



2021 MCE Energy Efficiency Annual Report

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Introduction

MCE is a groundbreaking, not-for-profit, public agency that has been setting the standard for clean energy in our communities since 2010. MCE offers more renewable power at stable rates, significantly reducing energy-related greenhouse gas (“GHG”) emissions and enabling millions of dollars of reinvestment in local energy programs. MCE is a load-serving entity supporting a 1,200 MW peak load. MCE provides electricity service and innovative programs to more than 540,000 customer accounts and more than one million residents and businesses in 37 member communities across four Bay Area counties: Contra Costa, Marin, Napa, and Solano.

MCE’s mission is to confront the climate crisis by eliminating fossil fuel greenhouse gas emissions, producing renewable energy, and creating equitable community benefits. MCE’s vision is to lead an equitable, clean, affordable, and reliable energy economy by serving as a model for community-based renewable energy, energy efficiency, and cutting-edge clean-tech products and programs.

MCE offers 3 renewable energy products: Light Green (60% renewable); Deep Green (100% solar and wind from California resources); and Local Sol (100% locally produced solar). MCE continues to exceed state renewable energy supply standards and GHG reduction targets. MCE achieved California’s renewable energy goals 11 years ahead of state targets and expects to be 95% GHG free by 2023. For more information about MCE, visit mceCleanEnergy.org.

In support of its mission, MCE has administered energy efficiency funds under California Public Utilities Code (“Code”) Section 381.1(a)-(d) since 2013.¹ The California Public Utilities Commission (“Commission”) originally restricted MCE’s energy efficiency programs to serving gaps in Investor Owned Utility (“IOU”) programs and hard-to-reach markets.² At the time, the Commission acknowledged that these restrictions may cause MCE’s portfolio to fail the Total Resource Cost (“TRC”) test and thus did not initially impose a minimum cost-effectiveness requirement on MCE.³ In 2014, however, the Commission lifted the restrictions and imposed the same cost-effectiveness requirements on CCAs as IOUs.⁴

Program Administrators (“PA”) were invited to submit business plans in 2017. On January 17, 2017, MCE filed a Business Plan with the Commission that requested authorization to expand MCE’s energy efficiency portfolio to include additional sectors and programmatic offerings.⁵ MCE proposed to offer programs in the following sectors: (1) Residential; (2) Commercial; (3) Industrial; (4) Agricultural; and (5) Workforce Education and Training. On June 5, 2018, the Commission approved MCE’s Business Plan.⁶

In response to Governor Gavin Newsom’s July 30, 2021, Proclamation of State of Emergency on the accelerating impacts of climate change, the Commission invited parties to submit energy efficiency proposals focused on improving summer reliability in August 2021. MCE submitted a proposal to expand its Peak FLEXmarket program to deliver increased load reduction and grid benefits during the summer of

¹ To date, MCE is the only community choice aggregator (“CCA”) to have requested energy efficiency funding under Code Section 381.1(a)-(d). D.14-01-033, OP 1 at 50; D.18-05-041, OP 1 at 182.

² D.12-11-015 at pp. 45-6.

³ D.12-11-015 at p. 46.

⁴ D.14-01-033 at p. 14; see also D.14-10-046 at p. 120.

⁵ See Application of Marin Clean Energy for Approval of its Energy Efficiency Business Plan (Application (“A.”) 17-01-017) filed January 17, 2017.

⁶ D. 18-05-041, OP 33 at 189.

2022 and 2023. On December 2, 2021, the Commission approved MCE’s Peak FLEXmarket program, and a two-year statewide Market Access program modeled after it.⁷

Resource Acquisition

Multifamily Energy Savings Program (MCE01)

Program Description

The Multifamily Energy Savings Program (“MFES”) provides residential energy efficiency improvements to affordable multifamily properties in the MCE service territory. This program is implemented by the Association for Energy Affordability (“AEA”) and provides funding for energy efficiency and building electrification measures. It layers as many funding opportunities as possible to provide comprehensive, whole building upgrades. The program supports vulnerable communities disproportionately impacted by California’s energy system, particularly those who have been traditionally underserved by energy efficiency programs. MFES complements MCE’s Low-Income Families and Tenants (“LIFT”) pilot program, authorized in D.16-11-022, by providing funding to affordable properties where not all units qualify for LIFT incentives. LIFT provides comprehensive services and supports fuel switching from gas appliances to electric heat pumps for cleaner and safer energy use. Income-qualified multifamily properties can layer incentives from LIFT on MFES rebates. With this model, MFES supports property-wide upgrades for all tenants who live in affordable housing.

MFES services include no-cost property assessments, project scope development, and program assistance throughout the lifetime of the project. The program offers owner rebates for energy efficiency and building electrification measures. It also provides no-cost direct install energy efficiency measures to reduce overall project management- and measure costs.

MFES addresses key market barriers by:

- Providing customized technical assistance to overcome challenges associated with the diversity of building types, ownership types, and billing configurations;
- Informing property owners about the range of participation options that best meet their current property needs. This includes guiding property owners through the upgrade opportunities throughout the property; and
- Bridging the funding gap between multifamily units that qualify for LIFT or Energy Savings Assistance (“ESA”) incentives and those that do not for a comprehensive and equitable whole-building improvements.

Strategies Deployed in 2021

MFES layered incentives with LIFT by providing funding to affordable properties where not all units qualified for LIFT incentives. With this model, MFES supported property-wide upgrades for all tenants who live in affordable housing. Additionally, MCE’s partnership with BayREN allowed MFES to provide

⁷ D.21-12-011, OP 5-9 at 53.

incentives for projects that don't qualify for the Bay Area Multifamily Enhancements Program ("BAMBE")⁸.

Program Performance Metrics and Major Achievements in 2021

Program ID	Program Name	Rebate Amount Disbursed	Number of Projects Completed	Net TSB	Net kWh Savings	Net kW Savings	Net Therms Savings
MCE01	MF Energy Savings	\$25,528	4	\$51,355	40,551	3	376

Additional Achievements

The MFES program layered incentives with other MCE programs such as LIFT (3 projects) and Healthy Homes⁹ (1 project) programs.

Program Changes and Improvements for 2022

The MFES program faced a series of barriers that affected its overall results. Covid-19-related impacts, like supply chain delays, persisted for several projects, and properties with high-risk residents, such as senior home facilities were negatively impacted as a result. Additionally, MCE learned that the program's measure list and incentive amounts were insufficient to properties with more comprehensive scopes of work.

In 2022, consistent with MCE's mission¹⁰ to create equitable community benefits, equity will be the guiding principle for the MFES program. The program will target disadvantaged and underserved communities,¹¹ including properties unable to qualify for low-income programs but still in need of financial and technical support. It will also investigate adding atypical historically underserved multi-resident building types that such as homeless shelters and mobile home parks.

Other changes include:

- Significantly increasing the program's measure list, including building electrification measures;
- The addition of a marketing and communications subcontractor to develop a new equity-focused outreach strategy for MFES and LIFT;
- Further the development of the direct install component with a trade ally; and
- A redesigned MFES incentive structure and ruleset to better serve multifamily customers.

⁸ The Bay Area Multifamily Enhancements Program (BAMBE) provides no-cost consultations and up to \$750/unit in EE and electrification upgrades for qualifying properties (those that can save 15 percent or more energy). MCE serves four counties with MFES and LIFT, while BAMBE serves low-income customers across all nine San Francisco Bay Area counties

⁹ The MCE Healthy Homes Program, funded by Marin Community Foundation, provides upgrades to improve the health, safety, and efficiency of Marin County homes. The program helps income-qualified residents address health hazards through energy efficiency improvements that increase comfort and decrease energy usage. Integrated pest management and mitigation of mold and moisture also help customers stay safely in their homes and reduce the risk of climate-related illnesses.

¹⁰ MCE, About Us, available at: <https://www.mcecleanenergy.org/about-us/>.

¹¹ Pursuant to Cal. Pub. Util. Comm'n, Environmental and Social Justice Action Plan version 2.0, (April 7, 2022), available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf>.

Commercial Upgrade Program (MCE02)

Program Description

The MCE Commercial Program is a comprehensive, third-party delivered program which produces reliable and persistent electric and gas savings for customers within MCE's service area. The program works with multiple implementation partners allowing for various participation pathways, including the Energy Alliance Association ("TEAA") to deliver prescriptive measures, custom-calculated savings and rebates; Recurve for management of MCE's Commercial Efficiency Market; and CLEAResult Consulting to deliver Strategic Energy Management ("SEM") and large custom projects. Customers benefit from a comprehensive approach to energy efficiency, combining MCE's strong customer relationships and community presence, and ongoing communication with innovative methods, data-driven outreach, and technical review of projects to move customers forward on their energy efficiency journey.

For customers, the Program offers energy assessments, procurement assistance, a diverse mix of energy efficiency services, and rebates for lighting, HVAC, refrigeration, food service measures and more. In addition, the program offers project management assistance and post-project quality assurance. SEM affords customers the opportunity to strengthen energy management within their organizations, and complete no and low cost behavioral, retro-commissioning and operational projects. SEM can drive longer term organizational changes that result in continuous energy improvements, year after year.

As a core component of MCE's resource portfolio, the Commercial Program leverages the Commercial Efficiency Market with an explicit focus on scale and cost-effective energy efficiency procurement. It accomplishes scale by opening the door to a wide network of participating aggregators without requiring a solicitation or direct contract with MCE. This results in a program that is easier to access for providers and mitigates the risk of underperformance and unspent program funding. Further, it reduces administrative downtime and waste in opening and closing new programs. The program emphasizes the time-dependent value of savings, by paying participating aggregators based on the Total System Benefits ("TSB")¹² delivered by a project, as determined by custom savings load shapes and customer profiles. This drives aggregators to focus on high value customers and interventions and rewards them for doing so.

The program goals are to:

- Streamline the customer experience, reduce administrative costs, improve cost-effectiveness, and better serve all ratepayers regardless of customer size or business type;
- Raise awareness about energy use and its associated economic and environmental impacts in the commercial sector within MCE's service area;
- Ensure program impacts are verifiable and that incentive payments align with realized savings; and
- Scale resource energy efficiency impacts, with a focus on cost-effective program delivery and Total System Benefits.

Strategies Deployed in 2021

MCE's Commercial program deployed several strategies in 2021, in the interest of growing program impacts, accountability and cost effectiveness. First, MCE continued and improved upon a foundational

¹² D.21-09-037, OP 4 at 28.

strategy in its Commercial program: ensuring that a variety of energy efficiency needs, and interests can be supported through the program’s services and incentives. At the core of this strategy is ensuring that flexible contract mechanisms are in place, so that implementation partners are not limited in the scope of their services or programs. Instead, they are enabled to meet customers’ needs leveraging different participation pathways and levels of engagement.

Second, the program worked to ensure that sufficient funding remained available by requesting additional funding when necessary. MCE experienced rapid growth in the Commercial Efficiency Market and submitted a supplemental budget request in 2021 which resulted in an additional \$4 million being approved for deployment. MCE has also directed implementers to the Efficiency Market as a supplemental participation pathway which can be leveraged. MCE encouraged two existing implementers to join the Efficiency Market as aggregators, to not limit their scope to their primary contract and to diversify the services they can offer to MCE customers. Both implementers have enrolled as aggregators.

As in previous years, MCE has also leveraged consumption data to help identify ideal program participants and conduct customer outreach. This is a critical component of Strategic Energy Management program, which focuses squarely on MCE’s largest commercial customers. Consumption and interval data are also critical components of customer targeting and evaluating customer energy savings under the Efficiency Market program, where the total project value is determined in part by the load shape of energy efficiency savings. Customer data is important to understanding the value of savings with a particular customer, and the interventions that they may benefit from.

