

Marin Clean Energy

Industrial Sector

Program Implementation Plan



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ACRONYMS

The following acronyms are used throughout the document:

- AMI - Advanced Metering Infrastructure
- CPUC - California Public Utilities Commission
- CRM - Customer Relationship Management
- DG - Distributed Generation
- DR - Demand Response
- EE - Energy efficiency
- EM &V - Evaluation, Measurement and Verification
- EVs - Electric Vehicles
- IOU - Investor Owned Utilities
- PACE - Property Assessed Clean Energy
- QA - Quality Assurance
- QC - Quality Control
- SPOC - Single Point of Contact
- TRC - Total Resource Cost

Implementation Plan: Industrial

Introduction

Marin Clean Energy (MCE) has identified the industrial sector as an important area for tailored and strategic energy efficiency program offerings. Due to high energy usage, the potential for energy savings can be significant for some industrial customers. Industrial activities vary significantly by region within MCE's territory, though most offer major opportunities for energy use reduction, water conservation, and distributed generation. Program offerings will include one-off rebates, comprehensive project rebates and technical assistance, demand side management bidding, energy efficiency education through peer working groups, and financing.

Market Characterization

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

Energy Consumption

Although California has the highest GDP of any state in the nation, it ranks third in terms of industrial sector energy consumption, which indicates that industries in California have already achieved a certain degree of energy efficiency.¹ However, there is tremendous potential in the industrial sector for increased energy efficiency.

Within MCE's service territory, industrial and large commercial customers account for 18% of electricity consumption and 87% of the gas usage.

Some examples of industrial customers in MCE territory include ports, refineries, glass factories, and wineries.

Barriers

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

- **Financial Constraints.** While some larger companies may have the capital available to undertake projects, energy efficiency upgrades need to compete against other possible investments for funding and often have to pass initial screening to be considered, such as a very short payback period (under three years).
- **Corporate Tax Structures.** Federal tax policy on issues such as depreciation and treatment of energy costs can make weighing the costs and benefits of upgrades tricky.
- **Budgetary Planning Cycles.** Energy efficiency programs should work around the corporate planning cycle to ensure the projects are proposed and considered at the appropriate time.
- **Failure to Recognize Non-Energy Benefits.** Some projects will seem less attractive if the non-energy benefits are not presented alongside the energy savings.
- **Equipment Downtime.** The lost production time resulting from equipment being off-line for upgrades is costly to a manufacturer.
- **Unique Processes Can be Hard to Benchmark.** Each manufacturer may have unique and specific processes that make it hard to find appropriate comparison companies to determine the relative efficiency of each site.

¹ Industrial Sectors Market Characterization – Plastics
http://calmac.org/publications/Final_Plastics_Market_Characterization.pdf

- **Proprietary Information.** Manufacturers with unique processes may be unwilling to invite outside energy auditors to assess their facilities in the interest of protecting proprietary information.
- **Lack of Awareness.** Smaller manufacturers may not have dedicated energy professionals on staff. With limited staff resources, the time needed to research energy efficient equipment and MCE programs may be a significant barrier.

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

Triggers

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

- **Equipment Failure.** Once equipment fails the ability to replace it quickly is key. Establishing a relationship with these customers prior to equipment failure will be crucial to our ability to influence the efficiency of the replacement equipment.
- **Coordination with Renewable Energy Installation.** There is an opportunity to further reduce greenhouse gas emission by coupling renewable energy installations with energy efficiency upgrades.
- **Capital Improvement Campaigns.** Larger industrial customers are likely to have a longer term planning horizon for managing equipment turnover or making investments/improvements, which creates an opportunity to incorporate EE into overall procurement.
- **Change in Law or Regulation.** MCE will use upcoming or anticipated changes in codes, standards, and regulations as a trigger point to motivate industrial customers to act on resource conservation.

