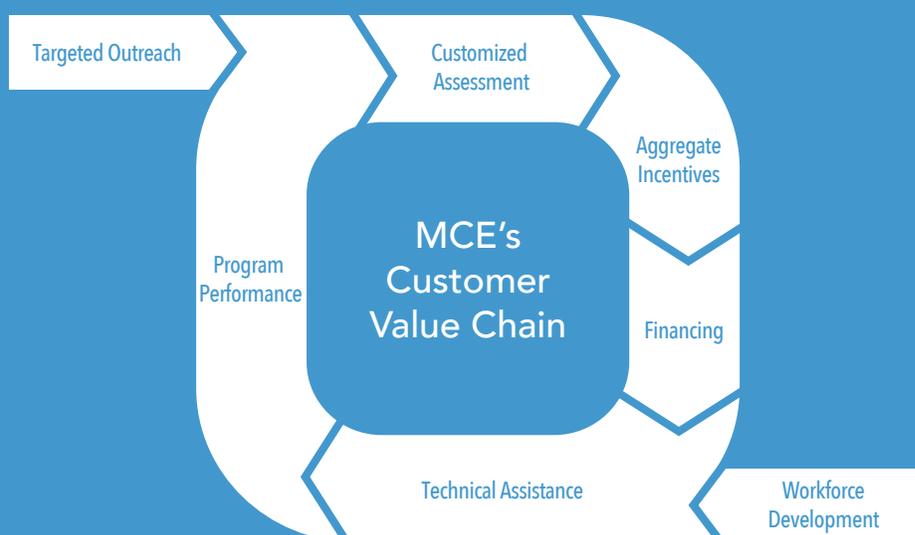
Opportunities for future improvements are recorded every time a customer receives an integrated efficiency assessment. If, for example, a customer decides not to take action on a home improvement or replace an inefficient appliance, the energy professional will collect information to support follow-up when the appliance is closer to end-of-life or when a new incentive or technology arises. This allows MCE to rollout new opportunities and programs to "warm" targeted audiences, resulting in stronger customer relationships and increased energy efficiency adoption.

#### **Customer Value Chain**

Excellent customer service is one of the keys to MCE's energy efficiency program. MCE is piloting innovative ways to decrease customer barriers to participation, such as large project scopes and long timelines. While MCE is committed to addressing pressing customer needs within their current budget, recording whole building assessments captures opportunities to address further, deeper improvements in the future, especially as new technologies or incentives become available. A SPOC manages the process and provides clear pathways and integrated solutions for customers. The program leverages SmartMeter technology, customer satisfaction surveys, and program performance metrics, creating an instantaneous feedback loop for monitoring success and addressing program issues.

MCE aims to provide multiple on-ramps for energy efficiency at each step of MCE's value chain for homeowners, multifamily building managers, as well as industrial, agricultural, and commercial business owners. MCE's energy efficiency activities are tailored for each customer segment, but a common

Figure 10. MCE's Customer Value Chain

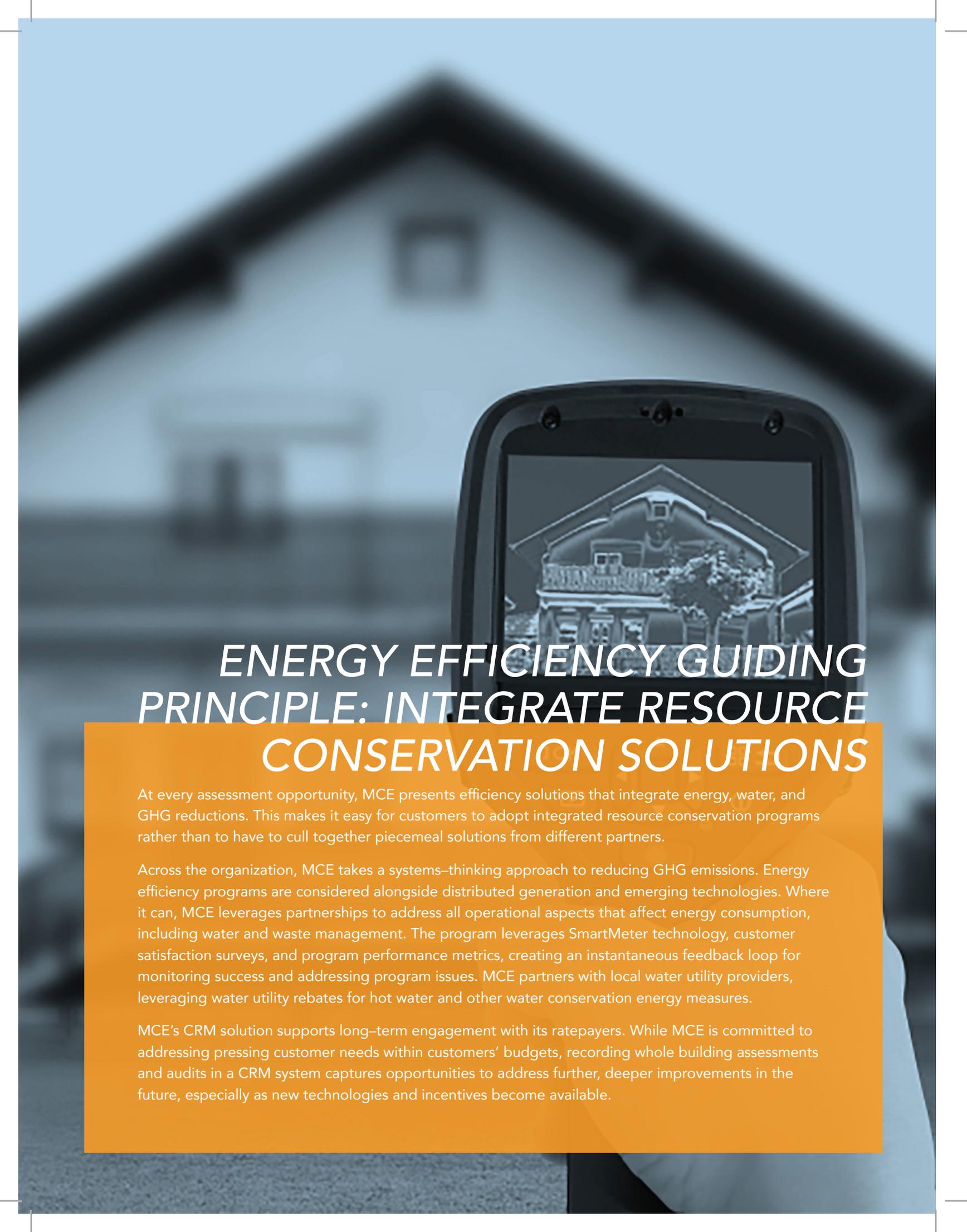


underlying value chain describes MCE's key program strategy. MCE's energy efficiency program takes ratepayers from a customized assessment to an implemented solution that informs ongoing program improvement.

- » **Targeted Outreach:** Reach ratepayers through tested channels and in partnerships with local government organizations. A sophisticated CRM system identifies follow-up opportunities with customers.
- » **Customized Assessment:** Supervise building and property assessments with certified partners and capture specific opportunities for future improvements in CRM.
- » **Aggregate Incentives:** Provide a one-stop shop for local, regional, statewide, and national rebates and incentives. A SPOC coordinates partner programs to deliver a complete, tailored solution for the customer.
- » **Financing:** Remove barriers to investment in energy efficiency through low-cost financing with local banks.
- » **Technical Assistance:** Enlist trusted organizations and contractors to implement solutions.
- » **Workforce Development:** Partner with local workforce development organizations to provide articulated career pathways with on- and off-ramps based on the participant.
- » **Program Performance:** Evaluate each subprogram for actual energy savings, program performance metrics, market transformation indicators, and participant satisfaction surveys. Advanced Metering Infrastructure (AMI) data informs continuous program improvement. Rebate levels reduce over time, following market trends indicating that customers no longer need financial incentives as motivation to implement specific energy efficiency measures and upgrades. ■

Figure 11. MCE's Market Context





# *ENERGY EFFICIENCY GUIDING PRINCIPLE: INTEGRATE RESOURCE CONSERVATION SOLUTIONS*

At every assessment opportunity, MCE presents efficiency solutions that integrate energy, water, and GHG reductions. This makes it easy for customers to adopt integrated resource conservation programs rather than to have to cull together piecemeal solutions from different partners.

Across the organization, MCE takes a systems-thinking approach to reducing GHG emissions. Energy efficiency programs are considered alongside distributed generation and emerging technologies. Where it can, MCE leverages partnerships to address all operational aspects that affect energy consumption, including water and waste management. The program leverages SmartMeter technology, customer satisfaction surveys, and program performance metrics, creating an instantaneous feedback loop for monitoring success and addressing program issues. MCE partners with local water utility providers, leveraging water utility rebates for hot water and other water conservation energy measures.

MCE's CRM solution supports long-term engagement with its ratepayers. While MCE is committed to addressing pressing customer needs within customers' budgets, recording whole building assessments and audits in a CRM system captures opportunities to address further, deeper improvements in the future, especially as new technologies and incentives become available.

# KEY ACTIVITIES: PROGRAMS BY SECTOR

The following program descriptions demonstrate how MCE tailors its value chain to key customer segments, highlighting the areas where MCE can apply flexibility to reduce barriers to participation. Energy savings, sector characteristics, and key activities are summarized for each segment. Flow charts provide operational snapshots of how MCE's integrated programs, referral programs, SPOC, and rebates combine to create customer value. Logic models display the outputs and short-, intermediate-, and long-term outcomes of MCE's activities in each customer sector. This broader program logic helps to illustrate how energy efficiency measures are integral to further MCE's mission to address climate change.

Complete program details, including information about energy efficiency measures and incentives, can be found in MCE's sector specific Implementation Plans.

## Residential Program: Multifamily

### Sector Opportunities

Multifamily buildings are distinct enough from single family homes to warrant their own program approach. Multifamily programs are often characterized by split incentives because owners often bear the investment costs for energy consuming equipment or conservation upgrades while tenants reap the savings. Tenant turnover is also a factor; landlords may be reluctant to disrupt tenants for invasive upgrades, particularly in market rate buildings.

The multifamily program is an area where MCE's flexibility can greatly reduce participation barriers in tenant/owner situations. MCE takes a phased approach with multifamily upgrades, allowing owners to plan larger projects that take advantage of maximum incentive levels but are implemented

Table 1. Multifamily Program Budget & Savings Summary

Multifamily Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost	1.16		2.05	
Budget	\$1,016,957	\$1,906,564	\$2,105,424	\$2,233,275
Estimated Savings	537,344 kWh 38,507 therms	1,251,881 kWh 116,962 therms	1,775,259 kWh 230,496 therms	2,090,205 kWh 278,158 therms

over time, as tenants turn over. A combination of light –touch, bundled, and customized measures help accommodate the specialized needs of each multifamily building upgrade opportunity.

**Core Activities**

- » Provide participants with a Multifamily SPOC to serve as a facilitator and participant advocate, helping to guide property owners through the process from initial contact to project completion.
- » Develop an integrated assessment process streamlining multiple program offerings into one customer report.
- » Deploy sophisticated CRM software, allowing for an ongoing relationship between the property and the program.

**Key Innovations**

- » Integrates energy savings and on–site generation opportunities, allowing property owners to see the full benefit of upgrade projects, rather than isolating opportunities by savings type.
- » Project phasing allows building owners to capitalize on savings for large projects, while completing improvements over time, as tenants turn over.
- » A point–based incentive structure encourages and rewards a more comprehensive scope of work and helps the owner easily identify potential rebates based on planned improvements.