A related strategy – not utilized in 2021 claims but will be for NMEC projects completed in 2021 – will be to leverage custom load shapes rather than deemed measure load shapes to inform the TSB calculation. Using custom load shapes in savings claims is an important strategy to enable higher value projects. In short, higher value projects can and should be compensated at a premium rate – and this is only possible with an understanding of when hourly savings accrue.

Additional strategies included a review of incentive rates and the programs incentive rates, as well as an expansion of geographic reach to serve new communities added to MCE’s service area.

Program Performance Metrics and Major Achievements in 2021

Program ID	Program Name	Rebate Amount Disbursed	Number of Projects Completed	Net TSB	Net kWh Savings	Net kW Savings	Net Therms Savings
MCE02	Commercial Upgrade	\$589,838	97	\$5,293,479	5,438,917	211	283,288

Additional Achievements

- Launched the Peak FLEXmarket Program – an MCE-funded demand response and load shifting program aimed at reducing summer peak demand through a network of providers. Together with the Commercial Efficiency Market, the program inspired a statewide effort to prevent summer blackouts, resulting in an approval of \$150 million for the new Market Access Program and an additional \$11 million for Peak FLEXmarket;
- Rapid expansion of the Commercial Efficiency Market sub-program, including a supplemental budget request in the amount of \$4 million to meet the demands of the program’s pipeline.

Program Changes and Improvements for 2022

MCE will continue to provide innovative strategies to drive customer participation, expand the program benefits, and increase cost-effectiveness. Specifically, MCE will align the Commercial Efficiency Market with the new Market Access Program (“MAP”) launched by PG&E. PG&E’s MAP also includes the commercial sector and aligning program rules and incentive structures serves to establish a stronger overall market and individual program. Per the Commission’s direction on the MAP incentive structures, both MCE and PG&E will provide “kicker” rates to peak period savings to further incentivize peak demand reduction.¹³ MCE is also exploring various financing opportunities to overcome financial barriers for both customers and aggregators.

Other program changes and improvements include:

- New programs IDs for participation pathways (deemed, custom, SEM, and NMEC) to increase accuracy of program reporting and improve program performance transparency;
- Ongoing assessment of COVID-19 energy and affordability impacts on an individual basis for each SEM participant;
- Leverage customer analytics on COVID-19 impacts to continue serving and generating savings with high value customers;
- Structure payable rates within contracts and incentives that align with delivered benefits in support of improved cost-effectiveness;
- Incentivize short term peak savings as well as dispatchable demand response under the umbrella of the Peak FLEXmarket program;
- Leverage engineering services and expertise for larger commercial projects;
- Focus additional resources on gas savings targets; and
- Offer SEM Cycle 2 to strengthen customer engagement and achieve deeper savings with current participants completing year 2.

Single Family Comprehensive Program (MCE07)

Program Description

The HER program provides selected customers with Home Energy Reports (“HERs”) at regular intervals to encourage energy- and money-saving behavioral changes. The program’s treatment group receives monthly HERs, including a Similar Homes Comparison and Monthly Usage report. Participants also have direct access to a web portal where they can learn about additional energy savings potential.

The HER program is implemented by Bidgely Inc., that has developed collateral to engage and educate participants in the program about energy consumption patterns, efficiency opportunities, and incentives to participate in EE programs. Bidgely developed an algorithm that disaggregates energy consumption at the appliance level. This level of detail provides participants with a unique snapshot of their energy use patterns and provides recommendations that can save money and energy. Participants are also encouraged to review energy- and cost-savings opportunities online with Bidgely’s web portal via a dashboard and links to educational resources.

The program goals are to:

¹³ D.21-12-011, OP 1 at 59.

- Establish a residential behavior program to educate participants on their energy consumption behavior and motivate them to save energy and money; and
- Validate participant savings using meter-based energy savings calculation methods and Randomized Control Trial (“RCT”) to measure normalized metered energy consumption (“NMEC”).

Strategies Deployed in 2021

Strategies in 2021 mirrored those in 2020, which are a largely out-of-the-box design. Program implementer Bidgely deployed this program design with other utilities in California and across the United States. However, MCE is the first Community Choice Aggregator to utilize Bidgely’s products.

MCE’s approach was based on learnings from 2020. MCE determined that paper HERs were too costly and did not result in any consequential electricity savings producing behavioral changes. Therefore, in the latter half of the year, MCE removed the paper option from the program’s offerings.

Bidgely’s Data Integration service enabled MCE to provide Bidgely with participant usage data that populates Bidgely’s data model. Bidgely’s artificial intelligence (“AI”) algorithms rely on this data model to execute their elaborate calculations and derive the required personalized insights for each user. Two monthly emails sent at a regular cadence, approximately 10 days after the close of the participants’ billing cycle. This allowed Bidgely to calculate the previous month’s electricity consumption and offer education about the nature of the consumption and provide unique electricity-saving recommendations tied to the systems in the home.

MCE’s program directed participants to Bidgely’s web-based console providing energy-saving education and opportunities; examples are switching or replacing inefficient appliances with Energy Star and highly efficient options and learning about water heaters functionality.

Program Performance Metrics and Major Achievements in 2021

The program did not meet the goals established for it in 2021; residential electricity consumption by customers in the program did not shift up or down at a level of significance. A contributor to lack of savings was the ongoing COVID-19 pandemic. Because the program was performing lower than forecasted or expected, in mid-2021, MCE reduced the program’s overall goals and associated pay-for-performance budget in 2021.

Program ID	Program Name	Rebate Amount Disbursed	Number of Projects Completed	Net TSB	Net GWh Savings	Net kW Savings	Net Therms Savings
MCE07	SF HER	N/A	N/A	-	-	-	-

Additional Achievements

Participant Touches

By sending short, digestible messages to program participants, Bidgely was able to provide unique usage summaries by using their algorithm to pinpoint appliances being used, and by refining messages as participants updated their information in user profiles. Emails focused on electricity savings potential by showcasing energy efficient alternatives to current technologies. Although the program did not exclusively meet its energy savings goals for 2021, 66,726 treatment participants received interventions.

906,946 emails were sent to this treatment group resulting in a 63% open rate, 8% click rate, and 77% “thumbs up” response. Additionally, there were 1,200 active web users.

- #1 positive feedback category was “Provides useful energy saving tips” (108 participants)
- #1 negative feedback category was “inaccurate data” (18 participants)

Discontinuing Paper Home Energy Reports (HERs)

By exclusively sending emails (paper HERs were discontinued in 2021 as discussed above), Bidgely effectively reached program participants without the added expenses and resource waste. Conversely, by eliminating paper HERs, there may be the adverse effect of not reaching MCE customers without an email address or those with limited access to digital technologies, which is associated with older and lower-income customers.¹⁴

Covid-19-Related Updates

Bidgely updated language on emails and other communications to address COVID-19 electricity consumption increases, and to educate participants about electricity-saving opportunities while being cognizant that some savings might not be feasible given increased home occupancy for the duration of the pandemic.

The COVID-19 pandemic resulted in the majority of residential customers being at home at a much higher rate, and for longer, than pre-pandemic levels. Analysis completed by Recurve for MCE confirms that during the pandemic, the residential weekday electric load shape mirrored pre-pandemic weekend load shapes. This, in part, explains the lack of electricity savings realized in the program.

Implementer Evaluation

In 2021, Bidgely and Recurve worked collectively with MCE to analyze the program’s savings calculations methodology¹⁵. This involved Bidgely replicating the saving analysis completed by Recurve using treatment group data and anonymized control group information from Q4 2020. The analysis did not provide strong conclusions regarding lack of savings, so in 2022 Bidgely is conducting additional analysis to find any improvements in program design that can produce electricity savings.

Program Changes and Improvements for 2022

The program did not meet electricity saving goals in 2021. MCE and Bidgely investigated to understand the reasons behind the shortfall by reviewing the calculations used by the program to verify savings, comparing this program’s target audience with other, successful behavior programs. To date, no definitive reason for the lack of savings has been identified. However, as previously stated, MCE and Bidgely will continue to investigate anomalies between MCE’s program and other successful Bidgely programs and identify any improvements in program design that can produce electricity savings.

Additionally, in 2021, MCE approved development and vetting of an expansion wave of customers and a Next Best Interaction (“NBI”) platform, both to be launched in early 2022.

¹⁴ Public Policy Institute of California, California’s Digital Divide, (February 2021), available at: <https://www.ppic.org/publication/californias-digital-divide/>.

¹⁵ For the program, Recurve uses a Randomized Control Trial and nets out exogenous factors from the savings by applying a “difference of differences”

Agricultural and Industrial Resource (“AIR”) Program (MCE10 & MCE11)

Program Description

The MCE Agricultural and Industrial Resource (“AIR”) Program is a comprehensive third-party program¹⁶ designed for agricultural and industrial customers within MCE’s service area. The AIR program is designed to provide individualized service to identify energy efficiency opportunities, develop and evaluate implementation options, and provide incentives in the form of technical assistance, money-back rebates, and financing. MCE partners with CLEAResult as the implementer, and the Program aims to leverage multiple participation pathways, including deemed rebates, custom projects, NMEC projects, and SEM to realize energy efficiency goals.

SEM plays a key part in the AIR Program to help address market barriers and achieve program objectives over a long-term engagement. SEM is offered in a cohort style format for training workshops and a mix of individual and cohort-style site activities. SEM delivers a subset of program objectives that include:

- Implementing energy efficiency projects with a focus on low- to-no cost behavioral, retro-commissioning, and operational measures;
- Establishing a continuous Energy Management System (“EMS”) at each facility to impact company culture in a positive way;
- Quantifying and reporting facility-wide energy performance;
- Encouraging peer-to-peer learning and sharing;
- Achieving a balance between saving energy and building EMS practices.

Strategies Deployed in 2021

In 2021, the MCE AIR program employed the following strategies to foster growth and cost effectiveness. First, the program continued its efforts in data-driven customer targeting – honing in on key agricultural and industrial customers who may benefit most from SEM engagement. Second, the program continued its coordination with Napa Green to both identify key customer leads and share the details of the MCE AIR program with agricultural customers. In response to some of the implementation challenges presented by the COVID-19 pandemic, customer outreach and customer engagement in SEM workshops remained primarily virtual in format. This helped to ensure that customers remained engaged despite a reduction in onsite program engagement. Finally, the program engaged in enhanced marketing efforts – which included updates to program content on MCE’s website, social media, and a short video production – shared via social media - summarizing one industrial customer’s experience with the MCE AIR Program and SEM.

Program Performance Metrics and Major Achievements in 2021

Program ID	Program Name	Rebate Amount Disbursed	Number of Projects Completed	Net TSB	Net kWh Savings	Net kW Savings	Net Therms Savings
MCE10	Industrial	\$29,866	5	\$397,978	487,126	68	38,381
MCE11	Agricultural	\$5,762	1	\$82,300	143,893	20	3,476

¹⁶ MCE is not subject to the energy efficiency “Third-Party” program rules as they are defined for utility administrators in D.16-08-019. D.16-08-19 at OP 10-11.

Additional Achievements

- Released a customer testimonial and marketing video on the benefits and opportunities of participation in SEM with MCE.
- Continued collaboration with Napa Green to generate new custom and deemed project leads as well as potential SEM recruits.

