

Marin Clean Energy

Workforce Development Program Implementation Plan



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ACRONYMS

The following acronyms are used throughout the document:

- BPI - Building Performance Institute
- EM &V - Evaluation, Measurement and Verification
- LED - Light-Emitting Diode
- WIB - Workforce Investment Board
- ZNE - Zero Net Energy

Implementation Plan: Workforce Development

Introduction

Marin Clean Energy (MCE) has identified workforce development as an important component of energy efficiency market transformation. MCE is invested in benefiting local communities by developing relevant workforce opportunities.

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

MCE will not be the only beneficiary of a skilled and trained workforce. The community will benefit as well. 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 benefits for the whole community, not just program participants.¹

MCE's goal is to create meaningful employment pathways for workers who are new or returning to the workforce, rather than supporting one-off trainings that fail to guide participants toward future opportunities. MCE will engage community partners to ensure the inclusion of workers from disadvantaged communities in pursuing careers in the energy sector. Working with community partners helps MCE to build on existing success in the region, fill gaps in service, and focus on meaningful local workforce opportunities.

Market Characterization

MCE has analyzed workforce data, barriers, triggers, and key market actors to better understand the opportunities that exist within workforce development.

Workforce Data

MCE intends to focus on workforce development from a data driven perspective. Understanding the existing level of engagement on energy efficiency and green building certifications, as well as the uptake in energy efficiency programs, will help ensure trainings focus on areas where there is real opportunity. The tables below demonstrate that there are a significant number of certified green building professionals in our service area. The vast majority of contractors in the service territory are general contractors, which indicates a strong opportunity for continuing education and professional development – particularly in the zero net energy area.

¹ Spillover benefits are obtained when the benefits received from the program, e.g. a more highly trained workforce, are not limited to the participants in the program but are shared more broadly across the community.

Table 1. Bay Area Green Building Professionals²

Certification Type	# of Certifications
Certified Green Building Professionals	839
Certified Green Real Estate Professionals	362
Appraisers: Valuation of Sustainable Buildings (Residential)	26
Green Point Rater: New Homes	196
Green Point Advisor: New Homes	8
Green Point Rater: Existing Single Family	82
Green Point Advisor: Existing Single Family	25
Green Point Rater: Existing Multifamily	81

Table 2. Bay Area Building Performance Institute Certifications³

Certification Type	# of Certifications
Building Analyst	150
Envelope Professional	38
Heating Professional	6
AC & Heat Pump Professional	2
Multifamily	62
Infiltration & Duct Leakage	3
Energy Auditor	3

² Building Performance Institute. Certified Professionals Directory. Available online at: http://www.bpi.org/individual_locator.aspx (July 17,2015)

³ *Ibid.*

Table 3. Membership of the Marin Builders Association by Contractor Type⁴

Contractor Type	# of Contractors
Appliances	2
Architects & Designers	12
Construction Management, Estimating & Scheduling	4
Drywall	3
Electrical	19
Siding	3
Fireplaces	2
General Contractors: Residential, Commercial, New & Remodels	143
Heating, Air Conditioning, & Sheet Metal	12
Insulation	2
Lumber, Hardware, Tools	9
Plumbing	26
Propane	2
Roofing	13
Solar	5
Windows & Doors	16

Barriers

There are several barriers that may prevent contractors from fully taking advantage of workforce development opportunities. These barriers include:

- **Time Commitment.** Not all contractors have the time or extra staff to commit to training. Trainings that take away from closing and completing projects create concern for their bottom line.
- **Cost of Trainings.** Trainings, workshops, and certifications can be costly and not within a contractor's budget. This barrier particularly impacts contractors from disadvantaged communities.
- **Codes and Standards.** Codes and standards change every few years, and it can be difficult for contractors to stay up to date with the changes.

⁴ Marin Builders Association member survey. Obtained from Marin Builders Association.

- **Contractor and Customer Perception of Energy Efficiency Costs and Benefits.** Contractors and their customers may believe that energy efficiency upgrades will increase the overall cost of a project as well as the payback period.
- **Background Check Policies.** Existing policies on background checks may bar non-violent criminals from participating in programs or being hired.

MCE's workforce development program is designed to address these barriers by providing a range of training opportunities that are accessible depending on schedule and can build towards larger certifications over time.