Figure 12. Integrated Program Structure—Multifamily

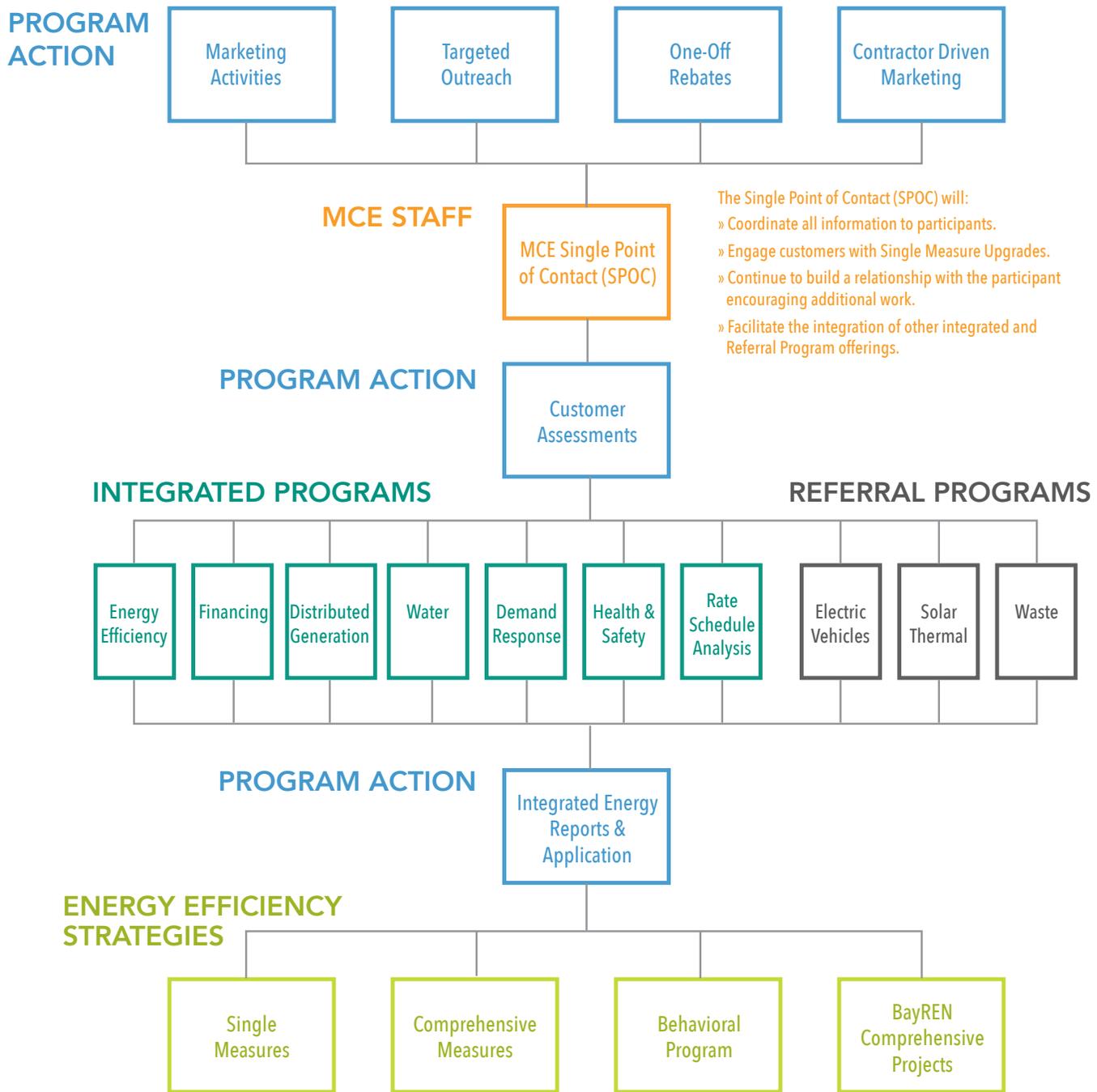
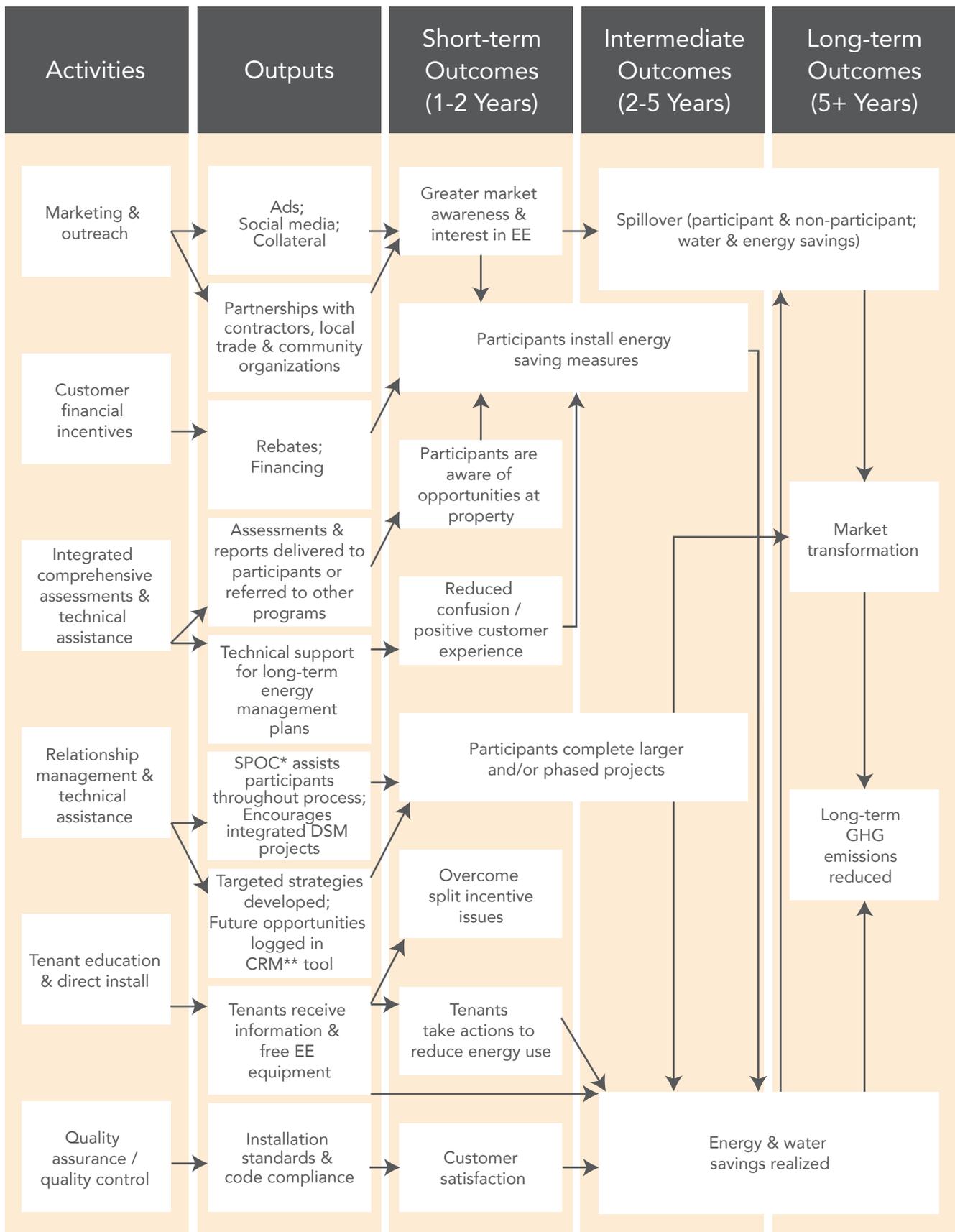


Figure 13. Multifamily Program Logic Model



MARIN CLEAN ENERGY

\* SPOC = single-point-of-contact

\*\* CRM = customer relationship management

## Residential Program: Single Family

### Sector Opportunities

Motivators for energy efficiency and reductions can differ greatly from family to family. Likewise, each household's budget and readiness for change will also vary. Providing bundled solutions that offer meaningful support for whichever project a homeowner is considering will increase customer satisfaction and result in continued energy improvements over time.

MCE's single family program offers one-off rebates to customers who have financial or structural barriers that prevent them from participating in the Energy Upgrade California: Home Upgrade Program, as well as incentives and technical assistance for customers who want to upgrade to ZNE. The program also aims to help the highest energy users reduce their consumption with energy management tools. Online tools and real-time feedback on utility reports are emerging tactics that can help influence a family's interaction with energy use.

### Core Activities

- » Provide participants with a Single Family SPOC to serve as a facilitator and participant advocate, helping to guide homeowners through the process from initial contact to project completion.
- » Offer financing and rebates to help overcome upfront cost barriers.

- » Provide the highest consuming customers with information about how they use energy and advice for how to reduce consumption.

### Key Innovations

- » Online portal provides a one-stop-shop to understand energy usage, identify upgrade opportunities, search available rebates and licensed contractors, and perform cost comparisons of energy efficiency appliances.
- » Access to one-off energy efficiency rebates for homeowners who have financial or structural barriers that prevent them from participating in the Energy Upgrade California: Home Upgrade Program.
- » Additional incentives and technical assistance to educate and enable ZNE customers to improve their home's efficiency beyond code.
- » Home Utility Reports help highest energy customers reduce their energy consumption by providing a comparison to similar homes nearby.
- » Online social networking platforms stimulate behavior changes, utilizing tactics such as competitions and DIY tutorials on a YouTube channel.

Table 2. Single Family Program Budget & Savings Summary

Single Family Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost	1.01		1.73	
Budget	\$1,261,541	\$1,788,187	\$1,889,993	\$2,021,786
Estimated Savings	814,373 kWh 28,703 therms	1,464,633 kWh 67,684 therms	1,944,330 kWh 96,058 therms	2,364,725 kWh 116,828 therms

Figure 14. Integrated Program Structure—Single Family

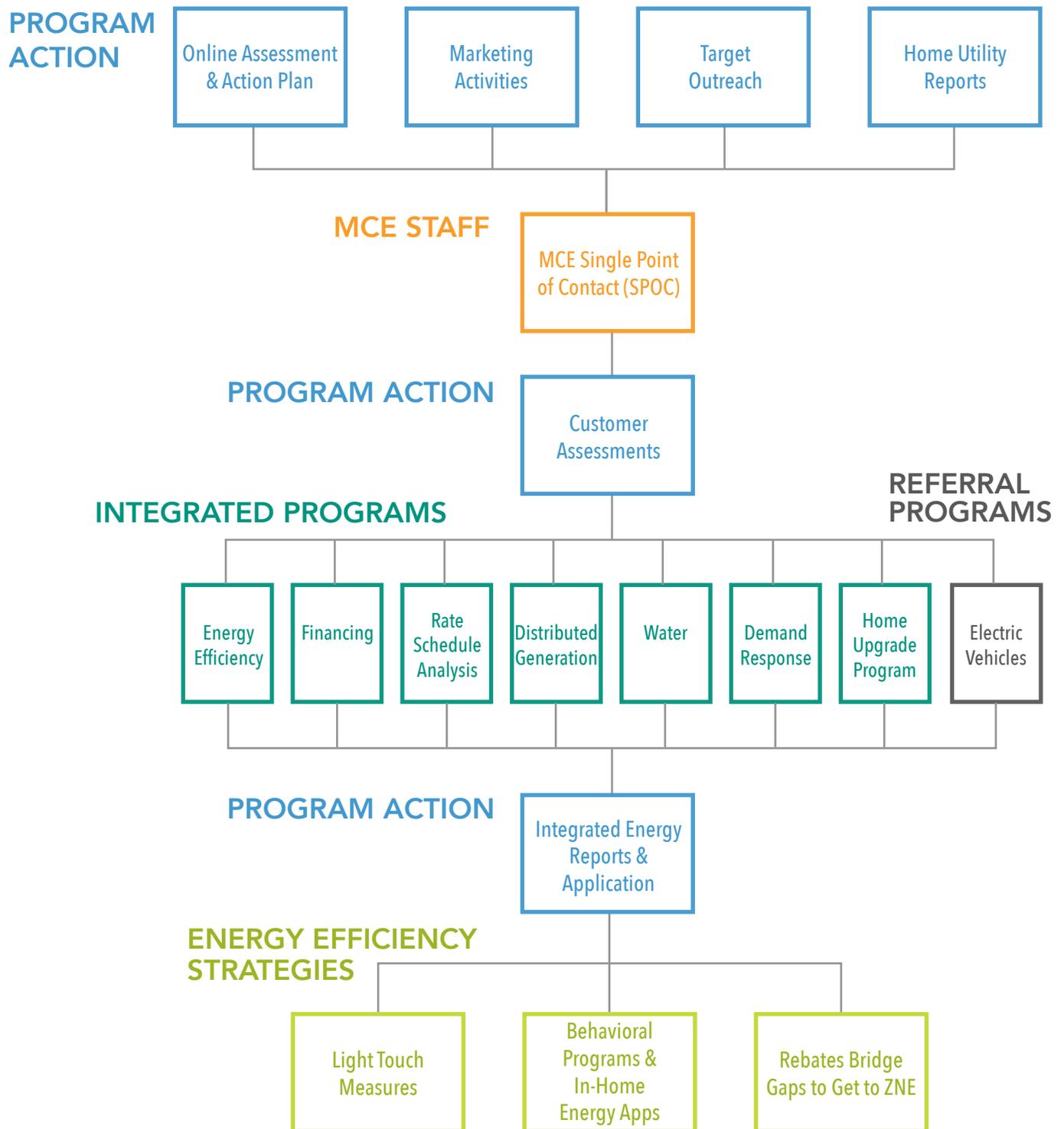
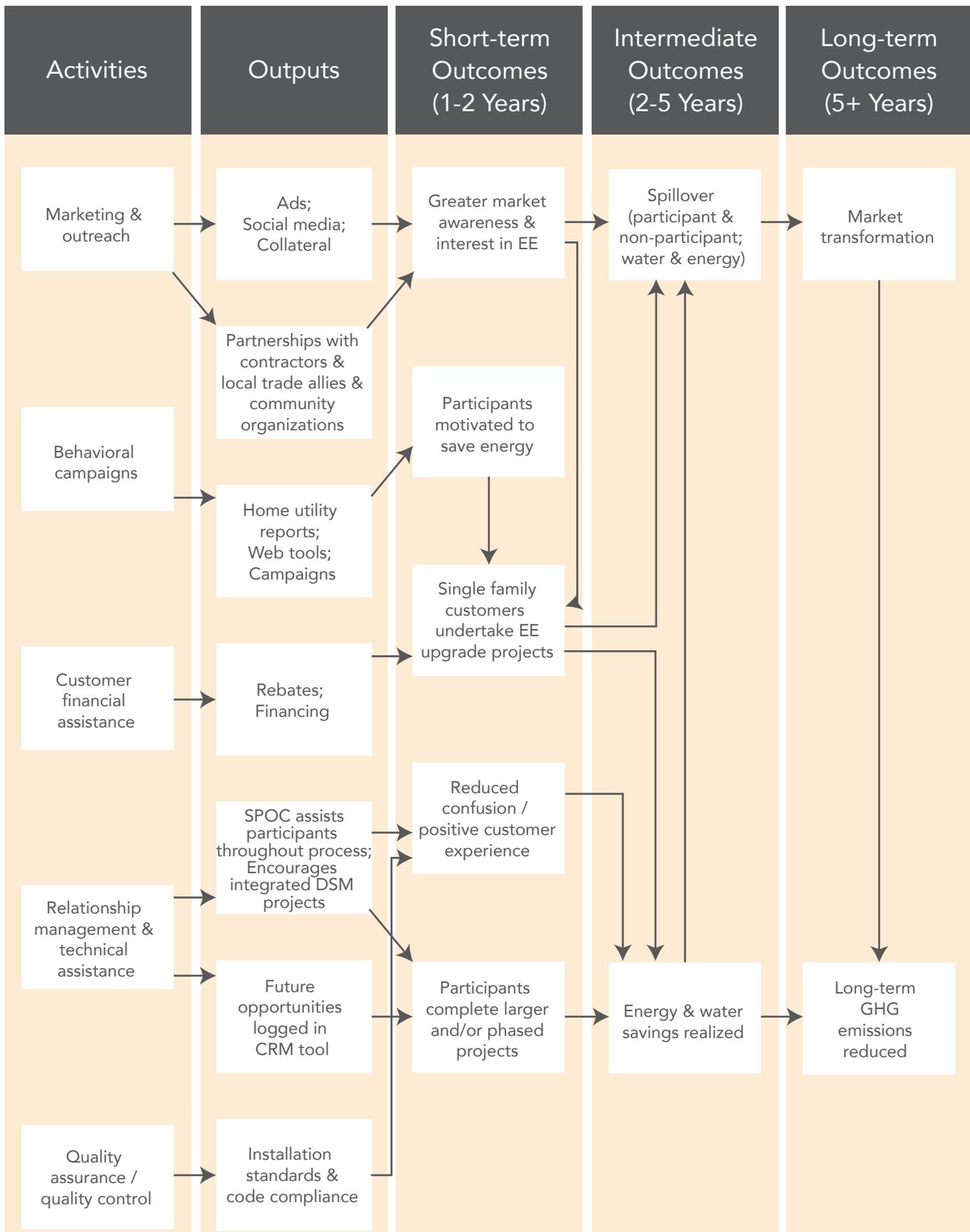