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

Key Market Actors

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

- Contractors are the primary point of contact with customers. They are involved in installation of projects and often have influence over the decision making process.
- Industry Groups such as West Contra Costa Council of Industries, Concrete Masonry Association of California and Nevada, and California Manufacturers and Technology Association, have broad networks of members that can be potential program participants. They also have knowledge of issues affecting the industrial sector and can be valuable advisors.
- Equipment distributors and manufacturers have control over which products are available on the market.
- Regulatory Bodies such as the Occupational Safety and Health Administration, US Food and Drug Administration, California Energy Commission, California Public Utilities Commission, etc., set the rules that govern the market and may affect product availability, product prices, program design, etc.
- Existing Energy Efficiency Programs (both local and federal) have been working with this segment to offer rebates, education, and advocacy around energy efficiency issues.

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

Adoption and Penetration

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

In the 2013 to 2014 program cycle, PG&E industrial programs saved 250 GWh of energy, although MCE has not received figures on how much of that occurred in MCE service territory.² The most commonly installed measures through PG&E's programs were process pumping, high bay fluorescents, motors and air compressors.

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

Budget

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

Table 1. Budget Summary

Budget Category	Year 1	Year 2	Year 3	Year 4
Administrative	\$ 62,165	\$ 62,255	\$ 62,504	\$ 62,504
Marketing	\$ 69,314	\$ 69,314	\$ 69,314	\$ 69,314
Direct Implementation	\$ 349,228	\$ 320,841	\$ 321,341	\$ 321,341
Incentives	\$ 139,468	\$ 199,482	\$ 178,061	\$ 201,001
Evaluation, Measurement and Verification (EM&V)	\$ 25,081	\$ 27,317	\$ 27,616	\$ 27,616
TOTAL	\$ 645,254	\$ 679,209	\$ 658,836	\$ 681,777

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

Table 2. Cost Effectiveness Summary

Sector Summary	Year 1	Year 2	Year 3	Year 4
Total Resource Cost (TRC)	0.90		1.40	
Budget	\$645,254	\$679,209	\$658,836	\$681,777
Estimated Savings	561,260 kWh 7,779 therms	831,285 kWh 17,827 therms	1,392,544 kWh 25,606 therms	1,029,529 kWh 22,365 therms

² "California Energy Efficiency Statistics," accessed July 9, 2015, <http://eestats.cpuc.ca.gov/Views/EEDataPortal.aspx>

Industrial Program

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

Technical Assistance and Comprehensive Projects

MCE will offer technical assistance to customers to help them understand the full scope of available resource conservation options. Program offerings will focus on motors, lighting, refrigeration, water heating, distributed generation and water conservation measures.

The technical advisor will create a comprehensive report outlining the rebates available to the customer at the time as well as take note of when existing equipment may be nearing the end of its expected useful life. This information will be entered into a customer relationship management system to allow the SPOC to follow up at the appropriate points in the future when the customer may be making purchasing decisions. The SPOC will serve as a project facilitator and customer advocate to help guide business owners through the process from initial contact to project completion as well as helping to identify future participation opportunities.

After the assessment report is complete the SPOC and technical advisor will work with the customer to develop a work plan for projects they intend to complete in the short-, medium-, and long-term. Project phasing will be encouraged to lessen barriers related to restricted capital and equipment replacement schedules.

On project completion the SPOC will work with the customer to help them with local certification or recognition programs and help them market their investment in energy efficiency.

Single Measure Rebate

MCE will offer single measure rebates for certain common measures as an introduction to our program. The program will work closely with our contractor network to allow them to be the primary driver of this offering and minimize any contractor participation barriers such as burdensome paperwork and long rebate turnaround time.

Single Measure Rebate recipients will be screened by the SPOC for opportunities for deeper upgrades and encouraged to receive a full assessment through the comprehensive program offering and/or engage with the demand side bidding offering.

Demand Side Management Bidding

MCE will offer incentives to customers based on measured and verified savings. This “pay-for-performance” approach would leverage advanced metering infrastructure (AMI) data and innovative using meter-based performance measurement strategies to capture real, verified savings while minimizing administration expenses. Load reductions may be aggregated and bid into California Independent System Operator market. Advocates explain that the approach “is intended to spur private sector innovation and investment by building a market for efficiency bundled with DR, solar, EVs, and DG”.^[1] Furthermore, “if implemented correctly, this approach would create transparent and real time accounting for savings using Smart Meter data and increase quality efficiency installations by making contractors accountable to measured performance. This would ultimately reduce EE program administration and evaluation costs by making the industry (and not just the program) responsible for performance risk”.^[2]

The demand side management bidding strategy will explore the use of a transaction structure in which a third-party investor finances building efficiency upgrades. MCE would then buy the actual energy savings, from the third-party investor while the building tenant or owner would reduce electricity consumption costs. MCE would partner with industry leaders to pilot this innovative approach to using energy efficiency in procurement.