Program Changes and Improvements for 2022

MCE is bolstering its engagement strategy to enlist new participating customers in the third SEM cohort that launched in 2021. MCE and CLEAResult's marketing teams are coordinating on developing case studies, webpages, and other marketing material to distribute to agricultural and industrial customer channels. MCE will also continue to offer virtual workshops and evaluate COVID-19 energy impacts on an individual basis for each SEM participant.

Other program changes and improvements include:

- Improve the program's efficiency in customer targeting and meter-based measurement, by creating a reliable flow of data from PG&E to MCE, for use within MCE programs and by MCE programs partners;
- Deploy targeted marketing and outreach strategies to reach smaller agricultural and industrial customers.

Equity

Single Family Direct Install Program (MCE08)

Program Description

MCE's Single Family Direct Install Program is branded to customers as the Home Energy Savings Program ("HES"). HES is a direct install program that provides no-cost health and energy savings kits, home assessments, and home upgrades to eligible single-family homeowners and renters in MCE's service area, focused improving the efficiency of the home and making the home building electrification-ready. This program targets customers in Disadvantaged Communities ("DACs") whose household income exceeds the limit to receive services through programs like the ESA Program and LIFT Program yet are still income constrained (moderate income) and unable to participate in shared cost market rate programs.

The program goals are to:

- Provide comprehensive home upgrades to improve the efficiency of moderate-income single-family homes;
- Increase knowledge about energy use and associated economic and environmental impacts in the residential sector within MCE's service area;
- Provide customer service via a Single Point of Contact ("SPOC") for their energy journey, while also connecting them to other available local and regional offerings; and
- Ensure program measures and delivery model are meeting the needs of the customers and achieve forecasted savings targets.

Strategies Deployed in 2021

The program’s efforts in 2021 largely focused on modifying measures and implementation strategies to provide comprehensive home modifications to customers served. Strategies employed in 2021 include:

- MCE relaunched the program in 2021 with an expanded measure list designed to increase the overall homes’ energy performance, comfort, health and safety, while prioritizing building electrification readiness—heat pump water heaters (“HPWH”), heat pump, duct ceiling, attic insulation, etc.
- Expanded the program’s implementation workplan to include the option for customers to receive an in-person home assessment and contractor installation of the water and energy-saving kit measures.
- Designed a new marketing and outreach campaign to engage participants and relaunch the comprehensive strategy with expanded home modification measures.
- Complementary to MCE’s marketing, the program partnered with a community group, Puertas Abiertas, in Napa to expand the reach of the program by leveraging a trusted community-based partner.
- Employed a neighborhood canvassing strategy to leverage client referrals and provide greater customer service while increasing customer participation.

Program Performance Metrics and Major Achievements in 2021

Program ID	Program Name	Rebate Amount Disbursed	Number of Homes with Direct Install Upgrades	Net TSB	Net kWh Savings	Net kW Savings	Net Therms Savings
MCE08	SF DI	\$981,745	285	\$210,445	\$225,927	24	12,851

Additional Achievements

- Began development on a statewide workpaper, Deeply Buried Ducts, to incentivize comprehensive envelope measures and enables program administrators to capture greater savings when combining duct sealing and repair, sealing of the attic plane and increase attic insulation in their program measures.
- Redesigned our marketing and outreach tactics to include a canvassing strategy responsible for the majority of program enrollments.

Program Changes and Improvements for 2022

MCE will continue to offer the Home Energy Savings Program as a comprehensive home upgrade offering for program years 2022 and 2023. The direct install program will continue to serve only moderate-income single-family customers with an expanded measure list that will include additional building envelope measures, ventilation equipment, and electrification retrofit measures. MCE, in partnership with Franklin Energy and PG&E, is developing a Residential Deeply Buried Ducts workpaper. Once approved, MCE plans to leverage this workpaper to achieve more significant savings.

Other program changes and improvements include:

- Improve the SPOC model through continued program coordination with BayREN and PG&E and develop coordinated enrollment referrals with programs serving customers above and below the moderate-income eligibility guidelines and outside of MCE’s service area;

- Update the marketing and outreach plan to reflect lessons learned and benchmark metrics to achieve 2022 and 2023 goals;
- Layer in funding such as Technology and Equipment for Clean Heating (“TECH”) to provide complimentary services to HES participants that are not covered by energy efficiency funding and decrease HES customer deferrals.

Market Support

Workforce, Education and Training (“WE&T”) Program (MCE16)

Program Description

The Workforce, Education and Training (“WE&T”) Program is designed to support the development of the residential energy efficiency industry workforce through long-term, relevant education and training opportunities for the existing residential energy efficiency contractor workforce and creating pathways for job seekers into sustainable and long-term career paths.

The WE&T program has two implementers: AEA and Strategic Energy Innovations (“SEI”). AEA provides contractor education and technical support in developing building electrification skills and workforce. SEI provides individualized support for job seekers including interview and resume skills, as well as sourcing and matching job seekers with local residential energy efficiency contractors.

Strategies Deployed in 2021

MCE is used following strategies to support the development of the residential energy efficiency workforce:

- Conducting industry roundtables and ongoing outreach to energy efficiency industry professionals, workforce development groups, community-based organizations (CBOs), and local governments
- Developing education and mentorship opportunities for contractors and energy efficiency (EE) professionals
- Matchmaking job seekers with local energy efficiency contractors
- Providing job-seekers with short-term workforce experience opportunities in partnership with local contractors

In 2021, the program focused on building partnerships with local workforce groups and CBOs, building contractor and job seeker pipelines, and developing systems for tracking program metrics, barriers, and strategies for program improvements.

Program Performance Metrics and Major Achievements in 2021

Program ID	Program Name	Number of Electrification Workshops & Trainings Held	Number of Trainee Graduates	Number of Contractors Enrolled
MCE16	WE&T	7	5	5

Additional Achievements

In 2021, the WE&T program implementers SEI and AEA achieved several meaningful milestones.

SEI built job seeker pipelines by giving program presentations and building connections with workforce boards and local community colleges in MCE's service area.

SEI worked with CBOs to recruit, hire, and support job seekers for workforce experience placements with local contractors. Through their efforts, SEI was able to exceed their contracted goal, placing a total of seven trainees with local contractors for short-term workforce experience opportunities. Additionally, SEI signed academic project grants with College of Marin and West Contra Costa Adult Education school, resurrecting a workforce training program at the WCC Adult School that was previously closed due to lack of funding.

Through their advocacy, SEI also spurred 2 enrolled contractors to raise their hourly pay rate for entry-level staff, starting with a higher pay rate for workforce experience placements, and advocated for the program to open workforce experience placements for administrative positions, a role they identified as a crucial need for contractors seeking to grow their business.

Technical expert and program implementer AEA, also reached their deliverables, reaching out to 109 distinct local energy efficiency contractors about the program. AEA also made important strides in their electrification education to local stakeholders, conducting 5 virtual electrification workshops with a cumulative audience of 340 registered attendees. AEA provided 2 in-person trainings to local workforce partners Rising Sun Center for Opportunity and RichmondBUILD, ensuring that building electrification curriculum was a part of these cohorts' training. AEA also designed a comprehensive online module covering the California energy landscape in existing residential buildings, best practices in high performance building and electrification upgrades, tailored to emerging energy efficiency professionals entering the field. As of December 2021, 15 trainees were enrolled in the module.

AEA also brought education directly to contractors' job sites, providing 11 individualized in-the-field mentorships to local contractors to support them in developing their electrification work. AEA enrolled 5 contractors in the program, qualifying them to be paired with local job-seekers for short-term workforce experience placements. An additional 6 contractors have begun the process of enrolling in the program.

[Program Changes and Improvements for 2022](#)

For 2022, program improvements will include:

- Scheduling additional roundtables with local workforce stakeholders to gather mid-program feedback and solicit ideas for making program maximally useful to both trainees and contractors
- Testing and validating our proposed interventions based on documented program barriers identified in 2021.
- Adjusting SEI's deliverables to include other support services identified by partners, including support for trainees in getting a drivers' license and assistance with resume development
- Exploring job seeker support options beyond workforce experience placements
- Streamlining contractor enrollment process through condensing required enrollment forms
- Developing seamless contractor transition process from AEA to SEI to ensure contractors remain engaged throughout enrollment.

Annual Report Data

Budget and Expenditures

Program-level

Program	Category	Authorized Budget Amount	Percent of Portfolio Budget	Expenditure Amount	Percent of Total Expenditures
MCE01 MFES	Administrative	\$67,856	0.6%	\$25,735	0.4%
	Direct Implementation (Non-Incentive)	\$322,277	2.8%	\$240,572	3.9%
	Direct Implementation Incentive	\$70,172	0.6%	\$25,528	0.4%
	Marketing, Education and Outreach	\$8,000	0.1%	\$-	0.0%
	Program Total	\$468,305	4.0%	\$291,835	4.8%
MCE02 Commercial Upgrade	Administrative	\$454,002	3.9%	\$40,441	0.7%
	Direct Implementation (Non-Incentive)	\$1,671,867	14.5%	\$1,713,667	28.0%
	Direct Implementation Incentive	\$4,884,672	42.2%	\$589,838	9.6%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0%
	Program Total	\$7,010,541	60.6%	\$2,343,946	38.3%
MCE07 SF Comprehensive	Administrative	\$110,609	1.0%	\$20,220	0.3%
	Direct Implementation (Non-Incentive)	\$576,490	5.0%	\$441,642	7.2%
	Direct Implementation Incentive	\$-	0.0%	\$-	0.0%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	Program Total	\$687,099	5.9%	\$461,862	7.5%
MCE08 SF Direct Install	Administrative	\$105,123	0.9%	\$33,088	0.5%
	Direct Implementation (Non-Incentive)	\$463,513	4.0%	\$579,193	9.5%
	Direct Implementation Incentive	\$948,196	8.2%	\$981,745	16.0%
	Marketing, Education and Outreach	\$61,000	0.5%	\$121,166	2.0%
	Program Total	\$1,577,832	13.6%	\$1,715,192	28.0%
MCE10 Industrial	Administrative	\$107,843	0.9%	\$23,897	0.4%
	Direct Implementation (Non-Incentive)	\$562,070	4.9%	\$376,649	6.1%

	Direct Implementation Incentive	\$201,164	1.7%	\$29,866	0.5%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	Program Total	\$871,077	7.5%	\$430,412	7.0%
MCE11 Agricultural	Administrative	\$47,154	0.4%	\$23,897	0.4%
	Direct Implementation (Non-Incentive)	\$245,764	2.1%	\$169,585	2.8%
	Direct Implementation Incentive	\$175,277	1.5%	\$5,762	0.1%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Program Total	\$468,195	4.0%	\$199,244	3.3%
MCE16 WE&T	Administrative	\$58,191	0.5%	\$57,329	0.9%
	Direct Implementation (Non-Incentive)	\$283,290	2.4%	\$510,528	8.3%
	Direct Implementation Incentive	\$-	0.0%	\$-	0.0%
	Marketing, Education and Outreach	\$20,000	0.2%	\$-	0.0%
	Program Total	\$361,481	3.1%	\$567,857	9.3%
MCE98	EM&V	\$119,112	1.0%	\$119,112	1.9%
	Program Total	\$119,112	1.0%	\$119,112	1.9%
Portfolio	Portfolio Total	\$11,563,643	100%	\$6,126,742	100%