Triggers

Trigger points are moments of opportunity when the likelihood of engaging contractors in workforce development strategies is highest. For example, there are times during the negotiation of a contract or the development of a new project when it is most effective to include workforce development measures. Additionally, there may be opportunities when a new workforce ordinance is passed.

MCE's objective is to utilize these trigger points to promote workforce development that is both socially and environmentally beneficial for the community.

Key Market Actors

There are many entities that influence workforce development. It is important that MCE understand the role that each entity plays and how they can affect energy efficiency workforce development:

- **Local Governments/California Energy Commission/Employment Development Department** (tasked with workforce development): Government at all levels plays a role in workforce development and develop codes and standards, workforce agreements, and trainings to facilitate high quality energy efficiency upgrades in its communities. Local hire ordinances and other local government procurement policies may also be an opportunity to develop job creation benefits.
- **Legislative and regulatory bodies** (tax laws, regulations, codes, and standards): Federal and State Legislatures, California Energy Commission, California Public Utilities Commission.
- **Contractors/Builders/Designers/Architects/Engineers:** MCE will work with all levels of trades and professionals to understand their training needs and to distribute information about upcoming trainings. MCE will also work with these groups to identify key local industry leaders to deliver trainings.
- **Local Building Supply & Hardware Stores.** MCE will partner with local building supply and hardware stores to conduct outreach and generate awareness around energy related training opportunities.
- **Workforce Investment Board (WIB)/Community College/Online Training Providers:** Workforce Investment Boards and Community Colleges are currently major providers for training opportunities in MCE's service territory. MCE will work with local WIB's and community colleges to deliver MCE trainings. Online training providers may offer a flexible delivery system that works better with the trainee's schedule.
- **Local Business/Organized Labor.** MCE will work with organized labor unions as well as local businesses to ensure that job trainees are successful in the workforce and that job retention is an outcome of the program.

MCE tracks key market actors in order to best understand policy opportunities and challenges, and the impact of these entities on workforce development decision-making.

Budget

The budget for workforce activities is imbedded within the programmatic budgets for each of the sectors.

Workforce Development Program

MCE's overall workforce development strategy is geared towards creating meaningful career paths for participants. Starting at the entry level with an emphasis on vocational opportunities and workforce re-entry programs, MCE is also working to establish relationships with labor organizations and local businesses to ensure there is an end game in sight for training participants.

MCE will sponsor, support, and leverage workforce training for contractors, implementers, operations and maintenance staff, and all others working across sectors. There will be an emphasis on stackable training credentials so contractors with limited time can build towards larger certifications. It is imperative for program success that MCE employs and deploys a skilled workforce to implement and support projects that come through its program.

Strengthen and Support Existing Programs

Many high quality training programs developing an energy efficiency workforce exist in MCE's service territory. MCE can accomplish more in partnership with existing programs than it can by working alone. MCE's objective under the workforce development program is to strengthen and support programs that develop a robust energy efficiency workforce. MCE will leverage and support existing training programs by providing ancillary support such as soft skills training to increase the completion rate of trainees.

MCE will partner with local workforce experts to align programs throughout its service territory ensuring consistent, high quality training. Trainings will be offered throughout the service territory, providing workers with access to a wide range of trainings. MCE will influence training providers across MCE's service territory by offering cutting edge, high quality trainings, and creating career pathways to all workers.

Soft Skills and Re-entry Training Programs

MCE will partner with community based organizations to provide soft skills training to supplement participation in existing training programs for underemployed, unemployed, disadvantaged, veteran, re-entry, and displaced workers. It will also support the development of on-the-job training programs in energy efficiency.

Stackable Certificate Programs

MCE will focus on providing access to stackable credential programs. Stackable credentials are training programs that offer outcomes which can collectively build towards larger certificates. Stackable credentials make the best use of available time for trainees. Stackable credentials are a component of a larger, more articulated career path and not one-off training opportunities focused solely on a near term and possibly limited time frame job opportunity.

Youth Programs

MCE intends to partner with community colleges, and primary and technical schools to develop educational and vocational curriculum. MCE will also support and sponsor the development of youth training in energy services; youth are the future of the industry.