^[1] TURN, Response to R.14-10-003, page 8

^[2] Ibid.

Peer Outreach and Training Cohorts

MCE will convene cohorts of similar small industrial customers to discuss experiences with energy efficiency upgrades and equipment maintenance best practices. MCE will develop targeted outreach efforts, trainings, and technical assistance for this group. When possible, MCE will aim to coordinate with existing industry groups to bring cohorts together at existing events. The focus of these groups will be on sharing best practices around operations, maintenance, and behavioral energy efficiency. Additionally, MCE will work with each group to develop energy management metrics. Bringing similar businesses together will foster a network for sharing best practices and benchmarking. The cohorts could also provide a valuable feedback channel for MCE on its program offerings. This program may be best delivered on a regional basis, thus MCE will coordinate with neighboring counties to the extent that there is a benefit.

Financing

MCE will help customers navigate the landscape of financing offerings available and encourage them to participate to the extent that it facilitates energy efficiency upgrades. Specific financing strategies are described below.

Property Assessed Clean Energy (PACE)

PACE is a tool where property owners can voluntarily opt into a tax assessment, which is then tied to the property. Advantages of PACE include transferability with the property, helping to mitigate concerns over payback period and average tenancy in a residential building, and the fact that it is paid on property taxes. PACE financing also enables investment in renewable energy and water savings improvements, and in some cases can be a source of financing for new construction projects.³

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

On-Bill Financing

Currently the IOUs have a program where ratepayer funds are offered to offset the upfront cost of a project and the customer can pay back the improvements over time on the utility bill. This product, offered at 0% and available for loans between \$5,000 and \$100,000, requires participants to limit the payback of projects financed through the loan to five years. The SPOC will ensure that customers who are a good fit for this program are made aware of the offering, and will facilitate participation to the extent able.

Investor Owned Utility Financing Pilots

The IOUs are currently developing financing options pursuant to CPUC regulations. MCE will closely monitor the development of these emerging tools and inform customers of the availability of new financing options as appropriate.

Implementation Elements

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

Marketing and Outreach

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

³ Some PACE providers utilize SB 555 (2012) as the enabling legislation; this follows the Mello-Roos style assessment (rather than the Streets and Highways Code assessment enabled under AB 811 [2008]), which can be used for new construction.

- **Single Point of Contact (SPOC).** The SPOC will manage relationships with customers in the industrial program. MCE’s Customer Relationship Management (CRM) software organizes data for lead generation and follow-up. The SPOC will use this data to engage existing participants in additional energy efficiency opportunities, converting leads into active and completed projects.
- **Targeted Outreach.** MCE will use energy usage data to conduct outreach campaigns at facilities with high energy consumption. These campaigns will be aligned with trigger points. MCE will also use property specific data, such as assessor records and AMI data, to develop pre-assessment opportunity reports to present to decision makers. This information will be a powerful tool for the SPOC to use in communicating with customers about opportunities and benefits of the program.
- **Messaging.** MCE will produce data-driven, segment-specific marketing materials to distribute at events, on MCE’s website, and via partner channels. MCE’s energy efficiency message will also be distributed via print ads, television, and radio channels. There will be a broad social media effort. MCE will develop its own YouTube channel, combining original content with Energy Upgrade California resources and other online videos on energy efficiency and renewable energy. This enables the community to begin associating MCE as a resource for energy efficiency information.
- **Partner Distribution Channels.** Industrial trade organizations, such as the West Contra Costa Council of Industries, have an established network of members who are eligible for the program as well as in depth knowledge of the needs and barriers of those customers. Working with these groups to craft and disseminate marketing messages will be key to reaching potential participants. Additionally, MCE will develop relationships with contractors that install measures eligible for program rebates and create co-branded marketing materials.
- **Recognition Campaigns.** MCE will seek out ways to recognize customers with the greatest energy savings and contractors who provide the most customer leads or complete the greatest number of projects. These local energy efficiency leaders will be given free publicity on the MCE website and may be featured in MCE’s Energy Efficiency Demonstration Room. MCE will also work to develop labeling campaigns for customers who have completed projects, such as signage, window stickers, and other public recognition.
- **Leverage Existing Certification Programs.** MCE will provide support to organizations offering certification and ‘green’ labeling to promote awareness of energy efficiency and to increase demand for green products and practices.
- **Single Measure Rebates.** Participants that receive single measure rebates on process pumping, lighting and motor measures will be encouraged to work with a SPOC and undertake a full customized assessment. MCE will utilize its contractor network to promote single measure rebates and connect potential participants to the SPOC.