Sector-level

Sector	Category	Authorized Budget Amount	Percent of Portfolio Budget	Expenditure Amount	Percent of Total Expenditures
Residential	Administrative	\$283,588	2.5%	\$79,043	1.3%
	Direct Implementation (Non-Incentive)	\$1,362,280	11.8%	\$1,261,407	20.6%
	Direct Implementation Incentive	\$1,018,368	8.8%	\$1,007,273	16.4%
	Marketing, Education and Outreach	\$69,000	0.6%	\$121,166	2.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Residential Total	\$2,733,236	23.6%	\$2,468,890	40.3%
Agriculture	Administrative	\$47,154	0.4%	\$23,897	0.4%
	Direct Implementation (Non-Incentive)	\$245,764	2.1%	\$169,585	2.8%
	Direct Implementation Incentive	\$175,277	1.5%	\$5,762	0.1%

	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Agriculture Total	\$468,195	4.0%	\$199,244	3.3%
Commercial	Administrative	\$454,002	3.9%	\$40,441	0.7%
	Direct Implementation (Non-Incentive)	\$1,671,867	14.5%	\$1,713,667	28.0%
	Direct Implementation Incentive	\$4,884,672	42.2%	\$589,838	9.6%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Commercial Total	\$7,010,541	60.6%	\$2,343,946	38.3%
Cross-Cutting	Administrative	\$58,191	0.5%	\$57,329	0.9%
	Direct Implementation (Non-Incentive)	\$283,290	2.4%	\$510,528	8.3%
	Direct Implementation Incentive	\$-	0.0%	\$-	0.0%
	Marketing, Education and Outreach	\$20,000	0.2%	\$-	0.0%
	EM&V	\$119,112	1.0%	\$116,394	2%
	Cross-Cutting Total	\$480,594	4.2%	\$684,251	11.2%
Industrial	Administrative	\$47,154	0.4%	\$23,897	0.4%
	Direct Implementation (Non-Incentive)	\$245,764	2.1%	\$376,649	6.1%
	Direct Implementation Incentive	\$175,277	1.5%	\$29,866	0.5%
	Marketing, Education and Outreach	\$-	0.0%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Industrial Total	\$468,195	4.0%	\$430,412	7.0%
Portfolio	Portfolio Total	\$11,563,643	100%	\$6,126,742	100%

Segment-level¹⁷

Segment	Category	Authorized Budget Amount	Percent of Portfolio Budget	Expenditure Amount	Percent of Total Expenditures
Resource	Administrative	\$787,464	6.8%	\$134,190	2.2%
	Direct Implementation (Non-Incentive)	\$3,378,469	29.2%	\$2,942,115	48.0%
	Direct Implementation Incentive	\$5,331,285	46.1%	\$650,994	10.6%
	Marketing, Education and Outreach	\$8,000	0.1%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%

¹⁷ Table excludes EM&V, which is not a segment and accounts for one percent of forecasted and two percent of actual expenditures.

	Resource Total	\$9,505,218	82.2%	\$3,727,299	60.8%
Equity	Administrative	\$105,123	0.9%	\$33,088	0.5%
	Direct Implementation (Non-Incentive)	\$463,513	4.0%	\$579,193	9.5%
	Direct Implementation Incentive	\$948,196	8.2%	\$981,745	16.0%
	Marketing, Education and Outreach	\$61,000	0.5%	\$121,166	2.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Equity Total	\$1,577,832	13.6%	\$1,715,192	28.0%
	Market Support	Administrative	\$58,191	0.5%	\$57,329
	Direct Implementation (Non-Incentive)	\$283,290	2.4%	\$510,528	8.3%
	Direct Implementation Incentive	\$-	0.0%	\$-	0.0%
	Marketing, Education and Outreach	\$20,000	0.2%	\$-	0.0%
	EM&V	\$-	0.0%	\$-	0.0%
	Market Support Total	\$361,481	3.1%	\$567,857	9.3%
All Segments	All Segments Total	\$11,444,530	99.0%	\$6,010,348	98.1%

Portfolio-level

Portfolio	Category	Authorized Budget Amount	Percent of Portfolio Budget	Expenditure Amount	Percent of Total Expenditures
Portfolio	Administrative	\$950,778	8.2%	\$224,607	3.7%
	Direct Implementation (Non-Incentive)	\$4,125,271	35.7%	\$4,031,836	65.8%
	Direct Implementation Incentive	\$6,279,481	54.3%	\$1,632,739	26.6%
	Marketing, Education and Outreach	\$89,000	0.8%	\$121,166	2.0%
	EM&V	\$119,112	1.0%	\$116,394	1.9%
Portfolio	Portfolio Total	\$11,563,643	100%	\$6,126,742	100.0%

Energy Savings

Program-level

Program		Net GWh Savings	Net MW Savings	Net MMTherms Savings
MCE01 MFES	Installed Program Savings	0.0434	0.0032	0.0004
	Adopted Goals	0.1340	0.0399	0.0129
	Goal Attainment Percentage	32.4%	8.1%	3.1%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
MCE02 Commercial Upgrade	Installed Program Savings	5.7275	0.2223	0.3026
	Adopted Goals	11.6471	0.2733	0.1897
	Goal Attainment Percentage	49.2%	81.3%	159.5%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
MCE07 SF Comprehensive	Installed Program Savings	-	-	-
	Adopted Goals	6.0397	-	-
	Goal Attainment Percentage	0.0%	-	-
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
MCE08 SF Direct Install	Installed Program Savings	0.2288	0.0262	0.0138
	Adopted Goals	0.1055	0.0191	0.0513
	Goal Attainment Percentage	216.9%	137.1%	27.0%
	Fuel Sub Goal Adjustment	-	-	(0.0067)
	Adjusted Goal Attainment	-	-	0.0447
MCE10 Industrial	Installed Program Savings	0.5115	0.0712	0.0403
	Adopted Goals	1.3598	0.0332	0.1295
	Goal Attainment Percentage	37.6%	214.5%	31.1%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
MCE11 Agricultural	Installed Program Savings	0.1511	0.0208	0.0036
	Adopted Goals	0.8631	0.1118	0.0143
	Goal Attainment Percentage	17.5%	18.6%	25.5%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-

Sector-level

Sector		Net GWh Savings	Net MW Savings	Net MMTherms Savings
Residential	Installed Residential Savings	0.2723	0.0294	0.0142
	Adopted Goals	6.3331	0.0590	0.0642
	Goal Attainment Percentage	4.3%	49.8%	22.2%
	Fuel Sub Goal Adjustment	-	-	(0.0067)
	Adjusted Goal Attainment	-	-	0.0576
Agriculture	Installed Agriculture Savings	0.1511	0.0208	0.0036
	Adopted Goals	0.8631	0.1118	0.0143
	Goal Attainment Percentage	17.5%	18.6%	25.5%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
Commercial	Installed Commercial Savings	5.7275	0.2223	0.3026
	Adopted Goals	11.6471	0.2733	0.1897
	Goal Attainment Percentage	49.2%	81.3%	159.5%

	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
Cross-Cutting	Installed Cross-Cutting Savings	-	-	-
	Adopted Goals	-	-	-
	Goal Attainment Percentage			
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
Industrial	Installed Industrial Savings	0.5115	0.0712	0.0403
	Adopted Goals	1.3598	0.0332	0.1295
	Goal Attainment Percentage	37.6%	214.5%	31.1%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-

Segment-level¹⁸

Segment		Net GWh Savings	Net MW Savings	Net MMTherms Savings
Resource	Installed Resource Savings	6.4336	0.3175	0.3469
	Adopted Goals	20.0977	0.4582	0.3464
	Goal Attainment Percentage	32.0%	69.3%	100.2%
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-
Equity	Installed Equity Savings	0.2288	0.0262	0.0138
	Adopted Goals	0.1055	0.0191	0.0513
	Goal Attainment Percentage	216.9%	137.1%	27.0%
	Fuel Sub Goal Adjustment	-	-	(0.0067)
	Adjusted Goal Attainment	-	-	0.0447
Market Support	Installed Market Support Savings	-	-	-
	Adopted Goals	-	-	-
	Goal Attainment Percentage	-	-	-
	Fuel Sub Goal Adjustment	-	-	-
	Adjusted Goal Attainment	-	-	-

Portfolio-level

	Net GWh Savings	Net MW Savings	Net MMTherms Savings
Installed Portfolio Savings	6.6624	0.3437	0.3608
Adopted Goals	20.2032	0.4773	0.3977
Goal Attainment Percentage	33.0%	72.0%	90.7%
Fuel Sub Goal Adjustment	-	-	(0.0067)
Adjusted Goal Attainment	-	-	0.3911

Savings by End Use

Measure End Use Category	Net TSB	TRC	PAC	First Year Net GWh	First Year Net MW	First Year Net MM Therms
Appliance or Plug Load	\$4,530	0.00	0.14	0.0048	0.0006	(0.0001)
Building Envelope	\$27,374	0.04	0.05	0.0021	0.0058	0.0015
Compressed Air	\$-	-	-	-	-	-
Commercial Refrigeration	\$-	-	-	-	-	-
Codes and Standards	\$-	-	-	-	-	-

¹⁸ Table excludes EM&V, which is not a segment. It accounts for zero percent of forecasted savings.

Food Service	\$-	-	-	-	-	-
HVAC	\$158,320	0.21	0.22	0.2267	0.0204	0.0068
Irrigation	\$-	-	-	-	-	-
Lighting	\$1,543,548	1.08	2.07	4.9536	0.1212	0.0076
Non-Savings Measure	\$-	-	-	-	-	-
Process Distribution	\$-	-	-	-	-	-
Process Drying	\$-	-	-	-	-	-
Process Heat	\$-	-	-	-	-	-
Process Refrigeration	\$-	-	-	-	-	-
Recreation	\$811,677	1.89	2.19	-	-	0.1707
Service	\$-	-	-	-	-	-
Service and Domestic Hot water	\$45,348	0.16	0.29	0.0003	-	0.0063
Whole Building	\$3,762,499	0.38	0.63	1.4749	0.1956	0.1681

TSB and Cost-Effectiveness

Program-level

Program	Program Name	Net TSB	Total Benefits (TRC/PAC)	Total TRC Cost	TRC Ratio	Total PAC Cost	PAC Ratio
MCE01	MFES	\$51,355	\$50,433	\$2,441,343	0.02	\$290,543	0.17
MCE02	Commercial Upgrade	\$5,595,736	\$5,466,571	\$4,213,236	1.30	\$2,319,033	2.37
MCE07	SF Comprehensive	\$-	\$-	\$461,862	0.00	\$461,862	0.00
MCE08	SF Direct Install	\$225,927	\$275,811	\$1,755,638	0.16	\$1,709,536	0.16
MCE10	Industrial	\$397,978	\$388,574	\$1,479,433	0.26	\$397,978	0.91
MCE11	Agricultural	\$82,300	\$79,440	\$300,976	0.26	\$198,925	0.40
MCE16	WE&T	\$-	\$-	\$567,857	0.00	\$567,857	0.00

Sector-level

Sector	Net TSB	Total Benefits (TRC/PAC)	Total TRC Cost	TRC Ratio	Total PAC Cost	PAC Ratio
Agriculture	\$82,300	\$79,440	\$300,976	0.26	\$198,925	0.40
Commercial	\$5,595,736	\$5,466,571	\$4,213,236	1.30	\$2,308,418	2.37
Cross-Cutting	\$-	\$-	\$684,251	0.00	\$684,251	0.00
Industrial	\$397,978	\$388,574	\$1,479,433	0.26	\$428,230	0.91
Residential	\$277,282	\$326,245	\$4,658,844	0.07	\$2,461,942	0.13