Figure 15. Single Family Program Logic Model



## Industrial Program

### Sector Opportunities

Dollar savings from energy efficiency can be significant for some industrial customers. A key consideration for these customers is the need to ensure that reduced energy use does not affect the timing, quality, or workforce efficiency of creating their product. Industrial activities vary significantly by region within MCE’s territory, though most offer major opportunities for energy use reduction, water conservation, and distributed generation.

The high-intensity energy demand of food production qualifies many of MCE’s agricultural customers that process on-site (including vineyards) as “industrial” ratepayers. Thus, in some cases MCE’s Industrial Program is designed to serve both manufacturing and refinery facilities as well as some large agricultural producers.

### Core Activities

- » Provide participants with an Industrial SPOC to serve as a facilitator and customer advocate and to help guide business owners through the process from initial contact to project completion.

- » Offer financing and rebates to help overcome upfront cost barriers.
- » Offer technical assistance to help with measure selection, project planning, and project management.
- » Use billing data and building characteristics to identify the highest energy users for targeted outreach.
- » Utilize one-off or widget rebates as a marketing strategy to get customers in the door.

### Key Innovations

- » Promote energy efficient industries by partnering with existing Green Certification Programs.
- » Create a Continuous Improvement Peer Advisory group to offer training within a particular industry and share best practices.
- » Offer pay for performance incentives.

Table 3. Industrial Program Budget & Savings Summary

Industrial Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost	0.65		1.00	
Budget	\$655,879	\$655,824	\$636,636	\$677,642
Estimated Savings	501,371 kWh (3,794) therms	690,396 kWh (5,897) therms	852,146 kWh (7,324) therms	1,035,544 kWh (8,726) therms

Figure 16. Integrated Program Structure—Industrial

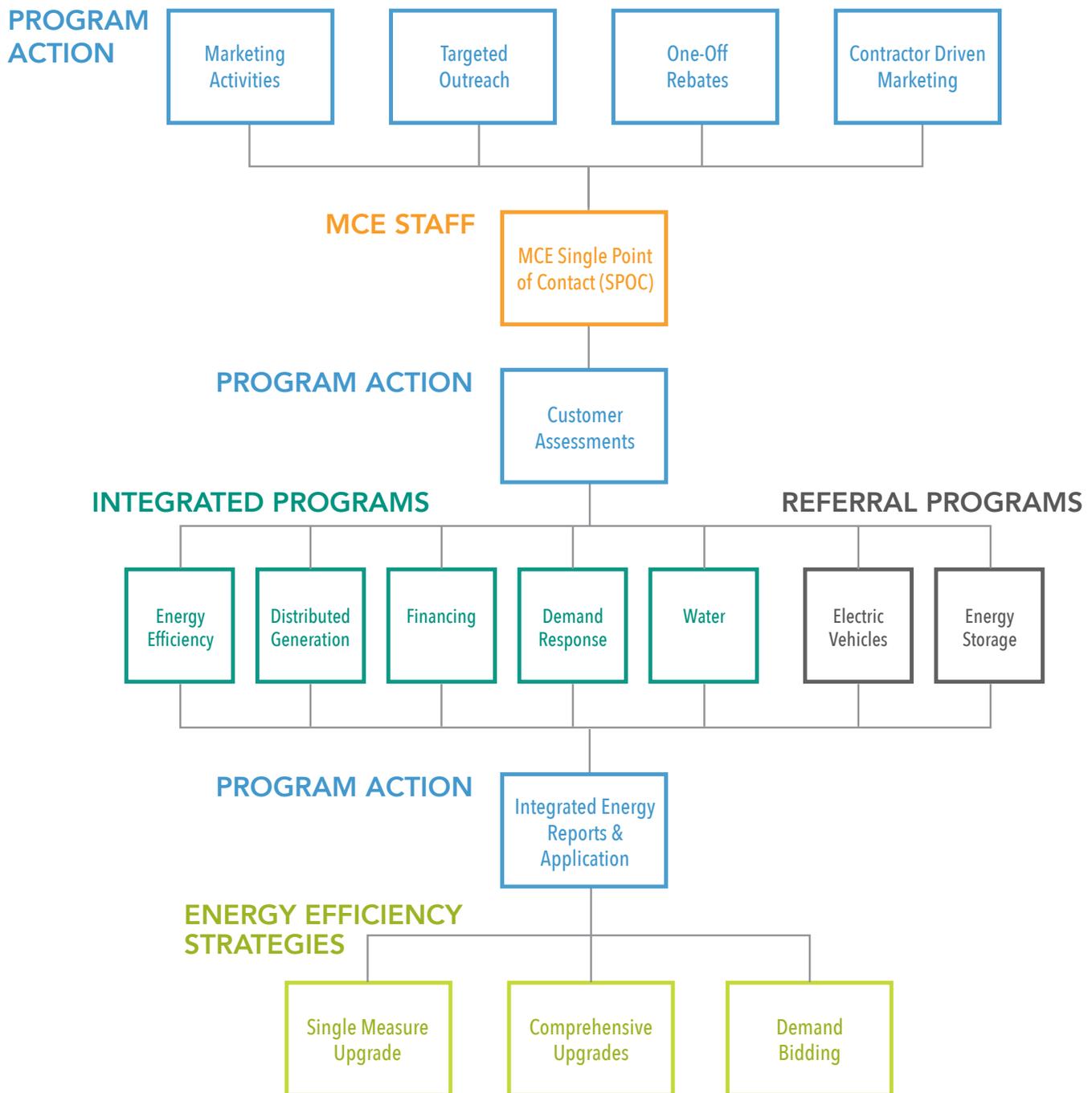
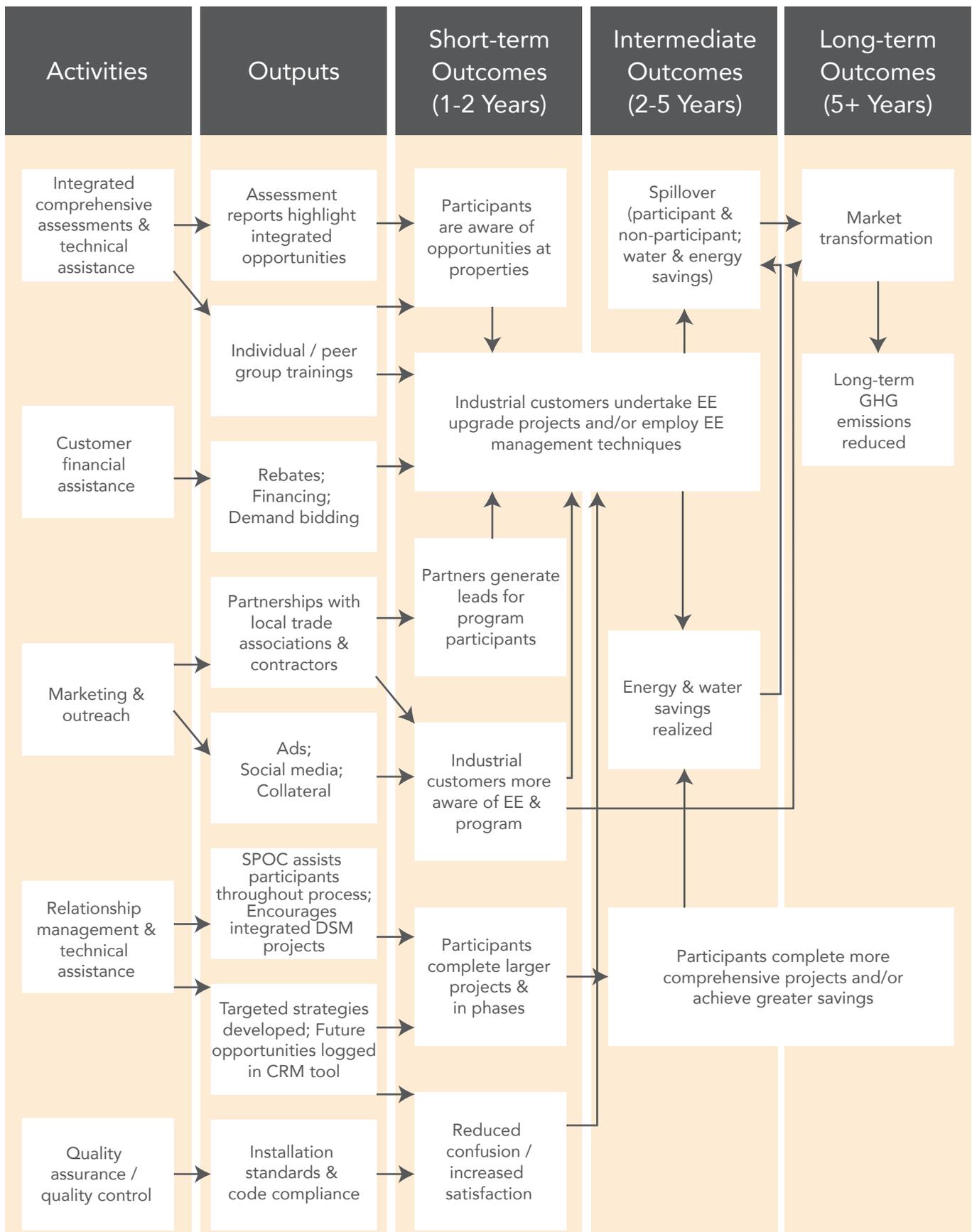


Figure 17. Industrial Program Logic Model



## Agricultural Program

### Sector Opportunities

The high-intensity energy demand of food production qualifies many of MCE's agricultural customers that process on-site (including vineyards) as industrial or large commercial ratepayers. Thus, MCE's Agricultural Program is designed to serve customers whose primary activity is farming as well as to integrate with customers served under the Commercial Program or Industrial Program that can also benefit from energy reductions on their agricultural lands.