Key Partners

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

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

Some of the key partners include:

- Implementation Partners will provide technical assistance, project management, training, quality assistance, and quality control.
- Contractors will install measures and be the primary driver of new participants for the single measure rebates.

- Local Trade Associations will help with marketing and outreach, recruit participants, and provide feedback on program design.
- Equipment distributors will help with marketing and outreach.
- Lending institutions will provide the financing mechanism for MCE’s on-bill repayment offer.
- Local government sustainability offices or energy programs will identify key participants to facilitate their engagement with the program.
- PACE program providers will be a potential source of financing for participants to cover upfront costs.

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

Table 3. Key Partners

Industrial Strategies							
Key Partners		Technical Assistance + Comprehensive Rebates	Single Measure Rebate	DSM Bidding	Peer Outreach	Financing	Marketing + Outreach
	Implementation Partners	X	X	X	X	X	X
	Contractors	X	X	X	X	X	X
	Local Trade Associations				X		X
	Lending Institutions					X	X
	Local Governments				X	X	X

Health and Safety

Although MCE cannot offer rebates for any upgrades that are required by Health and Safety regulations, MCE will offer training for auditors on how to test for gas and refrigerant leaks.

Quality Assurance and Quality Control

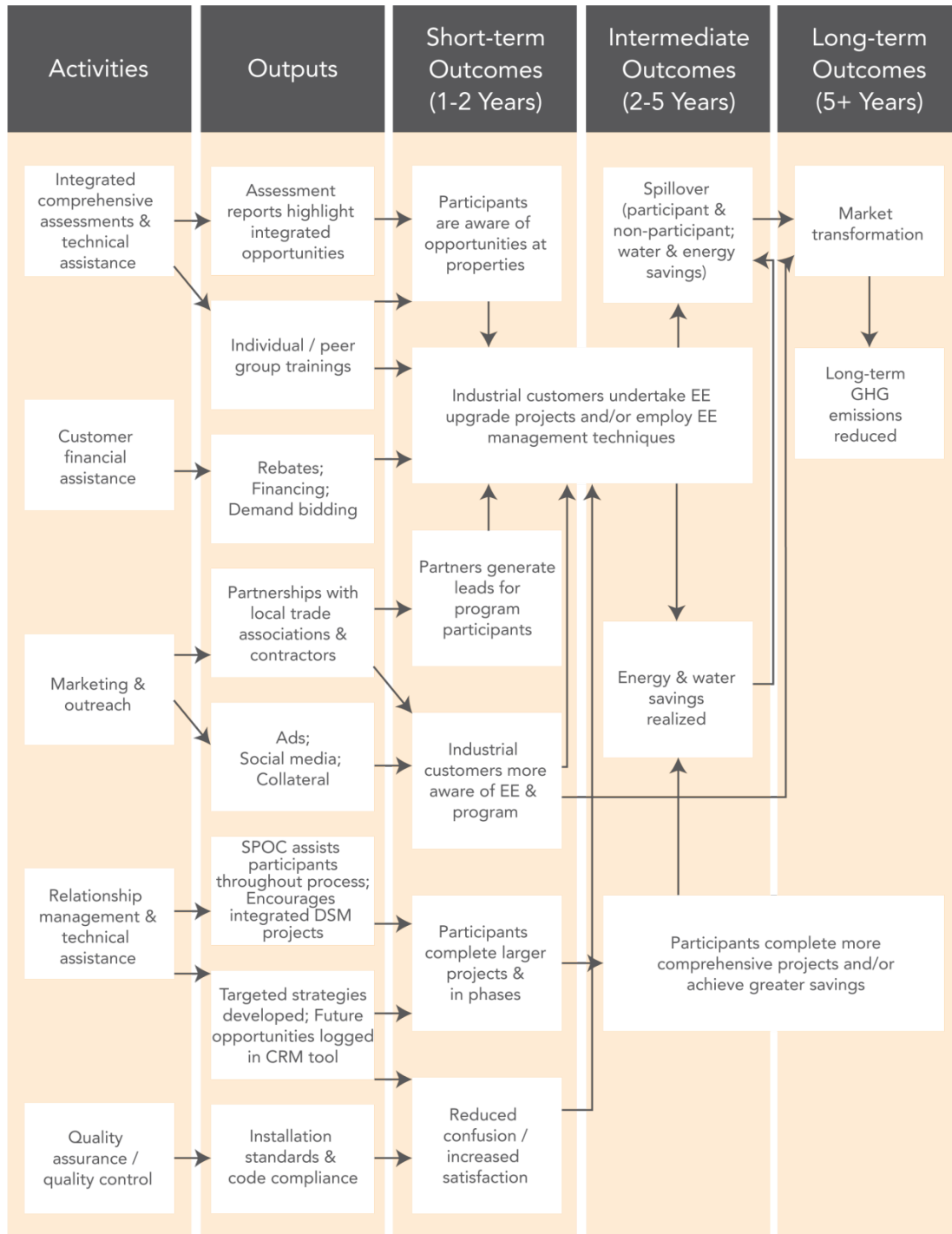
- **Technical Assistance and Comprehensive Projects.** The SPOC will offer quality assurance to the program by resolving project management issues as they occur. The technical advisor will work with contractors to ensure that project proposals meet program requirements. Contractors will be required to hold all proper licenses, certifications, and insurance, and the program will require the contractor to sign a form agreeing to meet minimum performance requirements in the purchasing and installation of equipment. All projects will be inspected post-installation to ensure proper equipment installation.