Segment-level

Sector	Net TSB	Total Benefits (TRC/PAC)	Total TRC Cost	TRC Ratio	Total PAC Cost	PAC Ratio
Resource	\$6,127,369	\$5,985,018	\$8,434,987	0.71	\$3,226,116	1.86
Equity	\$225,927	\$275,811	\$2,217,501	0.12	\$2,171,399	0.13
Market Support	\$-	\$-	\$567,857	0.00	\$567,857	0.00

Portfolio-level

Portfolio	Net TSB	Total Benefits (TRC/PAC)	Total TRC Cost	TRC Ratio	Total PAC Cost	PAC Ratio
Portfolio Total	\$6,353,296	\$6,260,829	\$11,336,738	0.55	\$6,081,765	1.03

Environmental Impacts

Program-level

Program	Program Name	Net Annual tons of CO2 avoided	Net Lifecycle tons of CO2 avoided	Net Annual tons of NOx avoided	Net Lifecycle tons of NOx avoided
MCE01	MFES	13	201	7	99
MCE02	Commercial Upgrade	3,169	23,959	859	7,892
MCE07	SF Comprehensive	-	-	-	-
MCE08	SF Direct Install	126	1,585	(4)	(59)
MCE10	Industrial	363	1,884	78	401
MCE11	Agricultural	59	310	23	116
Portfolio Total		3,731	27,940	964	8,449

Sector-level

Sector	Net Annual tons of CO2 avoided	Net Lifecycle tons of CO2 avoided	Net Annual tons of NOx avoided	Net Lifecycle tons of NOx avoided
Agriculture	59	310	23	116
Commercial	3,169	23,959	859	7,892
Cross-Cutting	-	-	-	-
Industrial	363	1,884	78	401
Residential	139	1,786	3	40
Portfolio Total	3,731	27,940	964	8,449

Segment-level

Segment	Net Annual tons of CO2 avoided	Net Lifecycle tons of CO2 avoided	Net Annual tons of NOx avoided	Net Lifecycle tons of NOx avoided
Resource	3,604	26,355	967	8,507
Equity	126	1,585	(4)	(59)
Market Support	-	-	-	-
Portfolio Total	3,731	27,940	964	8,449

Portfolio-level

Portfolio	Net Annual tons of CO2 avoided	Net Lifecycle tons of CO2 avoided	Net Annual tons of NOx avoided	Net Lifecycle tons of NOx avoided
Portfolio Total	3,731	27,940	964	8,449

Environmental Impact by End Use

Measure End Use Category	Net Annual tons of CO2 avoided	Net Lifecycle tons of CO2 avoided	Net Annual tons of NOx avoided	Net Lifecycle tons of NOx avoided
Appliance or Plug Load	1	11	1	10
Building Envelope	9	189	-	7
Compressed Air	-	-	-	-
Commercial Refrigeration	-	-	-	-
Codes and Standards	-	-	-	-
Food Service	-	-	-	-
HVAC	85	1,143	(4)	(66)
Irrigation	-	-	-	-
Lighting	1,253	14,429	741	7,369

Non-Savings Measure	-	-	-	-
Process Distribution	-	-	-	-
Process Drying	-	-	-	-
Process Heat	-	-	-	-
Process Refrigeration	-	-	-	-
Recreation	999	4,993	-	-
Service			-	-
Service and Domestic Hot water	37	264	-	-
Whole Building	1,284	6,892	226	1,128
Portfolio Total	3,731	27,940	964	8,449

Attachment A: MCE & BayREN Joint Cooperation Memorandum for Program Year 2023

Overview

In Decision (D) 18-05-041, the California Public Utilities Commission (“CPUC” or the “Commission”) directed the filing of Joint Cooperation Memorandums (“JCMs”) between utility and non-utility Program Administrators (PAs) with overlapping service areas together prior to Program Administrators’ (“PA”) Annual Budget Advice Letter (“ABAL”) filings.¹⁹ D.19-02-021 modified the JCM requirement directing Regional Energy Networks to attached to PAs Annual Report. This is the third JCM between Marin Clean Energy (“MCE”) and the Bay Area Regional Energy Network (“BayREN”).

MCE serves customers in four²⁰ of BayREN’s nine county territory.²¹ Both MCE and BayREN offer energy efficiency (“EE”) programs under the Commission’s current rolling portfolio cycle. MCE’s portfolio has evolved from a specialized focus to a more balanced portfolio that offers EE programs for all customer segments, including Residential, Industrial, Agricultural, and Commercial. BayREN programs address the three areas indicated by D.12-11-015: filling gaps in the market; developing programs for hard-to-reach markets; and piloting new approaches to programs that may have the ability to scale and offer innovative avenues to energy savings. MCE and BayREN work closely together to minimize customer confusion, layer on to each other’s programs when appropriate thereby offering our shared customers a more holistic and beneficial program offering.

The BayREN and MCE program teams meet on a regular basis to discuss program coordination and will continue to do so in 2023. The respective program teams and the BayREN member agencies in MCE’s service area, will begin to meet quarterly to ensure information sharing and program coordination.

The 2023 JCM includes the following information for each relevant program area:

1. BayREN Program Summary: A description of each program BayREN is planning on administering in 2023.²²
2. MCE Program Summary: A description of MCE programs that are comparable or equivalent to BayREN programs.²³
3. Coordination Protocol Between Programs: A summary of how the BayREN program is distinct from the MCE program(s) and the coordination protocols between BayREN and MCE for comparable or equivalent programs.²⁴
4. Compliance: Identifies how the BayREN program satisfies the criteria for REN activities in D.12-11-015 and D.19-12-021.
5. Appendices:

¹⁹ See D.18-05-041 at pp. 122-123.

²⁰ MCE serves 37 cities Marin, Napa, Solano and Contra Costa counties.

²¹ BayREN serves the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara and Solano.

²² As there are no comparable MCE offerings, a description of BayREN’s Codes and Standards, Green Labeling and Water Upgrades \$ave program is not included. A complete list of BayREN programs can be found in Appendix B.

²³ A complete list of MCE programs can be found in Appendix C.

²⁴ Sections on program coordination with Statewide programs are out of scope to MCE and BayREN’s coordination and omitted.

- a. Appendix A: Summary of REN compliance with D.12-11-015 and D.19-12-021 for all planned programs;
- b. Appendix B: List of all programs BayREN currently anticipates offering in 2023, including budget information and measure eligibility.²⁵
- c. Appendix C: List all programs MCE currently anticipates offering in 2023, including budget information and measure eligibility.²⁶

Residential Sector Coordination

Residential – Single Family

BayREN Program Summary (BayREN08)

BayREN's Home+ program, while available to all single-family residents, is targeted at underserved households, defined as those with a moderate income²⁷ and/or where a language other than English is spoken. Moderate income was previously defined as households as with an annual income of \$48,000-\$125,000 per household, regardless of household size and county. To more accurately account for these factors and avoid duplication with income qualified programs, we have redefined moderate income as households who do not qualify for income qualified weatherization programs up to the moderate-income level per household by county designated by the California Department of Housing and Community Development²⁸. A second aspect of underserved communities are households that primarily speak a language other than English. Historically, these communities have been underserved by energy efficiency programs.

Moderate income households in the Bay Area are above the Energy Savings Assistance (ESA) programs and often do not receive information about potential energy savings measures in their primary language. Because of this, this population is consistently underrepresented in ratepayer energy efficiency programs in BayREN territory and across the state. The BayREN Single-Family Moderate-Income Market Characterization Study, completed in September 2018, identified key barriers to participation for the target market including financial barriers, low energy costs and expected savings, and renter status if applicable. The Home+ program offers solutions to customers to overcome these barriers.

The key objective of the Home+ program is to meet the underserved customers where they are and to offer incremental and affordable energy efficiency measures that are complementary to measures available through current mainstream program offerings.

An important program element continues to be utilizing the Home Energy Advisor service. This service is essentially a call center that customers can access to speak with an Energy Advisor. The Advisors assist both homeowners and renters and maintain a long-term relationship with the customers after they have assisted with the initial contact to see the customer through a full energy-efficiency journey. Energy Advisors also refer customers to complementary programs offered by utilities, Community

²⁵ Budget forecasts for 2022 are preliminary and highly variable and will be finalized in the 2022 Annual Budget Advice Letter.

²⁶ Budget forecasts for 2022 are preliminary and highly variable and will be finalized in the 2022 Annual Budget Advice Letter.

²⁷ Defined as dwellings with less than five units and annual household income between \$48,000 to \$125,000. As provided in BayREN's Business Plan, this market segment is chronically underserved with energy efficiency programs.

²⁸ California Department of Community Services and Development, Low Income Home Energy Assistance Program Income Eligibility, <https://www.csd.ca.gov/Pages/LIHEAP-Income-Eligibility.aspx>

Choice Aggregator (“CCA”) programs, Energy Watch, and other implementers; the Advisors also help customers understand their financing options. Additionally, the Energy Advisors assist Home+ Participating Contractors with understanding program requirements and when needed, help mediate issues that may arise with the customer and contractor.

To further address financial concerns facing moderate income households, BayREN is considering offering an additional rebate for certain measures for this population. The exact amounts and income qualification verification methods have yet to be determined but will be coordinated with the low-income qualified weatherization programs to facilitate referrals between programs. The anticipated launch date is July 2022.

In 2023, BayREN’s program will continue to use an engaged Home Energy Advisor to walk customers step-by-step through the process and to direct them to a Participating Contractor to deliver energy savings to households. BayREN will continue to develop relationships with organizations and media who serve non-English speaking communities through in language webinars, printed collateral and information dissemination through trusted messengers as a means to reach this sector.

The Home+ program offers a menu of eligible measures including four fuel substitution measures: heat pump water heaters, heat pump heating and cooling, heat pump clothes dryers and induction cooktop/range. Customers can choose a single measure to upgrade, but they are encouraged to undertake multiple measures. These measures must be installed by a Home+ Participating Contractor, a group that is key to the Home+ program.

BayREN’s contractor training is designed and in coordination with the Workforce Education and Training (WE&T) activities offered through the PG&E WE&T program, to ensure that efforts are not duplicated. BayREN also offers its contractors program related trainings and one-on-one trainings on an as needed basis. Following COVID-19 restrictions in 2020, BayREN developed an online portal of trainings to keep Participating Contractors engaged and to increase their technical knowledge. This platform will continue to be available to contractors in 2023.

The BayREN Workforce Education and Training program, as implemented by Rising Sun, seeks to address workforce needs and fill gaps in the labor market with Climate Careers, a youth workforce development program that focuses on youth, ages 15-24, from low-income households and with an emphasis on opportunity youth. The WE&T program offers opportunities to youth for personal autonomy, positive relationships with peers and adults, and a sense of meaning and purpose, all of which build personal resilience and prepares the new generation of workers. The program accomplishes this through three separate stages:

1. Earn and Learn:
 - a. Provides on the job soft skills training, installation training, teamwork, customer service, time management and more. All in service of the Green House Call program.
 - b. Provides upskilling and professional skill advancement through career panels, design challenges, environmental justice trainings, and professional development workshops covering topics such as resume writing, mock interviews, cover letters, networking, and financial management.