MCE's Agricultural Program focuses on dairies and vineyards, the region's largest agricultural users. The seasonal nature of agricultural operations affects the cash flow of these businesses as well as the timing of when equipment is available to be upgraded. MCE can ramp up the activity of its Agricultural Program during the slow production seasons. Integrated on-site generation solutions capitalize on feed-in tariffs or net energy metering during the off-season and supplement customer energy needs during periods of high production.

### Core Activities

- » Provide participants with an Agricultural SPOC to serve as a facilitator and customer advocate and to help guide business owners through the process from initial contact to project completion.
- » Develop an integrated assessment process that streamlines multiple program offerings into one customer report.
- » Offer financing and rebates to help overcome upfront cost barriers.
- » Provide technical assistance to develop customized energy upgrade projects that meet the needs of the customer.

### Key Innovations

- » Leverage existing certification programs to increase demand for green agricultural practices.
- » Design program and financing options around seasonal work cycles, which impact cash flow and equipment use.
- » Coordinate with Multifamily Program to provide farmworker housing energy efficiency assistance.

Table 4. Agricultural Program Budget & Savings Summary

Agricultural Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost	0.74		0.60	
Budget	\$539,084	\$673,655	\$756,365	\$915,173
Estimated Savings	504,882 kWh 243 therms	839,198 kWh 648 therms	530,043 kWh 5,832 therms	817,745 kWh 11,016 therms

Figure 18. Integrated Program Structure—Agricultural

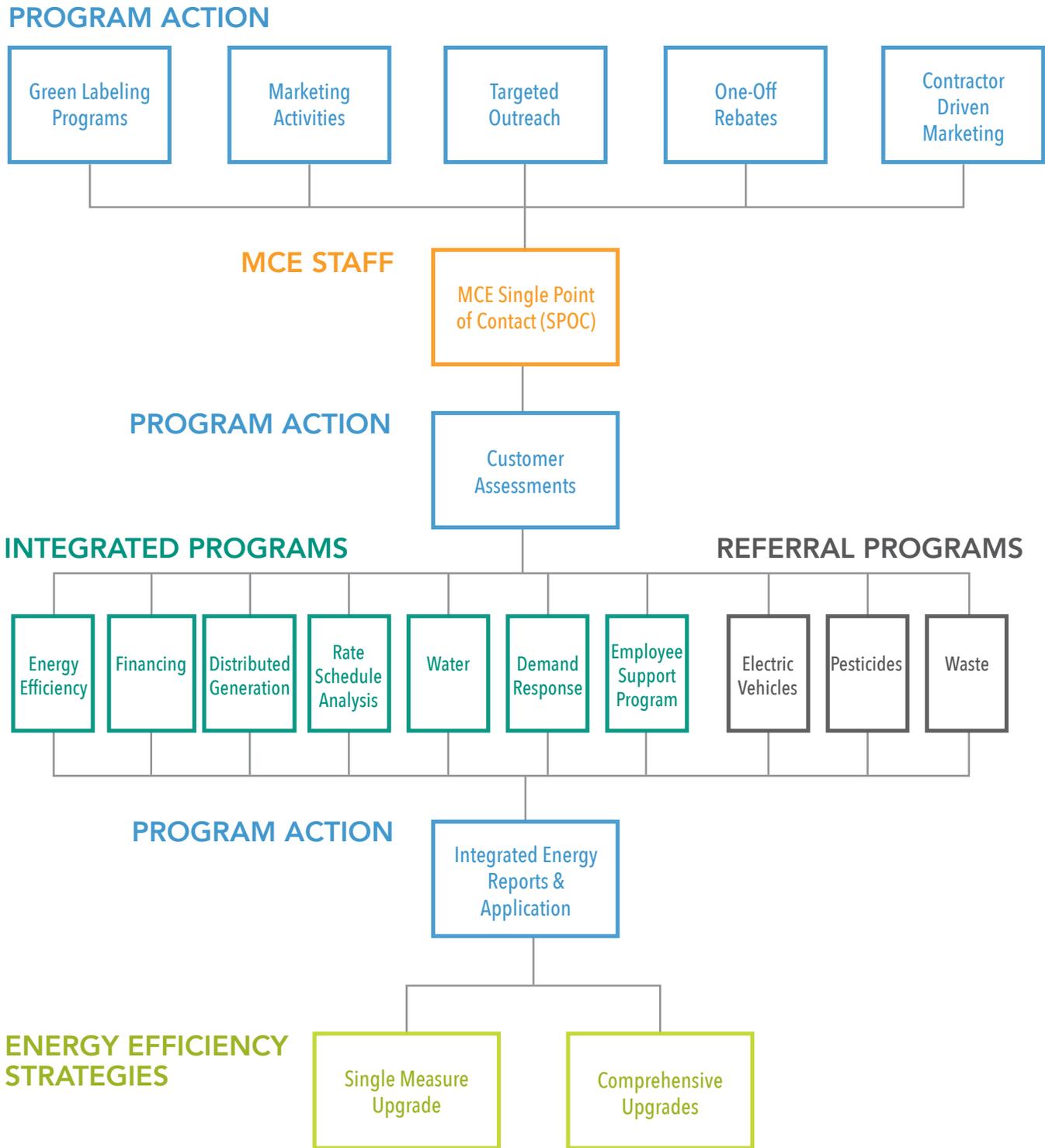
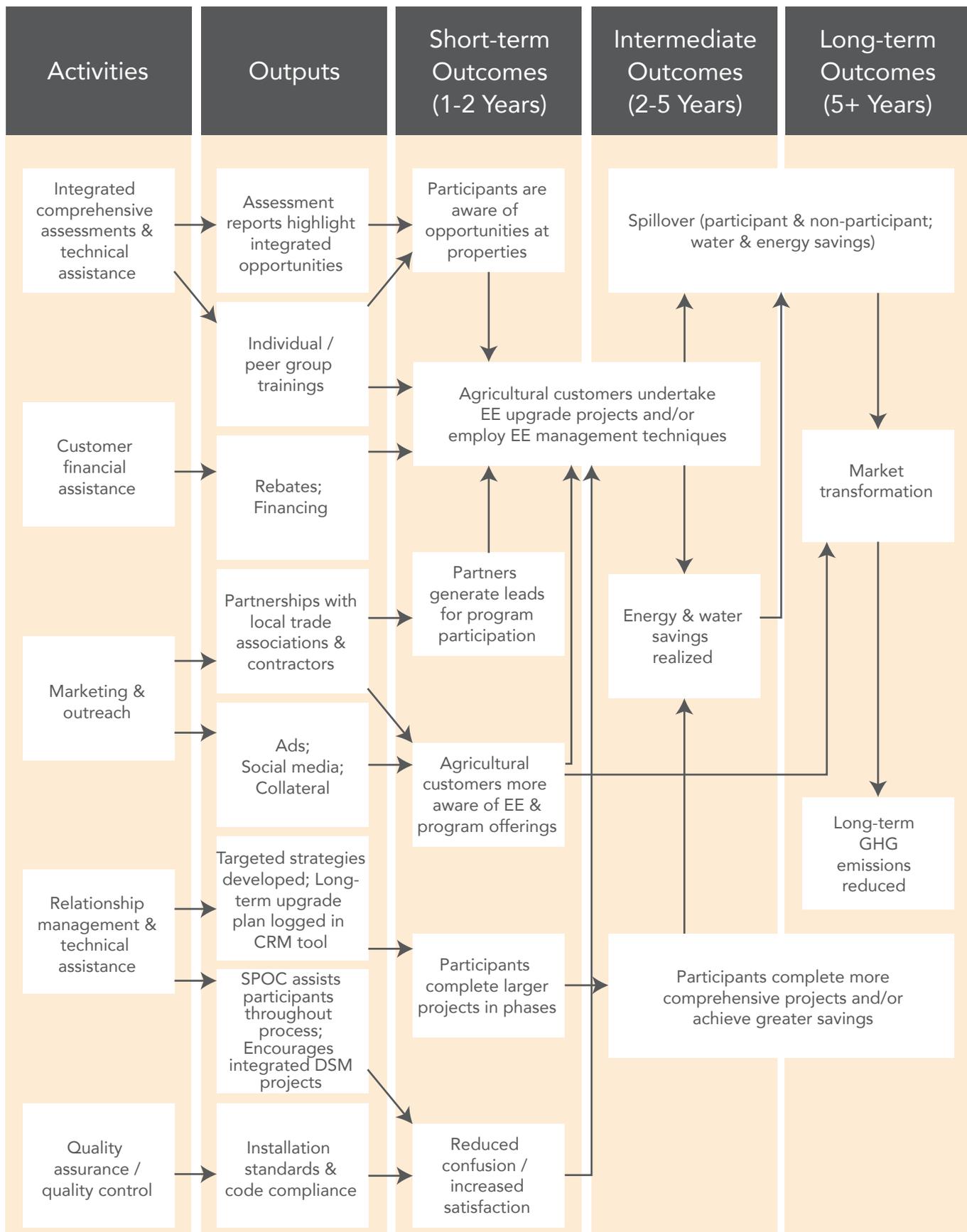


Figure 19. Agricultural Program Logic Model



## Commercial Program

### Sector Opportunities

There are distinct differences in strategies for serving commercial properties based on the size of the business. Tenant/owner relationships similar to multifamily buildings affect the placement and effectiveness of incentives for small commercial customers. For larger commercial properties, energy costs are generally a small proportion of overall operating expenditures and dollar savings alone may not be enticing enough for these customers to take action. Energy improvements must appeal to other company objectives, such as corporate social responsibility and community visibility. Integrated solutions can provide an entry for energy efficiency programs when a company may be most interested in more visible improvements, such as solar panels.

MCE's Commercial Program is designed to serve both large and small commercial customers. The program acknowledges inherent differences in opportunities between small and large commercial properties, and emphasizes integrating diverse program offerings under one umbrella. The program focuses on customer satisfaction with the energy upgrade experience. MCE hopes to entice customers back for repeated engagement with the program and to help spur healthy competition between local businesses to demonstrate GHG reduction impact, ultimately driving toward market transformation.

### Core Activities

- » Provide participants with a Commercial SPOC to serve as a facilitator and customer advocate and to

help guide business owners through the process from initial contact to project completion.

- » Target buildings by using SmartMeter technology in order to focus opportunities and improve MCE's sales approach.
- » Provide low- or no-cost audits for small commercial properties with limited opportunities.
- » Provide extensive audits with customizable incentives for larger properties.
- » Develop an integrated assessment process that streamlines multiple program offerings into one customer report.
- » Deploy user-friendly CRM software that supports ongoing relationships between the business and the program.

### Key Innovations

- » Offer innovative behavioral approaches that leverage web-based tools and software programs. Depending on demand, offerings could also include competitions and campaigns, social media, green teams, and interactive dashboards.
- » Deliver an integrated approach that provides a seamless customer experience.
- » Leverage existing and forthcoming benchmarking regulations as a means to assist customers to compare their usage to their peers and best-in-class operations, and as a tool to incentivize

Table 5. Commercial Program Budget & Savings Summary

Commercial Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost	1.02		1.49	
Budget	\$1,294,870	\$1,518,379	\$1,953,386	\$2,108,092
Estimated Savings	1,238,877 kWh 6,183 therms	2,305,924 kWh (2,491) therms	3,500,697 kWh (8,472) therms	4,275,464 kWh (9,678) therms

upgrades and enhancements. Benchmarking can tie into other offerings and be used as a hook for anything from assessments to deep retrofits to behavioral campaigns to fault detection and diagnostics.

- » Offer financing options through MCE on-bill repayment to help overcome one of the primary barriers for many small commercial customers (access to capital).
- » Provide assistance obtaining Bay Area Green Business certification.