- **Single Measure Rebate.** MCE will pilot a QA approach that accepts photos to confirm the baseline condition of equipment. Each participating contractor will have an introductory period of 10 projects during which 100% of projects will be inspected post-installation. Once a contractor has 10 successful projects under their belt, their QC sample rate will decrease to 25%. If any significant issues are found during a sampled inspection, the contractor’s projects will be subject to 100% post-inspection until they have again completed 10 successful projects.
- **Demand Side Management Bidding.** Quality assurance activities will include in depth review and approval of project proposals by technical advisors. Post-installation project savings will be verified

through AMI data analysis. Quality control will be a pivotal component of this program as the pay-for-performance incentive design shifts risk to the participant. Quality control and verification activities will determine if a participant receives payment.

Measuring Success

Logic Model

Figure 1. Logic Model



Performance Metrics

MCE will track the following metrics in addition to energy savings to gauge program success:

1. Number of comprehensive assessment reports delivered
2. Number of contractors providing leads to program
3. Number of one-off projects that lead to comprehensive assessments
4. Total amount of incentives paid out through the demand side bidding offering
5. Square footage of facilities retrofitted
6. Industrial customers in MCE service territory who report that energy efficiency is a high priority
7. Number of participants actively participating in training cohorts
8. GHG emissions reductions
9. Water savings

Evaluation, Measurement and Verification (EM&V)

MCE will undertake a process and impact evaluation at the end of year two of the Demand Side Bidding Offering. In addition to quantifying the savings attributable to this program, this evaluation will identify program successes and challenges faced in the first two years of implementation and offer recommendations for program continuation and improvement.

MCE will also conduct a cross-program process evaluation of the SPOC offering to assess the degree in which it alleviates customer confusion and encourages repeat participation through project phasing.