- c. The Green House Call program simultaneously serves as a direct install energy efficiency program, as well as an outreach and customer acquisition mechanism for the BayREN Home+ program
2. Post Programmatic Pathways:
 - a. Upon completion of the Earn and Learn/ Green House Call portion of the program the Climate Careers program continues with paid internship placements.
 - b. Internship placements are with climate-related employers, not just EE contractors.
 - c. Placements enable participants to gain real life, first-hand career experiences in positions such as: contractors, researchers, educators, event coordinators, outreach associates, troubleshooters and marketers.
 - d. The intent is to enable youth to explore the wide variety of career options in climate-related fields, while building their resumes and preparing them for future workforce successes.
3. Future Placement:
 - a. Upon completion of the Post Programmatic Pathways portion of the program the Climate Careers program will culminate, ideally, with full time employment opportunities with partner agencies.
 - b. The intent is to transition youth into full time opportunities with the same partners that provided them with internships.
 - c. The program will also increase the number of individuals with the needed soft skills and fundamentals required for long and successful careers in sectors experience a labor shortage.

One of the outreach channels for the Home+ program is an online self-evaluation tool available to customers. The tool asks customers basic questions about their home's characteristics and energy using equipment and qualifies them to receive an energy savings kit which may include: LED lamps, faucet aerators and Tier II advanced power strips depending on the customer's responses. The other outreach channel for the program is through Green House Calls, implemented by Rising Sun Center for Opportunity, which hires youth to perform energy audits. The Green House Calls are offered to targeted households; primarily seniors and households where English is not the primary language. Green House Calls involve a program representative performing a visual audit of an interested customer's home and installing some of the energy savings kit measures. Both channels direct customers to the broader Home+ program offerings, including the Home Energy Advisor service.

The BayREN Regional Heat Pump Water Heater (midstream) Program, funded by a grant from the Bay Area Air Quality Management District until June 2021, will continue to operate under the BayREN Single Family program through 2023. The engagement with manufacturers and distributors and the administration of the rebates provided by CCAs will continue in 2023 and potentially expanded with more CCAs joining in the effort.

Like all BayREN programs, outreach in 2023 will continue to be done primarily by local governments. This also allows for the seamless layering of other climate programs and activities including those offered by individual cities, counties and CCA programs. BayREN will continue to leverage local government electrification rebates and integrate those programs into one cohesive message based on the audience as they launch.

MCE Program Summary (MCE08)

MCE's Home Energy Savings ("HES") is a direct install program that provides no-cost health and energy savings kits, energy efficiency and building electrification ready home assessments, and home upgrades to eligible single-family (up to 4 attached units) homeowners and renters in MCE's service area. This program targets customers in Disadvantaged Communities ("DACs")²⁹ whose household income falls between 200-400% of the Federal Poverty Guidelines (FPG), a market sector that has been traditionally underserved. The target group's income exceeds the limit to receive services through programs like PG&E's Energy Savings Assistance ("ESA") Program and MCE's Low-Income Families and Tenants (LIFT) Program, yet are still income constrained (moderate income) and unable to participate in shared cost market rate programs. MCE will refer customers who fall outside of the moderate-income threshold to available low-income and market rate programs. The goal is to fill the service gap and introduce this market sector to the concepts of EE while providing energy upgrades and emerging technologies that reduce household energy consumption.

HES will also be leveraged to serve Contra Costa County's Asthma Mitigation Project clients. MCE has partnered with Contra Costa Health Services to expand HES income eligibility to include customers that are participating in the asthma initiative, to provide those customers with an expanded scope of services to mitigate the effects of asthma-causing environments.

MCE is a potential partner on the Richmond Advanced Energy Community ("RAEC") grant—pending CEC approval of submitted documents. If approved, HES will be leveraged to serve customers that are receiving services funded by the RAEC grant. HES will expand its income eligibility to include customers that are RAEC grant participants, in order to provide those customers with an expanded scope of energy efficiency offerings.

MCE Program Summary (MCE16)

According to MCE's 2017 Energy Efficiency Business Plan, the Workforce, Education and Training ("WE&T") programs offered will "...help achieve deeper market penetration with expertise in multiple demand-side management technologies and ensure each project has high program quality standards. MCE will support the success of its energy efficiency programs with complementary workforce development and training."³⁰ MCE's WE&T program addresses these goals.

The Program is designed to leverage industry and stakeholder expertise and experience to provide:

1. Long-term, relevant education and training opportunities for the existing energy efficiency contractor workforce.
2. On-ramping opportunities for job seekers into sustainable and long-term career paths.

The WE&T program offers the following services to a variety of stakeholders:

1. Industry roundtables and ongoing outreach to EE industry professionals, workforce development groups, Community-Based Organizations, and local governments
2. Education and mentorship for contractors and EE professionals

²⁹ Pursuant to Cal. Pub. Util. Comm'n, Environmental and Social Justice Action Plan version 2.0, (April 7, 2022), available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf>.

³⁰ Marin Clean Energy Efficiency Business Plan, January, 2017, p. 111

3. Workforce development opportunities with local contractors and new job seekers

MCE contracted with the Association for Energy Affordability (“AEA”) and Strategic Energy Innovations (“SEI”) to implement this program for Program Years 2020-2023.

Building electrification and EE contractors, job seekers and the general public can participate in MCE’s WE&T program. MCE regularly coordinates on WE&T program offerings with PG&E. MCE will continue to coordinate on education and training offerings common to PG&E, BayREN and MCE program contractors and end users. MCE’s WE&T program’s offerings include field meetings with contractors, online and in-person electrification educational workshops, and other home performance topics.

Table 1: Comparable BayREN and MCE Single-Family Programs

BayREN		MCE Programs under BayREN Territory	
Program Name	BayREN Home+	SF Direct Install, or HES	Workforce Education and Training
Eligible Measures/Offerings	Duct Sealing, Attic and Wall Insulation, HVAC Equipment Upgrades, Smart Thermostats, Gas Storage Water Heaters and Heat Pump Water Heaters, Heat pump Clothes Dryers, Induction Cooktop/Ranges, LED Lamps, Water Faucet Aerators, Low Flow Showerheads, Tier II Power Strips, Single measure upgrades.	Bathroom ECM Fan & LED Light Fixture, Central Air Conditioner, Central Brushless Fan Motors, Deeply Buried Ducts, Duct Sealing, Gas Furnace, Heat Pump, Heat Pump Water Heater, Smart Thermostat, Storage DHW Heater, Attic Insulation & Air Seal, Wall Insulation, Fuel Sub Heat Pump Water Heater, Fuel Sub Heat Pump HVAC, Fuel Sub Heat Pump Mini Split, Faucet Restrictors, Low Flow Shower Head, Low Flow Shower Head with Thermostatic Shower Valve, Pipe Wrap.	Building Electrification Workshops, Field Meetings with Contractors, Support for Job Seekers, Contractor-job seeker matchmaking.
Incentive	Bonus incentives offered to downsizing equipment, combining shell and HVAC measures, building air sealing and Combustion Appliance Safety (“CAS”) testing	No-cost direct install	N/A
Savings Claim Type	Savings will be deemed per measure based in CPUC approved work papers	Savings will be deemed per measure based in CPUC approved work papers	N/A
2023 Budget	\$9,972,446	\$2,384,874	\$695,580
Target Customer	Moderate-income households (owners and/or renters) ³¹ , non-native English-speaking households	Targeted to customers in disadvantaged communities (DACs),	EE and electrification contractors, job

³¹ Now defined as households who do not qualify for income qualified weatherization programs up to the moderate-income level per household by county designated by the California Department of Housing and Community Development, <https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/income-limits-2021.pdf>

		household income exceeds 200% of the FPG	seekers, general public
Target Implementer	Specialty contractors	Direct Install Contractor	EE/electrification trainers
Resource/Non-Resource	Resource	Resource	Non-resource

Program Differences and Coordination Protocols

Although the BayREN Home+ program and the MCE HES program share some of the same measures, the method of delivery and program design are unique. The Home+ program requires a homeowner to find a participating contractor to complete upgrades where rebates will cover some but not all the costs. Because of this, the household income of participants is usually above the 400% of FPG requirement of the MCE HES program. Conversely, the MCE HES program pays all the costs of the project, targeting lower moderate-income households, who often cannot afford to participate in the Home+ program.

MCE and BayREN will coordinate on outreach to minimize potential customer confusion and optimize the customer benefits. Customers that do not qualify for MCE programs will be directed to BayREN Home Energy Advisors for further assistance. For the customers where a MCE program would better suit their needs, they will be referred to MCE. Integrated outreach materials will be developed to reach customers who qualify for MCE’s HES program as well as BayREN Green House Calls; Home+ rebates. Appropriate referrals will be made to each other’s programs when appropriate as outlined below.

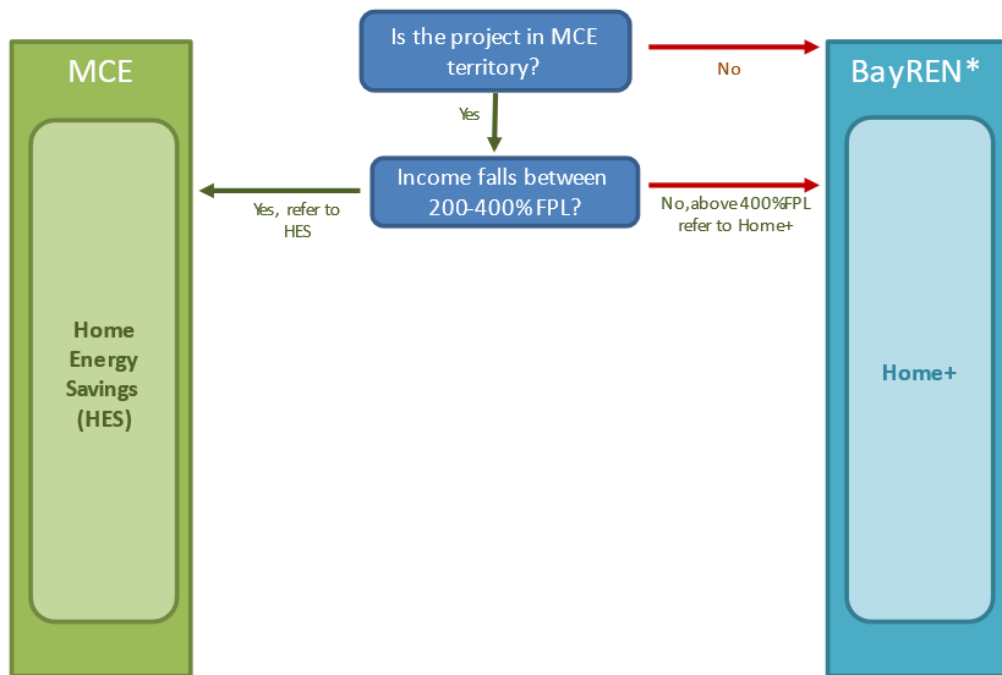


Figure 1: MCE and BayREN Single Family Program Referral Tree

MCE and BayREN also coordinate on programs and activities that are outside of the EE portfolio.

Currently, the BayREN Home + program coordinates with PG&E on contractor training on building electrification and promotes MCE trainings when available. BayREN will continue to refer relevant contractors and end users to MCE trainings when appropriate.

For general program coordination, BayREN and MCE’s single family residential teams will continue to hold regular check-in calls. Ad-hoc meetings will also be scheduled to accommodate the potential need to resolve any urgent issues that may arise. Standing agenda items include program updates, uptake, challenges, contractor issues, data transfer, and marketing campaign plans. Through their respective implementers, program participation data will be shared on a regular basis to ensure that double-dipping does not occur.

Compliance

The following table describes in further detail how BayREN’s Home+ program satisfies the REN criteria in D.12-11-015.