Pre-Apprenticeship Programs

MCE will support the development and implementation of pre-apprenticeship programs. Pre-apprenticeship programs offer consistent and high quality training and can be on-ramps into apprenticeships programs and eventually unions.

Apprenticeship and Skilled Laborers Programs

MCE will support its training program participants to continue their pathway into apprenticeship positions. MCE may offer financial support in the form of scholarships for a limited number of its program

participants emerging from the pre-apprenticeship and skilled laborer programs. MCE will also emphasize soft skills programs to support pre-apprenticeship participants in completing the programs.

Professional Certifications and Continuing Education

MCE will offer professional certification and continuing education opportunities on an ad hoc basis. Professional certifications and continuing education focus on building energy skills into existing careers. Examples of this include incorporating zero net energy into existing architecture and design practices and motivating real estate professionals to understand and communicate the benefits of energy attributes on real property. As these credits are intended to supplement existing professions, they need to be highly flexible in timing and may be good candidates for online offerings.

Targeted Training Opportunities

MCE will first work to understand the need for workforce before developing specific trainings. For example, data on the existing penetration of professional certifications such as the Building Performance Institute, relative to the number of Home Upgrade project jobs being performed, will help to identify if there is a need for more BPI trainings locally. Approaching training from a data driven, needs-based approach helps to ensure that there is a proper balance of training and employment opportunities and that training programs provide more meaningful outcomes.

Direct Install Training

MCE will continue its direct install trainings in the multifamily program to provide Direct Install team members with the skills necessary to implement this service. Currently, MCE trains community members on how to install efficient energy and water equipment (LEDs, showerheads, faucet aerators, and pipe wrapping), program standards and safety protocols, data collection, and tenant outreach and education.

Targeted Building Operator Course

To ensure properties maintain savings over the long-term MCE will offer customized Building Operations training targeted at teaching both property managers and maintenance staff the practical, hands-on, and theoretical skills that are required to optimize the performance of their properties. The course will aim to reduce the energy and water consumption at the property while simultaneously improving health, safety, and durability of the structure. This will be accomplished by developing a customized Energy and Green Building Operations and Maintenance Plan and training the building staff to implement it portfolio wide.

Fuel Switching

With an increased emphasis on non-carbon heating sources, fuel switching represents a major growth opportunity for construction trades in coming years. MCE will offer trainings to contractors on the best practices for safe and proper installation of new technologies. This ensures contractors understand proper installation procedures and also increases the exposure and comfort of local contractors to these new technologies, increasing the likelihood that the contractor will recommend the technology to customers. There may be particular opportunities to emphasize training a potentially displaced workforce, such as those contractors specialized in HVAC and propane equipment.

Zero-Net Energy (ZNE)

MCE will work with local and national organizations to provide training to contractors, architects, and developers on the benefits of zero-net energy design and construction. Trainings will emphasize integration of ZNE designs at the early stage of project design. MCE will offer training to assist local contractors in understanding implementation of new and emerging technologies to facilitate ZNE construction.

In order for ZNE to have mass adoption MCE will need to support training at all levels of the workforce. For example, architects, designers, and engineers will need to have the skills to incorporate ZNE practices into the design and project development phase. Contractors, builders, and laborers will need to understand how to implement the new technologies, designs, and equipment. Operation and maintenance staff will need to know how the new technologies work and how to operate, maintain, and fix the equipment.

Partnerships with Community Based Organizations/Local Governments

MCE will partner with community based organizations and local governments to provide educational opportunities, conduct outreach, and create awareness around workforce development in energy efficiency and the energy sector. MCE will also work with community based organizations to identify possible candidates for workforce training programs.

Implementation Elements

Marketing and Outreach

Marketing and outreach on the value of a trained workforce have an important role to play in a workforce program. Marketing and outreach campaigns that focus on the value of a highly skilled workforce can generate demand for a highly skilled workforce. These campaigns could be targeted, including publishing op-eds in local building or industry magazines. They could also be widespread, such as marketing messages posted at bus stops or other visible outdoor spaces highlighting the benefits of working with a trained building professional.