Figure 20. Integrated Program Structure—Commercial

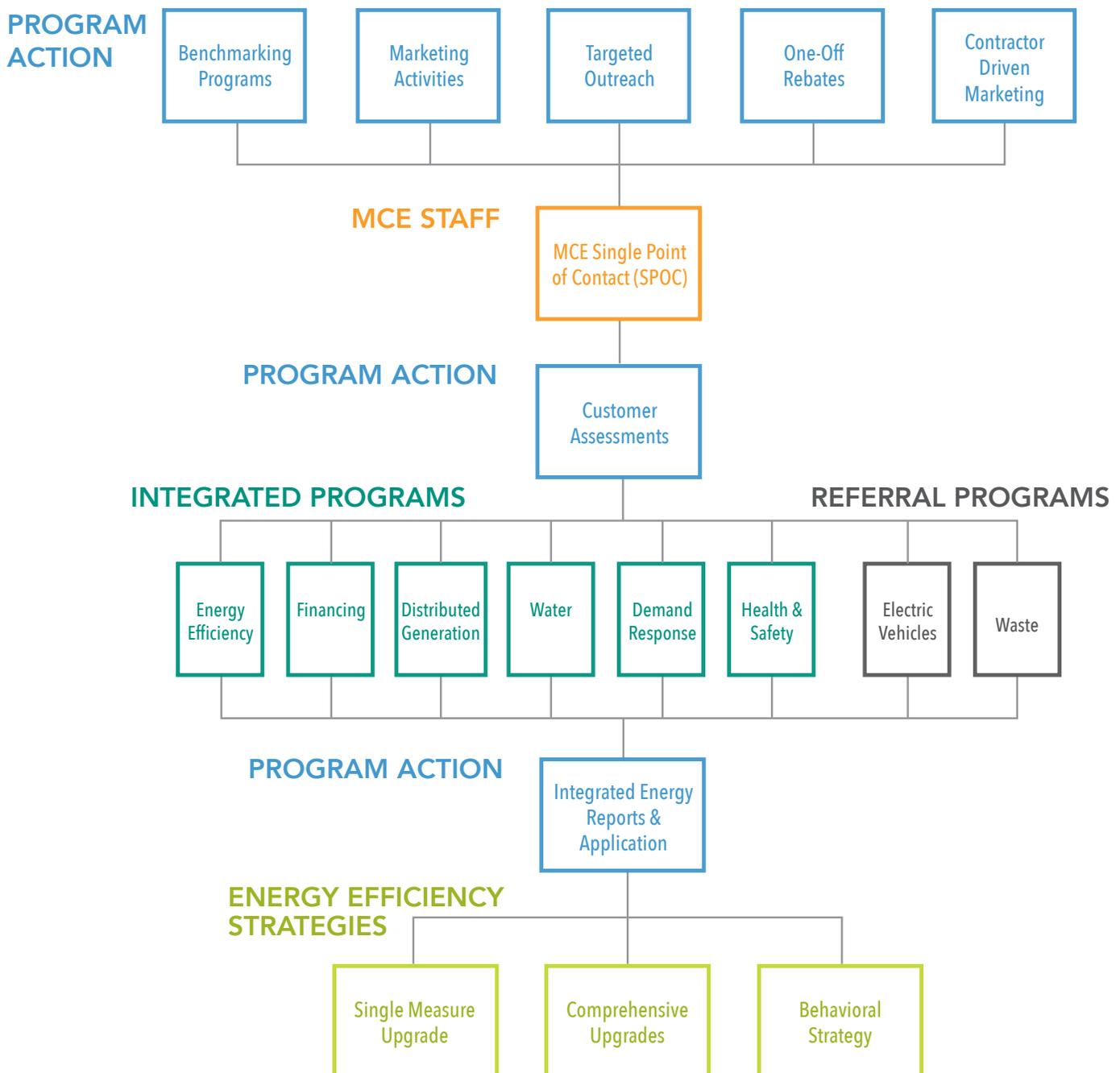
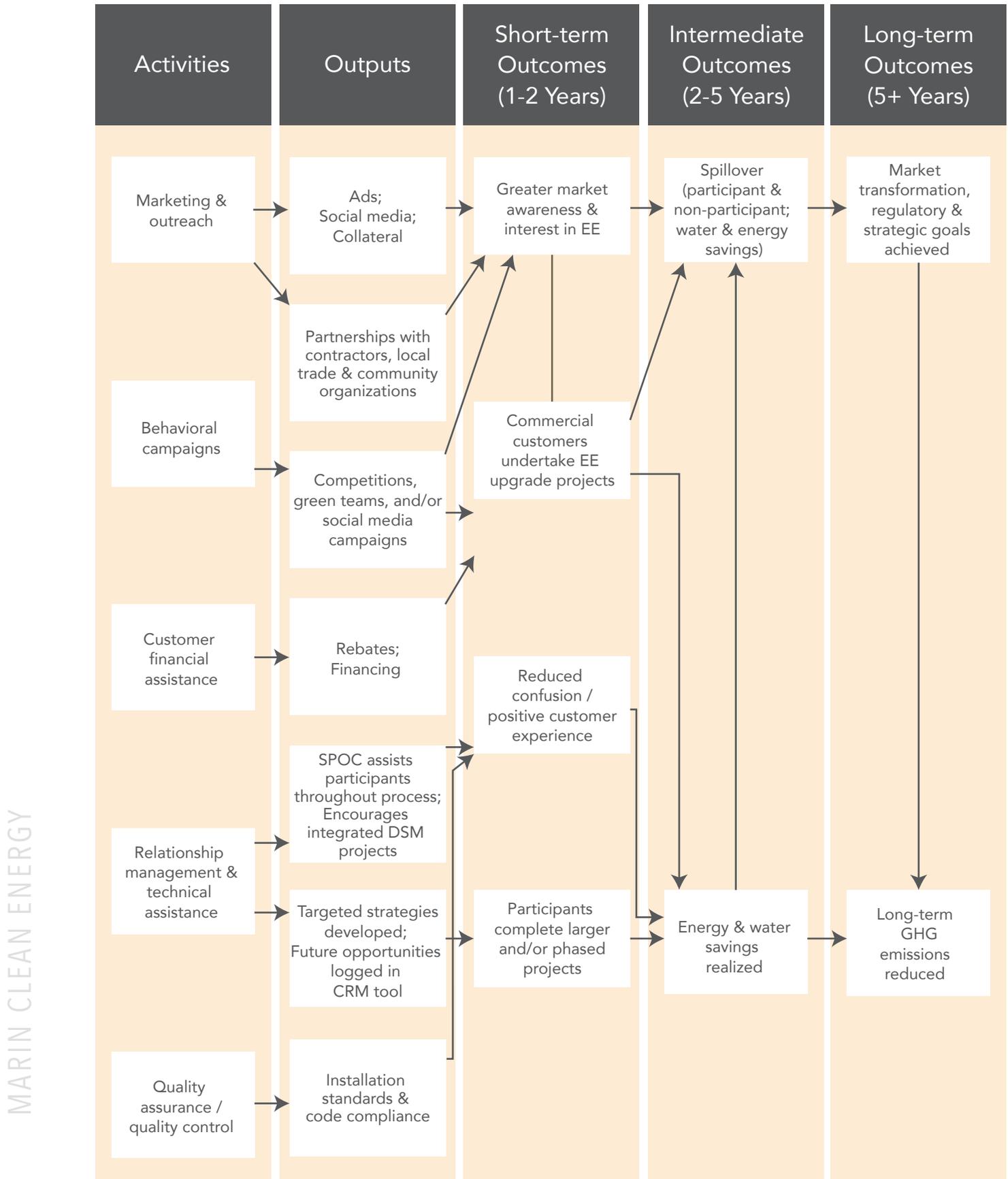


Figure 21. Commercial Program Logic Model



## Workforce Development

### Community Benefit that Aids Market Transformation

MCE supports the success of its energy efficiency programs with complementary workforce development and training. MCE recognizes that contractors and workers must have the skills necessary to support program success and that a trained workforce is essential to accomplishing market transformation. MCE's growing network of trained local contractors can also help achieve deeper market penetration by identifying trigger events that could bring customers to the energy efficiency program.

MCE's goal is to create meaningful employment pathways for workers who are new or recently returning to the workforce, rather than creating one-off trainings that fail to guide participants toward future opportunities. MCE engages community partners to ensure the inclusion of workers from disadvantaged communities in pursuing energy sector careers. Working closely with community partners helps MCE to build on existing success in the region, fill gaps in service, and provide meaningful local workforce opportunities in connection to MCE's own renewable energy projects. To date, MCE has contracted more than \$250,000 with RichmondBUILD, the Marin City Community Development Corporation, Rising Sun Energy Center,

and others to train and provide local workers to implement energy upgrades for our energy efficiency programs.

### Core Activities

- » Work with local experts to align, leverage, and influence existing training programs and markets in the MCE service territory.
- » Offer stackable credential programs that provide workers with a broad spectrum of transferable skills that qualify them for a variety of green jobs.
- » Provide on- and off-ramps for workers of varying levels of experience and ambition.

### Community Benefits

- » Skilled workers ensure that efficiency gains are met and that health and safety issues are addressed.
- » Marketing, education, and outreach activities increase the demand for skilled labor in the region.
- » Increase in skilled labor creates spillover<sup>6</sup> benefit for the whole community, not just program participants. ■

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<sup>6</sup> Spillover is defined in the Energy Efficiency Policy Manual (v.5) as "savings caused by the presence of the program but beyond program-related savings (p.56)".