Table 2: BayREN Home+ Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU or CCA cannot or does not intend to undertake	34% of Bay Area single family owners/renters comprise the defined moderate-income market. They do not qualify for ESA or other programs available to income qualified low earning households. Although both programs target the moderate-income market, MCE’s program is direct install and specifically targets low-moderate income customers.
2. Pilot activities where there is no IOU or CCA program offering and where there is potential for scalability	Not applicable
3. Activities in hard-to-reach markets, whether or not there is an IOU or CCA program that may overlap	The definition in D.18-05-041 precludes most Bay Area properties from being considered hard-to-reach. Therefore, BayREN and MCE programs that are open to all single-family properties cannot be considered hard-to-reach in the Bay Area.

Residential – Multifamily

BayREN Program Summary (BayREN02)

The Bay Area Multifamily Building Enhancement (“BAMBE”) program offers multifamily property owners a flat, per-unit incentive to undertake multiple EE measures that achieve 15% energy savings on average. BAMBE is accessible to property owners that do not have the interest or ability to do a comprehensive audit and retrofit. The program supplies no-cost technical assistance (“TA”) to guide the property owner through the process from initial interest to project completion and quality assurance of the installed measures. BAMBE developed and uses a simplified, lower cost assessment tool called EnergyPro Lite (“EPL”) to determine which measures meet the minimum energy savings requirement.

BAMBE also offers an electrification option, the Clean Heating Pathway (“CHP”), which is designed for properties that wish to demonstrate climate leadership by deeply reducing the carbon emissions from energy use in their buildings. CHP participants will receive incentive adders for switching from gas fueled space heating, water heating and cooking appliances to cleaner, highly efficient electric alternatives.

BayREN also provides a Loan Referral Service (“LRS”) that directs properties to appropriate sources of financing. The LRS refers properties to private sector financing products and PG&E’s OBF program.

MCE Program Summary (MCE01)

The Multifamily Energy Savings Program (“MFES”) provides residential energy efficiency and electrification improvements to affordable multifamily properties in the MCE service area. The intent of the program is to support vulnerable communities, particularly those who have been traditionally underserved. MFES will continue to be implemented by the Association for Energy Affordability (“AEA”) and seeks to fund energy efficiency and electrification measures for deed-restricted properties. It will also continue co-leveraging as many funding opportunities to provide comprehensive, beneficial whole building upgrades.

For example, MFES was designed to complement MCE’s Low-Income Families and Tenants (“LIFT”) Pilot Program, authorized in D.16-11-022, by providing funding to affordable properties where not all units qualify for LIFT incentives. LIFT provides comprehensive services and supports fuel switching from gas to electric heat pumps for cleaner and safer energy use. Income-qualified multifamily properties can layer incentives from LIFT on MFES program rebates. With this model, MFES will support beneficial property-wide upgrades for all tenants who live in deed-restricted affordable housing.

MFES services will include no cost property assessments, project scope development, and program assistance throughout the project lifetime. The program will also offer no-cost energy efficiency and electrification measures.

The desired outcome of the program is to address market barriers by providing:

- Customized technical assistance to overcome challenges associated with the diversity of building types, ownership types, and billing configurations, and to provide assistance with analyzing potential upgrade measures
- Guidance through the initial assessment of multiple measure upgrade opportunities throughout the property
- A range of participation options to best meet the current energy needs and abilities of properties
- Bridge the funding gap between multifamily units that qualify for LIFT or ESA incentives and the rest of the property to promote a comprehensive and equitable whole-building upgrade

Table 3: Similar BayREN and MCE Multifamily Programs

BayREN		MCE
Program Name	Bay Area Multifamily Building Enhancement (BAMBE)	Multifamily Energy Savings
Eligible Measures	Envelope, HVAC, Domestic Hot Water (“DHW”), lighting, and appliance measures – requires multiple measures, targeting 15-20% savings.	Whole Building
2023 Budget	\$6,901,930	\$971,459

BayREN		MCE
Target Audience	Bay Area multifamily property owners requiring a higher level of program assistance, populations and ownership types in which it has been harder to obtain savings, and owners pursuing gas-to-electric upgrades.	MF property owners in MCE's service area.
Resource/Non Resource	Resource	Resource

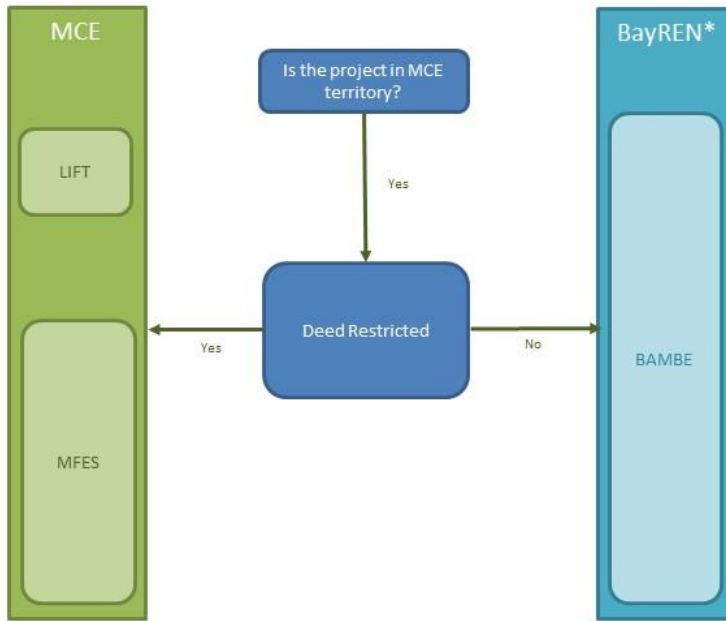
Program Differences and Coordination Protocols

BayREN and MCE both offer multifamily programs in the Bay Area; however, they serve and target different property owner types. BayREN's program will prioritize populations for which it has been difficult to obtain savings – this includes small properties containing less than 100 units, naturally occurring properties in low income and disadvantaged communities, and nontraditional ownership structures such as Homeowner Associations (“HOAs”) and co-ops. MCE's MFES program offers no-cost upgrades to deed-restricted affordable properties and LIFT participating units that do not qualify for the LIFT program.

MCE is rolling out a multifamily residential strategic energy management (“SEM”) program that focuses primarily on behavioral, retro-commissioning, and operational measures. BayREN and MCE program staff will coordinate on developing a process that ensures that savings are not double counted when an SEM participant is a past or current enrollee in BAMBE.

BayREN and MCE multifamily programs will coordinate to minimize potential customer confusion and optimize customer benefits. The program implementers will determine if a project is a better fit for MCE, BayREN, or a combination of the two when possible, utilizing the rationale outlined in Figure 2 below. The programs will coordinate to minimize customer confusion, and outreach strategies and plans and strategies developed will be shared and discussed prior to implementation.

2023 Multifamily EE and LI Program Referral Tree – MCE/BayREN/PG&E



*The Program Administrators represented in this referral tree also coordinate on MCE’s Strategic Energy Management program, and programs and activities that are outside of the EE portfolio.

Figure 2: Multifamily EE and Low-Income Program Referral Tree - MCE/ BayREN/ PG&E

As outlined in the referral tree above, BAMBE will refer deed restricted properties that are eligible for LIFT to MCE, and MCE will refer projects not eligible for LIFT to BAMBE.

Compliance

The following table describes in further detail how BayREN’s Multifamily program satisfies the REN criteria outlined in D.12-11-015.

Table 4: BayREN Multifamily Program's Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU cannot or does not intend to undertake	BayREN is focused on serving multifamily owners that need more personal attention and assistance to participate in energy efficiency programs.
2. Pilot activities where there is no IOU program offering and where there is potential for scalability	BayREN is focusing on decarbonization of multifamily building operations through the BAMBE Clean Heating Pathway. If the pathway is successful, program components have the potential to scale the volume of gas-to-electric upgrades.
3. Activities in hard-to-reach markets, whether or not there is an IOU program that may overlap	The definition in D.18-05-31 precludes almost all Bay Area properties from being considered hard-to-reach. Therefore, BayREN and MCE programs that are open to all multifamily properties cannot be considered hard-to-reach in the Bay Area.

Non-Residential Sector Coordination

Non-Residential – Commercial

[BayREN Program Summary \(BayREN06\)](#)

The BayREN Small and Medium Commercial Buildings (“SMCB”) program consists of the BayREN Business subprogram. BayREN Business is a normalized metered energy consumption (“NMEC”) program. Due to adverse economic impacts from the pandemic, BayREN Business re-launched in January 2021 using a single implementer model. In January 2022, the program began a transition to using multiple implementers on Recurve’s Demand FLEXMarket (“FLEXMarket”). Through the FLEXMarket, BayREN Business will work with multiple aggregators to deliver whole building EE solutions focusing exclusively on Hard-to-Reach (“HTR”) businesses of properties under 50,000 square feet (sf) or with energy use of less than 500,000 kWh or less than 250,000 therms annually. BayREN Business uses data-driven targeting to identify customers in this category and provide comprehensive technical assistance and bundled measure packages that will be attractive to those customers.

Within MCE territory, BayREN Business will only focus on HTR businesses. A commercial customer is considered HTR if the business is located in a Disadvantaged Community (“DAC”) and meets one of the criteria below. Or, if the business is outside of a DAC, the customer is considered HTR by meeting all the criteria below:

- Language – primary language spoken is other than English
- Size – less than 10 employees and/or classified as “Very Small” (customer whose annual electric demand is less than 20 kW or whose annual gas consumption is less than 10,000 therms)
- Leased or rented facilities – Investments in improvements to a facility rented or leased by a participating business customer

Energy Savings – BayREN Business will continue to deploy EE technical assistance and easy-to-understand incentives, to serve HTR micro, small and medium (less than 50,000 sf or with energy use of less than 500,000 kWh or less than 250,000 therms annually) Bay Area commercial buildings, and the business tenants within. Micro and small businesses that are HTR will have access to program referrals to other utility and CCA EE programs, as well as Mission Asset Fund’s suite of small business loans. By working with the BayREN Business program’s aggregators and Building Performance Advisor, business and property owners, as well as property managers, will receive easy-to-access technical assistance that will specialize in bundling cost-effective measures.

Program Referral – BayREN Business recognizes that not all small and medium businesses (SMBs) are ideal candidates for a NMEC program experience or fit the HTR definition. For instance, to be eligible for BayREN Business, the potential program participant’s energy consumption baseline must be stable. An unstable baseline could adversely impact energy savings performance in the future. Therefore, instead of NMCE, such businesses would be best served by direct-install or point-of-sale rebate programs. As such, BayREN Business, acting through its Building Performance Advisor³², endeavors to provide referrals

³² The BayREN Building Advisor is a neutral, third-party advisor that provides technical assistance and program referrals – including programs of other program administrators – to small, medium and hard-to-reach businesses.

to complimentary EE and financing programs (e.g., MCE’s current commercial program to the benefit of the customers). Program referrals serve to help other utility and CCA programs achieve the five percent small commercial penetration target in D.18-05-041.³³

MCE Program Summary (MCE02)

MCE’s Commercial Upgrade Program (MCE02x) targets commercial customers in MCE’s service area. New for 2022-2023, MCE organized its Commercial Program into participation pathways, with each pathway constituting its own program. In addition, MCE will be launching an equity-focused³⁴ Commercial Program in early 2023, following a program design and solicitation phase in late 2022. The program IDs below refer to the following Commercial programs:

- MCE02A – Commercial Deemed
- MCE02B – Commercial Custom
- MCE02C – Commercial Strategic Energy Management
- MCE02D – Commercial Marketplace
- MCE17 – Commercial Equity

MCE delivers the Commercial Program through partnerships with three different implementers – and each partner focuses on different customer sub-groups and delivery pathways in contributing to the overall Program goals. Collectively, the Commercial Upgrade Program serves nearly any non-residential customer within MCE’s service area, and leverages custom, deemed, Normalized Metered Energy Consumption (“NMEC”) and Strategic Energy Management (“SEM”) participation pathways. The Commercial Equity Program is actively in development and will launch in early 2023.