Key Partners

- **Builders/Designers/Contractors/Architects/Engineers.** MCE will build and maintain relationships within the industry to support its workforce development program. This population is key in successful outreach, education, and development of training programs.
- **Economic/Workforce Development Agencies.** MCE will work with local economic and workforce development agencies (Marin City Community Development Corporation, San Pablo Economic Development Corporation, RichmondBuild) to identify and enroll underemployed, unemployed, re-entry, and displaced workers within MCE's service territory.
- **Technical Assistance Providers/Raters/Inspectors.** MCE will partner with technical assistance providers (AEA/TRC), [Green Point] raters, and local building inspectors to understand the challenges in the field, the training needs, and to conduct education, outreach, and trainings.
- **On-the-Job Training Organizations.** By partnering with organizations that provide on-the-job training (both host organizations and funding organizations like the Department of Rehabilitation and Public Safety), trainees will have the opportunity to gain practical, hands-on, and paid training. This provides financial support for trainees while helping them to gain valuable experience.
- **Department of Education/Community Colleges/Adult Education/K-12 Schools.** In order to provide proper training to and reach (future) workers of all ages MCE will seek partnerships with local education departments, community colleges, vocational programs, adult education programs, and primary schools. These partnerships may include Marin County Department of Education, Community College of Marin, Laney College, Tam Adult and local high schools.
- **Labor Unions.** MCE will work with local labor unions to ensure MCE is developing and/or supporting appropriate pre-apprenticeship and apprenticeship programs and to connect workers with meaningful career pathways.
- **Builders Associations/Industry Associations.** Partnering with local builders or other industry associations will provide access to the building industry workforce, a trusted resource to pass information on, and an inside perspective on the gaps in training and the general needs of the industry. MCE will partner with builders and industry associations such as the Marin Builders Association and the Sheet Metal & Air Condition Contractors National Association.

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

Table 4. Key Partners

		Workforce Strategies		
Key Partners		Support Existing Programs Developing an EE Workforce	Targeted Training Opportunities	Marketing + Outreach
	Builders/ Designers/ Contractors	X	X	X
	Economic/ Workforce Development Agencies	X	X	X
	Technical Assistance Providers	X	X	
	On-the-Job Training Organizations	X		X
	County Department of Education	X	X	
	Labor Unions	X	X	X
	Builders Associations/ Industry Associations	X	X	X

Health and Safety

MCE will sponsor multiple health and safety trainings annually to provide local energy auditors with the tools needed to identify health and safety concerns while in a building. These skills include identifying evidence of back drafting with natural gas appliances, natural gas leak detection, or other indoor air quality concerns. Weaving health and safety standards into all aspects of workforce development ensures that consistent and standard practices are implemented and creates spillover benefits for the community.

Quality Assurance and Quality Control

MCE will work with accredited training certification and continuing education providers to ensure built-in quality assurance for the trainings, such as tested and approved curriculum and testing of participants.