Figure 22. Workforce Program Diagram

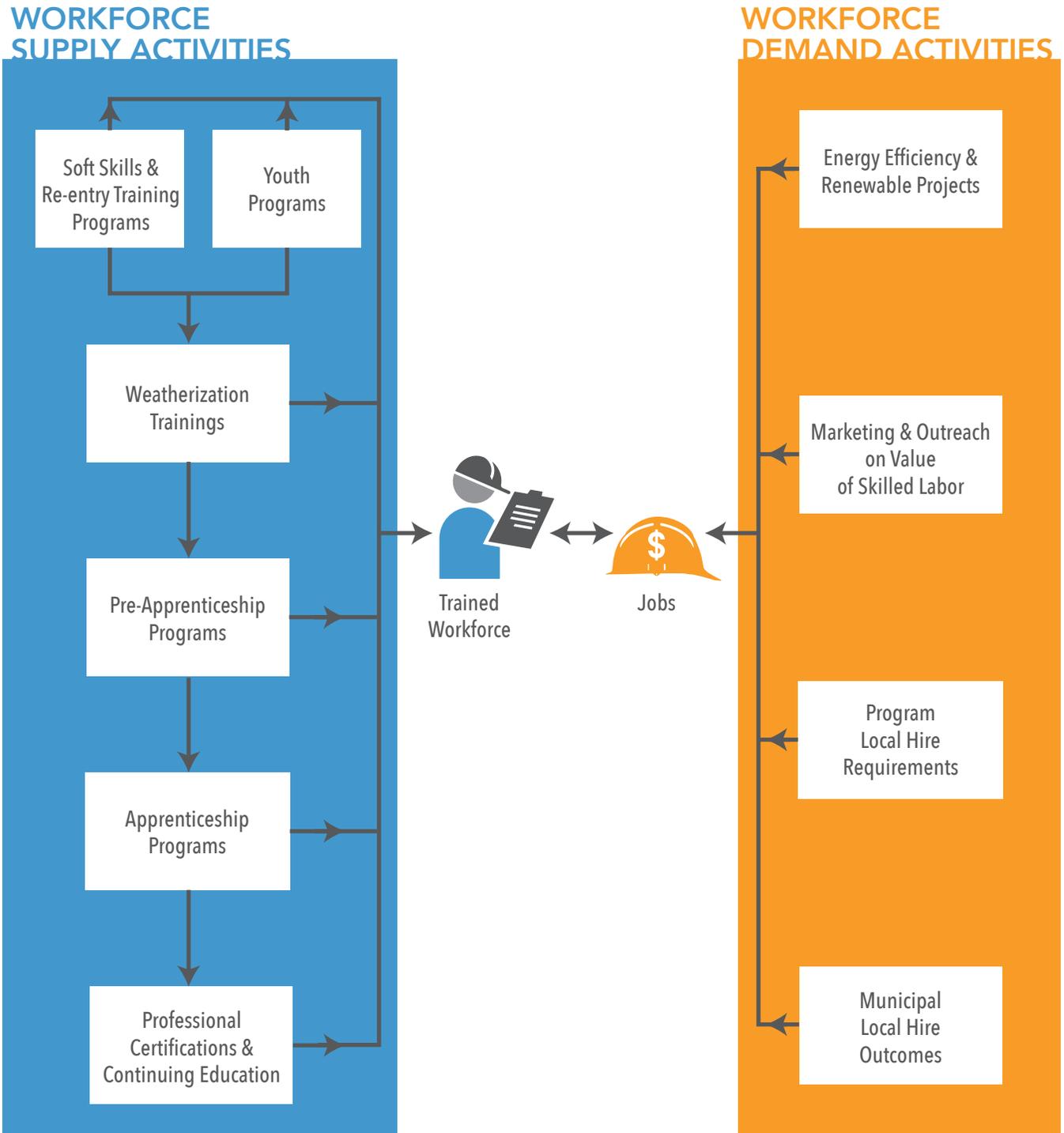
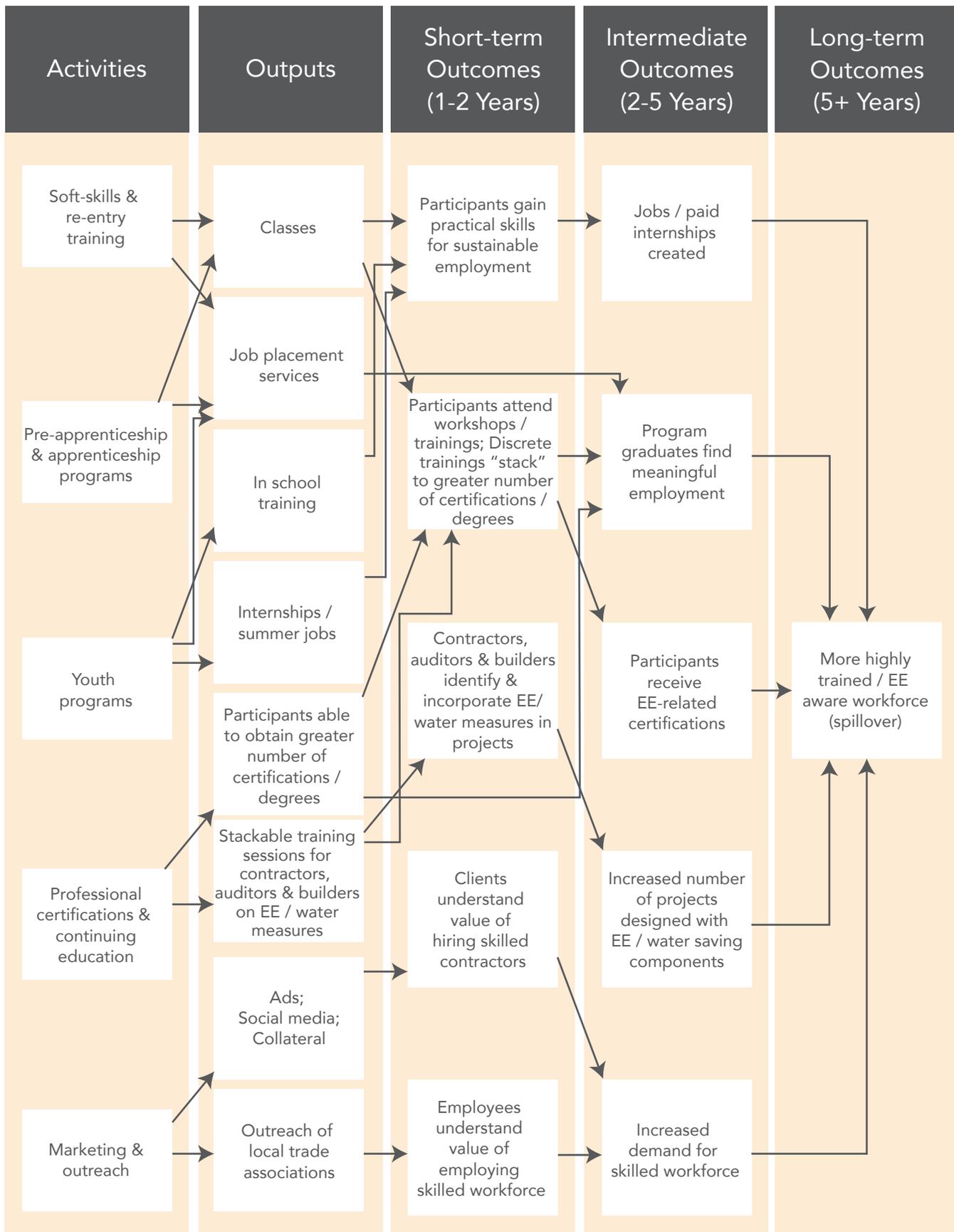


Figure 23. Workforce Program Logic Model



# ENERGY SAVINGS: LOGIC & ASSUMPTIONS

This section describes the methodology utilized by MCE to arrive at energy savings targets that are both realistic and achievable. Rather than relying on the E3 calculator<sup>7</sup> to create savings targets that are cost effective, MCE first modeled likely participation rates to identify achievable savings targets within its service territory. MCE then developed a set of measures for inclusion into the portfolio based on the DEER database, the Commercial End-Use Survey (CEUS)<sup>8</sup> and Residential Appliance Saturation Survey (RASS)<sup>9</sup> data on appliances and energy use, the age and types of buildings in the service territory, and past program data on the most common measures.

Market transformation involves a future in which public subsidies are no longer necessary to influence consumers' energy efficiency behaviors. The new, 10-year rolling cycle provides an opportunity to consider

how cost effectiveness can be achieved within a long-term vision. Flexibility in cost effectiveness over a longer program cycle could help PAs invest in innovations that achieve significant savings from measures that are not feasible under the current TRC structure. MCE's program is designed to promote market transformation over a 10-year period. It will begin with low participation and high incentives, which will reverse as the program matures. A schedule for declining incentives triggered by customer participation is also described in this section.

**Estimated Participation Rates.** The level of ratepayer participation is an important assumption when predicting the energy savings from an energy efficiency portfolio. The following table describes MCE's anticipated market participation over the next 10 years. MCE estimated participation rates based on current energy efficiency program participation and past program data, and is confident in its ability to bring customers to the table at the rates noted. These predictions are reinforced by the fact that MCE is close to the customer and has a strong sense of local conditions.

Table 6 describes the percentage of MCE's entire accounts engaged in the energy efficiency program

<sup>7</sup> The E3 calculator is a publicly available tool developed by consultants to the CPUC to evaluate the cost effectiveness of current and proposed programs. The tool can be downloaded at: [https://ethree.com/public\\_projects/cpuc4.php](https://ethree.com/public_projects/cpuc4.php)

<sup>8</sup> CEUS is a comprehensive study of commercial sector energy use, primarily designed to support the state's energy demand forecasting activities. The data was published in 2006, and the study was funded by the California Energy Commission.

<sup>9</sup> RASS is a residential mail survey that requested information on appliances, equipment, and general consumption patterns from California households. The most recent round of data collection was completed in 2010. The survey was funded and administered by the California Energy Commission.

Figure 24. Declining Incentives by Measure Over Time

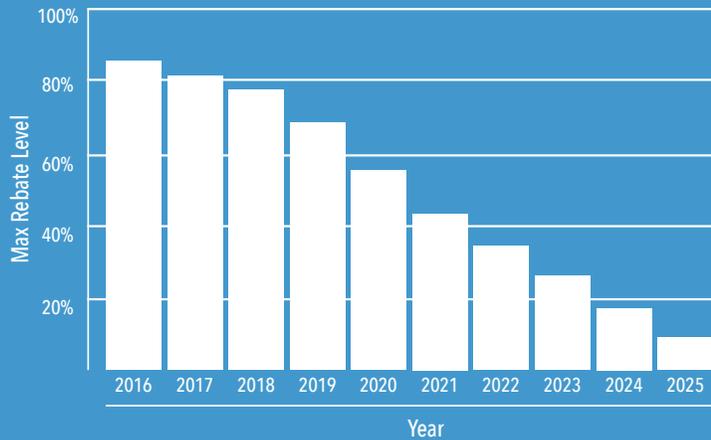
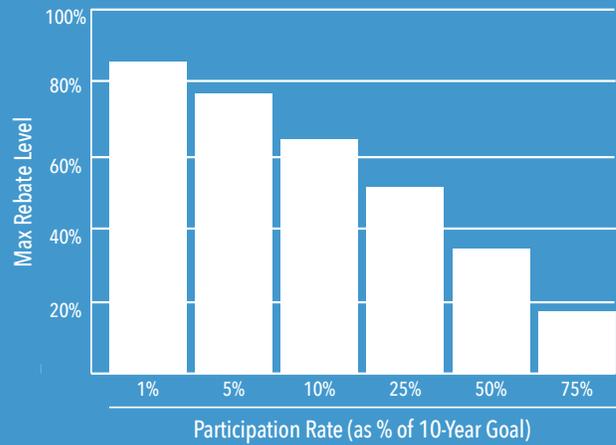


Figure 25. Declining Incentives Tied to Participation Rates



Note: These figures are intended to be illustrative visuals, and not precise or prescriptive.

at years 2, 5, and 10. MCE predicts deeper market penetration over time. Anticipated ZNE participation is estimated over the life of the energy efficiency program and is not broken out by year.

Table 6. Assumed MCE Participation Rates (Fraction of Participants)

Sector	2-year Interval	5-year Interval	10-year Interval	Zero Net Energy (ZNE) Program*
Residential	0.25%	1%	3%	0.004%
Commercial	0.25%	1%	3%	0.01%
Industrial	0.50%	2%	6%	0.1%
Agricultural	0.50%	2%	6%	0.05%

\*Anticipated ZNE participation is cumulative for the whole 10-year interval.

These participation ratios were applied to MCE’s current account information to determine the number of customers the program will serve in each customer segment, as displayed in Table 7.

Table 7. Assumed MCE Participation Rates (Number of Participants)

Sector	2-year Interval	5-year Interval	10-year Interval	Zero Net Energy (ZNE) Program*
Residential	586	2,344	7,032	9
Commercial	69	275	825	3
Industrial	4	17	50	1
Agricultural	10	42	125	1

\*Anticipated ZNE participation is cumulative for the whole 10-year interval.

**Estimating Energy Savings Intensity.** While customer participation is expected to rise over the 10-year interval as shown in Figure 25, MCE also anticipates mixed levels of actual energy savings from customers due to the varying intensity of their individual efficiency projects. For most participants, per participant savings estimates range from an estimated 5% savings (low) to 10% savings (medium).

For participants reaching for ZNE, MCE estimates that savings range from 30% to 70%.

**Energy Efficiency Measures List.** MCE developed a set of measures for inclusion into the energy savings portfolio based on the DEER database, the CEUS and RASS data on appliances and energy use, the age and types of buildings in the MCE service territory, and past program data on the most common measures (particularly for custom measure estimates).

**Declining Incentives Structure.** MCE plans to reduce incentives over time, following market trends indicating that customers rely less on financial incentives as motivation to implement specific energy efficiency measures and upgrades increases. Program participation benchmarks will trigger reductions in rebates based on the participation target. MCE estimates that these triggers will take place over the timeline described in Figure 24. The timeline is dependent on participation rates. Figure 25 shows how declining incentives are tied to participation rates (as a percent of the 10-year participation goal).

MCE estimated the total savings potential for the program by applying the percentage savings estimates to the average customer usage by sector at the assumed participation rates. Consumption estimates for MCE's accounts were based on historic utility account information by climate zone. These estimated savings are cumulative.

Once a ballpark estimate of feasible energy savings was achieved, MCE developed E3 calculators. MCE's E3 calculations<sup>10</sup> for cost effectiveness utilize the assumed participation rates and measures to arrive at the energy savings targets that allow MCE to achieve a cost effective portfolio within the first 2 years. MCE

expects an initial TRC close to 1.0 for the first year of implementation, with improving cost effectiveness over time as participation rates increase and rebates decrease.

## Risk Mitigation

The energy savings and associated cost effectiveness of the business plan assume that participation levels will continue to increase even as incentives drop over time. This assumption is not without precedent; the California Solar Initiative demonstrated that increased market participation can result in decreased material and labor expenses, and emerging technology programs have also demonstrated a similar trajectory. However, in order to meet required cost effectiveness levels in later years of implementation, these assumptions must hold.

Therefore, MCE proposes a "re-look," or a reconsideration of budget and incentive levels in the event that assumptions underpinning the portfolio do not hold true. MCE will be responsible for monitoring overall cost effectiveness of the portfolio. Variation in measure by measure implementation can be managed through fund shifting or adjustment of incentives on individual measures, which will be reported on an annual basis. However, if the level of funding shifting or incentive adjustment required to maintain cost effectiveness exceeds the levels allowed by Commission policy, then MCE will be required to re-evaluate the logic of its Business Plan. MCE proposes that such a refresh will be vetted first with CPUC identified stakeholder groups and MCE's community and governing body, and then would be brought to Commission staff and ultimately the Commission for approval. ■

<sup>10</sup> The E3 calculator is a spreadsheet-based tool developed by the CPUC that calculates the cost effectiveness of energy efficiency program portfolios according to several cost effectiveness tests, including the TRC.

# ENERGY EFFICIENCY PROGRAM BUDGET

MCE estimates a ramp up period will be needed. Budget and staffing information has been presented for the first few years of portfolio implementation. Staffing is assumed static after year three, and further updates will be made with annual filings.

Table 8. Energy Efficiency Program Budget Summary, Years 2016–18

Budget by Program (Years 1–3)			
Program	2016	2017	2018
Multifamily	\$1,494,117	\$2,914,547	\$3,030,960
Single Family	\$2,118,650	\$3,142,067	\$3,072,322
Commercial	\$1,599,070	\$2,482,752	\$2,915,910
Industrial	\$816,082	\$963,458	\$865,779
Agricultural	\$271,300	\$409,277	\$404,332
<b>TOTAL</b>	<b>\$6,299,218</b>	<b>\$9,912,101</b>	<b>\$10,289,303</b>

## Management and Staffing Resources

MCE projects a need for increasing staff resources over time. Figure 26 presents an organizational chart for year 2016; further years are elaborated in Appendix B. A detailed description of staff positions is presented in Table 9. ■

Figure 26. Organizational Chart (2016)



Table 9. Staff Positions and Descriptions

POSITION	JOB DESCRIPTION
Director of Energy Efficiency	Responsible for portfolio development and administration, regulatory filings and reporting, meeting and setting targets, and staff management.
Regulatory Counsel	Manages all energy efficiency related proceedings, drafts filings, represents MCE's policy interest, and the Regulatory Analyst.
Regulatory Analyst	Analyzes and prepares comments and filings for energy efficiency proceedings and represents MCE's policy interest.
Manager (Customer Facing)	Manages program implementation; responsible for community outreach, education, and engagement; manages SPOCs & support staff. (Estimated future need.)
Manager (Technical)	Manages the technical aspect of the program; responsible for development of measure lists, E3 calculator, savings and cost modeling, and data management. (Estimated future need.)
Single Point of Contact (SPOC)	Core of the program and first point of contact for participants, manages building/project data in CRM, identifies programs to meet participants needs, project management, follows up with additional program opportunities for future participation, maintains relationships to provide highest quality customer service, and collects data for reporting. (Estimated future need.)
Engineer	Responsible for measure list development, savings and cost modeling, data analysis and E3 calculator management. (Estimated future need.)
Technical Specialist	Provides support for data tracking and reporting, measure list development, savings and cost modeling, and target and metrics development. (Estimated future need.)
Marketing Associate	Responsible for designing collateral, print and digital ad campaigns, and all other tasks related to marketing and outreach. (Estimated future need.)
Administrative Assistant	Provides administrative support—responsible for tracking program metrics, data entry for reporting, scheduling, event and outreach preparation.
Intern	Educational opportunity for high school and college students to learn more about the energy efficiency field—responsible for specific projects: researching funding or rebate opportunities, identifying innovative programs, support marketing, outreach, and administrative tasks. (Estimated future need.)

# CONCLUSION

## Moving from Niche to Primary Provider

Given the vast changes taking place in the energy delivery field, MCE is well poised to become the primary provider of energy efficiency services in its territory. The utility of the future needs to be much more nimble and locally responsive than utilities of the past, and MCE is this energy provider. Because MCE was created within the last 10 years specifically in response to urgent customer needs, it is uniquely positioned to address significant customer and societal needs moving forward. Its position as a CCA allows MCE to manage its programs and approach from a local community need position. This will ultimately provide the best results to all communities and customers. From managing distributed energy resources to empowering the grid of the future, MCE has the local focus combined with operational agility to manage vastly and uniquely changing customer demands and needs. The focus of this document is on energy efficiency, but MCE's outlook includes much more than energy efficiency alone.

## The Time is Now

We are living in an extraordinary time. While we currently face intimidating scenarios of climate

disruption due to an over-reliance on carbon-based fuels, we are also seeing incredible advances in technologies that offer the potential to reverse the massive build-up of carbon that is taking place in our atmosphere. But rising to the challenge of climate change will require a rethinking and reworking of how we deliver and manage energy systems as a whole.

As Albert Einstein famously quipped, "We cannot solve our problems with the same thinking we used when we created them." Nowhere is this truer than with our energy systems. Most of the energy in America is generated, delivered, and managed by regulated monopolies that are more than 100 years old. These institutions were born in a completely different era, and they have served us well for many years. However, the world now has unique challenges and extraordinary opportunities that did not exist before. MCE was born in this era and is built on a foundation that is focused on today's challenges, perspectives, and relevant issues. MCE was created to take advantage of and embrace the very best of energy efficiency research and practice. Unlike large IOUs and POUs, MCE can be nimble and focus on those areas of the greatest need and opportunity with the requirements of an aging energy generation and distribution system. ■

**55** APPENDIX A: PLACEMATS

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RESOURCES 2017–18

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# APPENDIX A: PLACEMATS

## Program Budget Years 1-2

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Estimated Total Direct Implementation (Customer Services)	Estimated Direct Implementation (Incentives & Rebates)	Total Direct Implementation (Actual)	Total Budget By Program (Actual)
MCE01	Residential Single Family	\$287,072	\$301,570	\$1,446,437	\$899,615	\$2,346,053	\$5,280,747
MCE02	Residential Multifamily	\$272,289	\$353,585	\$1,343,376	\$845,238	\$2,188,614	\$5,003,101
MCE03	Commercial	\$262,621	\$373,923	\$995,603	\$1,081,103	\$2,076,706	\$4,789,955
MCE04	Industrial	\$124,419	\$138,628	\$670,068	\$326,200	\$996,269	\$2,255,584
MCE05	Agricultural	\$112,578	\$98,467	\$623,127	\$489,993	\$1,113,119	\$2,437,283
	Total						\$19,766,670
	EM&V						\$426,416

## Program Budget Years 3-4

Program #	Main Program Name / Sub-Program	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	Estimated Total Direct Implementation (Customer Services)	Estimated Direct Implementation (Incentives & Rebates)	Total Direct Implementation (Actual)	Total Budget By Program (Actual)
MCE01	Residential Single Family	\$373,277	\$271,570	\$1,766,541	\$1,350,876	\$3,117,417	\$6,879,681
MCE02	Residential Multifamily	\$414,247	\$449,557	\$1,576,510	\$1,732,567	\$3,309,077	\$7,481,958
MCE03	Commercial	\$400,000	\$322,152	\$1,719,642	\$1,459,685	\$3,179,327	\$7,080,805
MCE04	Industrial	\$125,008	\$138,628	\$642,682	\$352,728	\$995,410	\$2,254,455
MCE05	Agricultural	\$132,578	\$103,467	\$748,127	\$1,496,253.21	\$2,244,380	\$4,724,804
	Total						\$28,421,704

## Electric (kWh) Savings

Program #	Main Program Name / Sub-Programs	Years 1-2		Years 3-4		Cumulative	
		EE Program Gross kWh Savings	% of Total Portfolio Savings Goal	EE Program Gross kWh Savings	% of Total Portfolio Savings Goal	Ten Year EE Program Gross kWh Savings	% of Total Portfolio Savings Goals
MCE01	Residential Single Family	2,279,005	22%	4,309,055	22%	6,588,060	22%
MCE02	Residential Multifamily	1,789,225	18%	3,865,465	20%	5,654,689	19%
MCE03	Commercial	3,544,801	35%	7,776,161	41%	11,320,962	39%
MCE04	Industrial	1,191,767	12%	1,887,690	10%	3,079,458	10%
MCE05	Agricultural	1,344,080	13%	1,347,788	7%	2,691,868	9%
Total		10,148,878	100%	19,186,159	100%	29,335,038	100%

## Demand (kW) Savings

Program #	Main Program Name / Sub-Programs	Years 1-2		Years 3-4		Cumulative	
		EE Program Gross kW Savings	% of Total Portfolio Savings Estimate	EE Program Gross kW Savings	% of Total Portfolio Savings Goal	Ten Year EE Program Gross kW Savings	% of Total Portfolio Savings Goals
MCE01	Residential Single Family	47,149	71%	82,388	66%	129,536	68%
MCE02	Residential Multifamily	18,742	28%	41,101	33%	59,843	31%
MCE03	Commercial	146	0%	285	0%	430	0%
MCE04	Industrial	64	0%	92	0%	156	0%
MCE05	Agricultural	138	0%	152	0%	290	0%
Total		66,239	100%	124,018	100%	190,257	100%

## Gas (therm) Savings

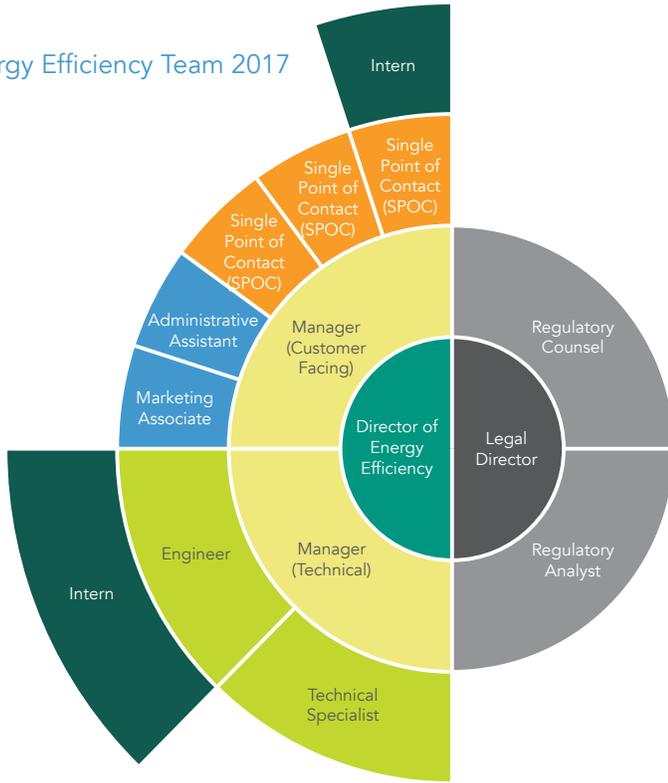
Program #	Main Program Name / Sub-Programs	Years 1-2		Years 3-4		Cumulative	
		EE Program Gross Therm Savings	% of Total Portfolio Savings Goal	EE Program Gross Therm Savings	% of Total Portfolio Savings Goal	Ten Year EE Program Gross Therm Savings	% of Total Portfolio Savings Goals
MCE01	Residential Single Family	96,387	39%	212,886	30%	309,273	33%
MCE02	Residential Multifamily	155,469	63%	508,654	72%	664,123	70%
MCE03	Commercial	3,692	1%	(18,150)	-3%	(14,458)	-2%
MCE04	Industrial	(9,691)	-4%	(16,050)	-2%	(25,741)	-3%
MCE05	Agricultural	891	0%	16,848	2%	17,739	2%
Total		246,748	100%	704,189	100%	950,936	100%

## Cost Ratios

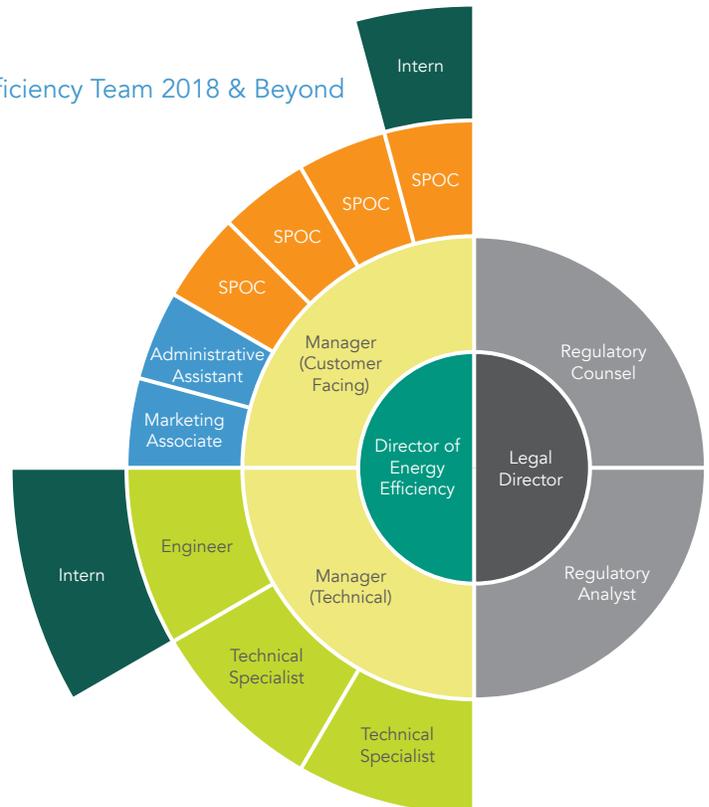
Program #	Main Program Name / Sub-Programs	Years 1-2			
		Net TRC Ratio per Program	Gross TRC Ratio per Program	Net Program Administrator Cost Ratio	Gross Program Administrator Cost Ratio
MCE01	Residential Single Family	1.47	1.73	1.4875	1.75
MCE02	Residential Multifamily	0.99	1.16	0.969	1.14
MCE03	Commercial	0.87	1.02	0.8585	1.01
MCE04	Industrial	0.55	0.65	0.5865	0.69
MCE05	Agricultural	0.63	0.74	0.663	0.78

# APPENDIX B: MANAGEMENT & STAFFING RESOURCES 2017-18

MCE Energy Efficiency Team 2017



MCE Energy Efficiency Team 2018 & Beyond



# APPENDIX C: LETTERS OF SUPPORT



7/28/15

President Picker  
 Commissioner Florio  
 Commissioner Peterman  
 Commissioner Randolph  
 Commissioner Sandoval  
 California Public Utilities Commission  
 505 Van Ness Avenue  
 San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners,

Canal Alliance strongly supports Marin Clean Energy's (MCE's) application for its 2016 and Beyond Energy Efficiency Portfolio. MCE's Business Plan provides a bold vision for achieving ambitious energy savings targets. It provides detail on how MCE will leverage its key strengths – being nimble, flexible, and responsive to customer needs. In addition, the document lays out a plan for leveraging the ten-year program cycle to promote market transformation.