Measuring Success

Logic Model

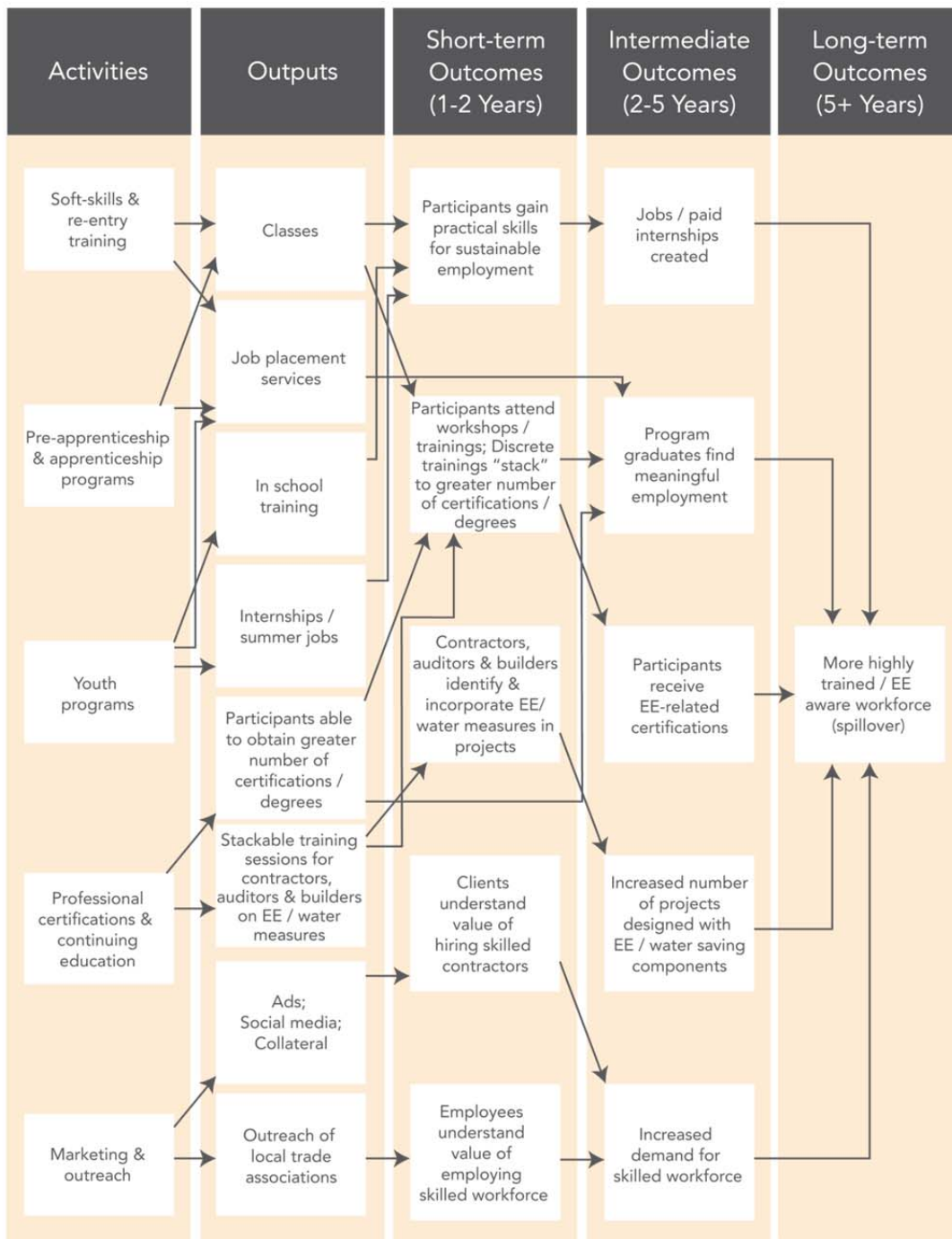


Figure 1. Logic Model

Performance Metrics

MCE will collect pre-certification information based on the specifics of the training and will survey participants at designated times (6 months, a year, 2 years) following completion of the trainings. This will measure the impacts of the certifications and create criteria for benchmarking.

MCE will additionally track the following metrics to measure the success of its workforce development program:

1. Number of new certifications
 - a. Building Performance Institute (BPI)
 - i. Building Sciences Principles
 - ii. BPI Multifamily Building Analyst
 - iii. Residential Air Sealing and Insulation Installer
 - iv. Building Analyst
 - v. Envelope Specialist
 - vi. Hydronic Heating System Professional
 - vii. Multifamily Building Operator
 - viii. Heating Professional
 - ix. Air Conditioning and Heat Pump Professional
 - b. Air Barrier Association of America Certification Training
 - c. Passive House
 - d. Weatherization & Direct Install Trainings
 - e. US Green Building Council Professional Courses
 - i. Fundamentals of Building Green
 - ii. Construction Management
 - iii. Operations & Maintenance Essentials
 - f. Green Point Rated (Rater or Advisor)
 - i. Green Point Rated Core
 - ii. Green Point Rated New Home
 - iii. Green Point Rated Existing Home
 - iv. CA Multifamily Existing Building
2. Number of training participants
3. Contracts awarded (\$ amount) for workforce development
4. Number of Workshops/Trainings/Certifications Sponsored
5. Jobs/Paid Internships/On-the-Job Training Opportunities Created & Retained (from MCE awarded contracts)

Evaluation, Measurement and Verification (EM&V)

Certifications to Project Conversion: Are building professionals putting the certification into action?

MCE proposes a process evaluation on the ability of program participants to implement the skills obtained through sponsored education and training activities.

Job Creation and Retention. A key component of the workforce program logic is the ability to train workers who will be capable of retaining jobs over time. MCE proposes an impact assessment to ascertain the ability of the program to place workers in jobs and the retention of those jobs over a year or longer.