MCE's key innovations including the single-point-of-contact model, advanced customer relationship tool, integrated program delivery, and the use of advanced metering infrastructure data will help to provide higher quality energy efficiency services to our region. MCE's transition to a comprehensive and well-balanced portfolio presents an exciting opportunity to engage customers in novel ways.

We support MCE's proposal to deliver a portfolio of cutting edge programs designed to cost-effectively save customers energy and water, while reducing the state's greenhouse gas emissions.

MCE is the public power provider for the community that we serve. Canal Alliance strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,

Tom Wilson  
 Executive Director, Canal Alliance



President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners,

Community Action Marin strongly supports Marin Clean Energy's (MCE's) application for its 2016 and Beyond Energy Efficiency Portfolio. MCE's Business Plan provides a bold vision for achieving ambitious energy savings targets. It provides detail on how MCE will leverage its key strengths – being nimble, flexible, and responsive to customer needs. In addition, the document lays out a plan for leveraging the ten-year program cycle to promote market transformation.

MCE's key innovations including the single-point-of-contact model, advanced customer relationship tool, integrated program delivery, and the use of advanced metering infrastructure data will help to provide higher quality energy efficiency services to our region. MCE's transition to a comprehensive and well-balanced portfolio presents an exciting opportunity to engage customers in novel ways.

We support MCE's proposal to deliver a portfolio of cutting edge programs designed to cost-effectively save customers energy and water, while reducing the state's greenhouse gas emissions.

MCE is the public power provider for the community that we serve. Community Action Marin strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,  
  
Laurel Hill  
Executive Director

29 Mary Street, San Rafael, CA 94901  
415.526.7500, fax 415.457.9677  
[www.camarin.org](http://www.camarin.org)



July 29, 2015

**Thomas Peters, Ph.D.**  
President & Chief Executive Officer

President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners:

The Marin Community Foundation strongly supports the applications from Marin Clean Energy (MCE) for its 2016 and Beyond Energy Efficiency Portfolio. I am writing to urge the Commission's approval.

MCE's Business Plan has a sharp vision for achieving ambitious energy saving targets. It provides detail on how MCE will leverage its key strengths. In addition, it lays out a plan for leveraging the ten-year program cycle to promote market transformation.

MCE's key innovations, including the single-point-of-contact model, advanced customer relationship tool, integrated program delivery, and the use of advanced metering infrastructure data will help to provide higher quality energy efficiency services to our region.

We support MCE's proposal to deliver a portfolio of cutting edge programs designed to save customers energy and water, while reducing the state's greenhouse gas emissions.

The Marin Community Foundation strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,

Thomas Peters, Ph.D.  
President and CEO

---

**Marin Community Foundation** 5 Hamilton Landing, Suite 200, Novato CA 94949 / (415) 464-2510 / marincf.org



166 Greenwood Avenue, San Rafael, CA 94901 (415) 488-3748  
[www.resilientneighborhoods.org](http://www.resilientneighborhoods.org)

August 2, 2015

President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners,

Resilient Neighborhoods is a community-based program that works with residents to reduce their CO<sub>2</sub> emissions. We strongly support Marin Clean Energy's (MCE's) application for its 2016 and Beyond Energy Efficiency Portfolio. MCE's Business Plan provides a solid vision for achieving ambitious energy savings targets. It provides details on how MCE will leverage its key strength of being responsive to customer needs. In addition, the document lays out a plan for leveraging the ten-year program cycle to promote market transformation.

MCE's key innovations including the single-point-of-contact model, advanced customer relationship tool, integrated program delivery, and the use of advanced metering infrastructure data will help to provide higher quality energy efficiency services to our region. MCE's transition to a comprehensive and well-balanced portfolio presents an opportunity to engage customers in novel ways.

We support MCE's proposal to deliver a portfolio of cutting edge programs designed to cost-effectively save customers energy and water, while reducing the state's greenhouse gas emissions.

MCE is the public power provider for the Marin County community that we serve. Resilient Neighborhoods strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,

Tamra Peters, Director  
Resilientneighborhoods@gmail.com

Printed on Recycled Paper

**RichmondWORKS/EASTBAY WORKS**  
**Employment and Training Department**



July 28, 2015

President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners,

RichmondBUILD strongly supports Marin Clean Energy's (MCE's) application for its 2016 and Beyond Energy Efficiency Portfolio. MCE's Business Plan provides a bold vision for achieving ambitious energy savings targets. It provides detail on how MCE will leverage its key strengths – being nimble, flexible, and responsive to customer needs. In addition, the document lays out a plan for leveraging the ten-year program cycle to promote market transformation.

MCE's key innovations including the single-point-of-contact model, advanced customer relationship tool, integrated program delivery, and the use of advanced metering infrastructure data will help to provide higher quality energy efficiency services to our region. MCE's transition to a comprehensive and well-balanced portfolio presents an exciting opportunity to engage customers in novel ways.

We support MCE's proposal to deliver a portfolio of cutting edge programs designed to cost-effectively save customers energy and water, while reducing the state's greenhouse gas emissions.

MCE is the public power provider for the community that we serve. RichmondBUILD strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,

Sal Vaca  
Director

330 25th Street, Richmond, CA 94804-1727  
Telephone: (510) 307-8034 Fax: (510) 307-8061 [www.richmondworks.org](http://www.richmondworks.org)

August 15, 2015

WattzOn  
480 San Antonio Road, Suite 202  
Mountain View, CA 94040

EcoFactor, Inc.  
1450 Veterans Blvd, Suite 100  
Redwood City, CA 94063

President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio

Dear President and Commissioners,

WattzOn and EcoFactor appreciate the opportunity to comment on and contribute to Marin Clean Energy's energy efficiency (and demand response) program implementation plans. More specifically, we are generally supportive of MCE's initiatives, and would like to take this opportunity to open up the plan to data-driven applications that engage the consumer and deliver demand response and energy savings. We believe this expanded set of offerings would be consistent with MCE's mission and customer focus.

EcoFactor and WattzOn have partnered to create a solution that pairs automated energy savings, delivered via a connected thermostat, with behavioral, whole-home solutions gleaned from the unique combination of granular thermostat data and smart meter data. This data combination allows us to curate for the customer a truly personal and holistic experience, without any need to install hardware other than a connected thermostat. Customers gain the ability to control their energy from anywhere and at any time, while truly understanding what drives their energy spend, and receiving targeted, personalized prompts for habits, purchases, home upgrades and solar. Our solution increases the effectiveness of standard energy efficiency programs because it leverages the unique data and high engagement levels provided by mobile, smart thermostat controls.

While we are proud of the results we have delivered individually (e.g., EcoFactor has delivered leading DR and EE results with Nevada Energy (3.1 kW of DR and ~ 7% whole-home energy savings) and WattzOn consistently delivers 10%+ savings via behavioral-based community programs), our combined solution is greater than the sum of its parts, in large part due to the integration of meter data and thermostat data. We thus suggest that our offering would be a great fit for MCE and its customers.

In addition, we were encouraged to read MCE's proposed residential TOU rates and relatively high true-up payments for solar. These incentives should drive desired market behavior, but it is important to provide the tools to consumers, so they can respond easily and intelligently to these

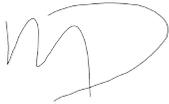
complex market forces. With automated platforms like ours, homeowners (aka “prosumers”) can manage solar production and home energy use in a coordinated fashion, truly optimizing energy usage for the grid and the customer.

Thank you for the opportunity to comment on MCE’s implementation plans. We believe MCE is well-positioned to continue to be a leader in energy efficiency, customer satisfaction, and demand response. We’re here to help.

Sincerely,



Martha Amram  
Founder & CEO, WattzOn



Matthew Plante  
CEO, EcoFactor



Protecting Marin Since 1934

August 6, 2015

President Picker  
Commissioner Florio  
Commissioner Peterman  
Commissioner Randolph  
Commissioner Sandoval  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

**RE: Application for MCE's 2016 and Beyond Energy Efficiency Portfolio**

Dear President and Commissioners,

The Marin Conservation League has been protecting and enhancing Marin County's natural environment for over eighty years. MCL supports Marin Clean Energy's (MCE's) commitment to reducing greenhouse gas emissions by achieving real energy efficiency as part of its mandate. We strongly support MCE's application for its 2016 and Beyond Energy Efficiency Portfolio.

MCE's transition to a comprehensive and well-balanced portfolio presents a great opportunity to engage customers in creative ways. MCE proposes to deliver cutting-edge programs designed to cost-effectively save energy and water. Its Business Plan provides detail on leveraging the ten-year program cycle to promote market transformation.

The Marin Conservation League strongly recommends you approve MCE's 2016 and Beyond Energy Efficiency Portfolio.

Sincerely,

A handwritten signature in blue ink that reads "Kate Powers".

Kate Powers, President

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# APPENDIX D: KEY FINDINGS FROM WORKSHOPS & SURVEYS

## Overview

- » Held six workshops between May – August 2014, with 88 attendees
- » Gathered results from leave-behind surveys, and internet-accessible survey
- » Goal was gathering input on community needs and how to align them to MCE's 2016 and beyond energy efficiency portfolio and strategy

## Surveys: Key Findings

- » 64% interested in owning an electric car
- » 9% already own an electric car
- » Most building owners would like to do significant energy efficiency work and can spend over \$7,000 or are willing to finance
- » 83% said it was very important to them that buildings in their community use less energy through energy efficiency and renewables

## Community Workshops: Key Findings

Community	Opportunities	Challenges
Expert Panel	Focus on peer educators and community based organizations; emphasize non-energy benefits, sell EE as a service, not a product	Lack of access to data; infrastructure constraints; rules tied to funding; split incentive need for skilled workforce
San Rafael	Saving money and comfort are high priorities for home upgrades	Many can afford high energy bills; EE lacks "street cred"
West Marin (agriculture)	Incentivize early replacement (dairies are cash constrained; tend to replace equipment at failure)	No natural gas; most water from wells or trucked in
Napa (agriculture)	Offer different approaches for small vs. large wineries	Little natural gas; most water from wells
Novato (single family)	Promote home aesthetics (comfort not a main driver; financing unlikely to be attractive)	High rate of renovations (great time to promote EE or ZNE)
Richmond	Workforce development	Language barrier; confusion on trusted messenger; split incentive (high proportion of renters)

# APPENDIX E: PUBLIC COMMENTS

## Overview

MCE solicited input from its key stakeholders and the community at large. Draft versions of the 2016 Business Plan and Program Implementation Plans were posted on MCE's website, and sent via email to key partners and those on the MCE listserv.

To ensure that the input from the seven (7) organizations is adequately addressed, MCE closely tracked all comments and compiled a formal response to each suggestion. The summary of comments and responses has been posted on MCE's Energy Efficiency webpage.

## Summary of Public Comments

#	Organization	Submitter	Topic(s)
1	Benicia Community Sustainability Commission	Constance Beutel	Single Family PIP
2	MCE Board Member	Emmett O'Donnell	EE Strategy
3	Wattzon	Martha Amram	General Questions
4	Marin Conservation League	Kate Powers	All PIPs
5	Resilient Neighborhoods	Tamra Peters	Community Partnership Strategy
6	BayREN	Jennifer Berg	Single Family PIP
7	County of Marin	Dana Armanino	All PIPs
8	Sustainable Marin	Ed Mainland	All PIPs
9	Strategic Energy Innovations	Emily Quinton	Single Family PIP
10	Sustainable Napa County	Jeri Gill	All PIPs





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