In terms of budget and impact, the most significant component program is the MCE Commercial Efficiency Market –which leverages population-level NMEC, and scales up investment in energy efficiency projects within MCE’s service area. The Commercial Efficiency Market a simple and flexible pathway for aggregators to participate. The program provides aggregators flexibility in determining cost-sharing (incentive payments) arrangements with customers. Payments to aggregators are grounded in the cost-effective value of their projects – which is made possible by forecasting the avoided cost value of a project, subtracting participant costs and administration costs, with the remaining value then paid to the aggregator once the forecasted savings are realized at the meter. This incentivizes aggregators to pursue energy efficiency projects that can deliver load-shape optimized energy efficiency.

Under the Marketplace model MCE does not contract individually with participating aggregators. Similar to a midstream or upstream program design, the program does not mandate pre-determined customer rebates or cost-share mechanisms. MCE expects continued expansion of the Commercial Energy Efficiency Market in 2023, as it is positioned squarely as a resource program aimed at delivering cost-effective savings at scale.

MCE also continues to serve the small and medium business community (“SMB”) and large commercial sector via deemed, custom and SEM engagement. These sectors are served through two implementation partners with a long track record of high-quality project development with these

³³ D.18-05-041, p. 28.

³⁴ Designed to promote achievement of goals pursuant to Cal. Pub. Util. Comm’n, Environmental and Social Justice Action Plan version 2.0, (April 7, 2022), available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf>.

customer sub-groups. Their work offers MCE an opportunity to provide value-add services in project design, measure selection, energy management training, and support in the identification of financing resources and contractors. Eligible measures may include interior and exterior LED luminaires and lamps, networked lighting controls, connected thermostats, HVAC equipment, advanced rooftop controllers, ductless heat pumps, heat pump water heaters and more, which may apply to customers in retail, office, and other non-residential building types.

Table 5: Comparable BayREN and MCE Commercial Programs

BayREN		MCE
Program Name	BayREN Business	Commercial Upgrade Program
Eligible Measures	Advanced Metering Systems, Boiler Plant Improvements, Energy Management Control System, Building Envelope Modifications, Electric Motors and Drives, Energy/Utility Distribution Systems, Energy Related Process Improvements, Lighting Improvements, HVAC maintenance and replacement, Air Ionization Systems (to reduce build up at fan coils), Appliance and Plug-Load Reductions, Refrigeration & Food Service Equipment, Water and Sewer Conservation Systems	Lighting and lighting controls, appliances, HVAC, Plug Load, Refrigeration, Water Heaters, Evaporator Fans, ECM Motors, VFDs, ASH controls, Advanced digital economizers, Refrigeration controls, Cooler doors, Electric motors
2023 Budget	\$ 3,956,347	\$6,784,863
Target Audience	Business and Property Owners and Managers of small and medium commercial buildings in the Bay Area with more than 50% of its floor-space used for non-residential activities, up to 50,000 sq-ft, <500-kW Demand, and <250,000 Therms, and their contractors	All commercial customers in MCE’s service area.
Resource/Non-Resource	Resource	Resource

Program Differences and Coordination Protocols

While BayREN and MCE both offer programs targeting SMBs, the programs have several differentiating factors. The key differentiators for BayREN Business include the following: a specific focus on small business sectors including retail, professional offices, restaurants, gyms/multi-use buildings, and grocery/corner stores (under 50,000 sq ft); predictive energy model based targeting; the non-On-Bill Financing (“OBF”) options; and an incentive structure that provides upfront incentives based on modeled savings estimates followed up by incentives for metered savings in compliance with Commission-approved NMEC methods.

MCE’s commercial program, on the other hand, serves all non-industrial and agricultural businesses, including, but not limited to, SMB customers. MCE’s program provides 4 different pathways for participation: deemed, custom, NMEC and SEM. MCE does not offer a site-specific NMEC pathway but is instead leveraging population-level NMEC under its Commercial Energy Efficiency Market sub-program.

For general program coordination, the BayREN and MCE program managers will continue monthly calls to ensure complimentary program development, identify areas of potential coordination, and to eliminate potential double-dipping on ratepayer funds. Specifically, BayREN and MCE will share lists of

projects (in MCE service territory) underway to prevent double-dipping. Coordination between BayREN, MCE and PG&E third-party programs are detailed in each program’s Implementation Plan (IP) filed here: <https://cedars.sound-data.com/>. BayREN and MCE will follow the IPs as guidance for how to reduce any possible customer confusion and avoid double-dipping if a customer was previously served. To simplify the process of avoiding double-dipping, BayREN Business and MCE’s Commercial Upgrade Program will not serve any customer who has participated in a ratepayer-funded EE rebate program during the twelve months of the customer’s baseline period.

Notably, the business models of the programs are different. MCE’s NMEC program is focused on the procurement of cost-effective energy efficiency: rather than provide set incentive levels, payment rates, or qualifying products, the program pays on the Avoided Cost Calculator (“ACC”) value of a project. This provides a pathway for a relatively diverse group of participating vendors and offers meaningful flexibility to those vendors in determining the customers and reasonable measures.

On the other hand, BayREN Business relies on multiple aggregators to deliver energy savings at a fixed fuel-price by measure. BayREN Business focuses on five sectors: professional offices, corner/grocery stores, retail, restaurant, and gyms/multi-purpose sites. Finally, BayREN Business has a focus on HTR, and expects at least 25% of the 2023 projects to comply with CPUC’s HTR definition.

Compliance

Table 6 describes in further detail how BayREN SMCB program satisfies the REN criteria in D.12-11-015.

Table 6: BayREN Small and Medium-Sized Commercial Program Compliance with D.12-11-015

REN Criteria	BayREN Compliance
1. Activities IOU/CCA cannot or does not intend to undertake	Not applicable
2. Pilot activities where there is no IOU/CCA program offering and where there is potential for scalability	<p>BayREN provides more technical assistance, is specifically targeted to SMBs under 50,000 sq-ft, and would be the only currently active program that combines both upfront computer-modeling incentives and backend NMEC incentives to develop a comprehensive project for the SMB sector.</p> <p>The subprogram has the potential for scalability by heavily leveraging local and regional resources (e.g. downstream and midstream programs, OBF, microloan).</p>

3. Activities in hard-to-reach markets, whether or not there is an IOU/CCA program that may overlap

The BayREN Business programs are designed to harvest sizable amounts of energy savings cost-effectively in the SMB sector, many of which will be HTR. For example, strip mall lessees and individual lessees in small and medium-sized office parks and mid-rises are often HTR-eligible.

The Microloan component of the program is specifically targeted to help the region's DI and downstream programs reduce the barrier in micro businesses, many are eligible under the modified definition of HTR, per D.18-05-041.

APPENDIX A: BayREN Program Compliance with D.12-11-015

Check D.12-11-015 Threshold Criteria that apply for each program	Comparable MCE Program if applicable	1. Activities that utilities cannot or do not intend to undertake.	2. Pilot activities where there is no current offering, and where there is potential for scalability to a broader geographic reach, if successful.	3. Pilot activities in hard-to-reach markets, whether or not there is a current utility program that may overlap.
BayREN Single Family (BayREN08)	Single Family Direct Install (MCE08)	XX	XX	
BayREN Green Labeling (BayREN07)	N/A	XX	XX	
BayREN BAMBE (Multifamily) (BayREN02)	Multifamily Comprehensive (MCE01)	XX	XX	
BayREN Commercial (BayREN06)	Commercial Upgrade (MCE02)		XX	XX
BayREN Codes and Standards (BayREN03)	N/A	XX	XX	
BayREN Water Energy Nexus (BayREN04)	N/A	XX	XX	

APPENDIX B: BayREN 2023 Program Portfolio Summary

REN Program Unique ID	Sector	2023 Program Budget	Eligible Measures
BayREN Single Family (BayREN08)	Residential	\$9,972,446	Duct sealing, attic and wall insulation, HVAC equipment upgrades, Smart thermostats, gas storage water heaters and heat pump water heaters, heat pump clothes dryers, induction cooktop/ranges, LED lamps, water faucet aerators, low flow showerheads and Tier II power strips. Single measure upgrades allowed.
BayREN Green Labeling (BayREN07)	Residential	\$1,321,750	N/A
BayREN BAMBE (Multifamily) (BayREN02)	Residential	\$6,901,930	Envelope, HVAC, DHW, lighting, and appliance measures – requires multiple measures, targeting 15-20% savings.
BayREN Commercial (BayREN06)	Commercial	\$3,956,347	Advanced Metering Systems; Boiler Plant Improvements; EMCS; Building Envelope Modifications; Chilled Water, Hot Water, and Steam Distribution Systems; Chiller Plant Improvements; Electrical Peak Shaving/Load Shifting; Electric Motors and Drives; Energy/Utility Distribution Systems; Energy Related Process Improvements; Lighting Improvements; HVAC maintenance and replacement; Appliance and Plug-Load Reductions; Refrigeration & Food Service Equipment; Water and Sewer Conservation Systems
BayREN Codes and Standards (BayREN03)	Cross Cutting	\$1,799,350	N/A
BayREN Water Energy Nexus (BayREN04)	Cross Cutting	\$1,663,850	<p>Water efficiency upgrades that also deliver energy savings (site and embedded) through the water-energy nexus. Measures are “eligible” to be included as part of a program participant’s on-bill charge. Measures are not limited to energy efficiency eligible measures (EEEMs). Measures are not eligible for BayREN Energy Efficiency Portfolio rebates. IOU rate-payer funds are not used to underwrite or directly finance measure installation.</p> <p>Eligible measures will include, but may not be limited to:</p> <ul style="list-style-type: none"> A 1.06 gallon per flush or better toilet with a Maximum Performance (MAP) rating of 600 grams or more. A high efficiency (typically 1.5 gallon per minute) showerhead. A 1.0 gallon per minute bathroom faucet aerator. A 1.5 gallon per minute kitchen faucet aerator. <p>Turf removal and irrigation system improvements to prepare sites for drought tolerant landscaping.</p>

APPENDIX C: MCE 2023 Program Portfolio Summary

IOU Program Unique ID	Sector	2023 Program Budget	Eligible Measures
Multifamily Energy Savings (MCE01)	Residential	\$971,459	Whole Building
Multifamily Strategic Energy Management (MCE01a)	Residential	\$759,576	Behavioral, Retrocommissioning, and Operational
Commercial (MCE02a-d)	Commercial	\$6,784,863	Lighting, Appliances, HVAC, Plug Load, Refrigeration, Custom, Lighting Controls, Whole Building, Water Heaters
Commercial Equity (MCE17)	Commercial	\$687,666	Lighting, Appliances, HVAC, Plug Load, Refrigeration, Custom, Lighting Controls, Whole Building, Water Heaters
Single Family Home Energy Reports (MCE07)	Residential	\$523,511	Lighting, Appliances, HVAC, Plug Load, Refrigeration, Custom Measures, Lighting Controls, HVAC Controls, Whole Building, Water Heaters
Single Family Home Energy Savings (MCE08)	Residential	\$2,384,874	Lighting, Appliances, HVAC Controls, Water Heaters, low flow showerheads, shower restriction valve (TSV), kitchen and bath aerators, electric heat pump
Industrial (MCE10a-d)	Industrial	\$1,144,443	Lighting, HVAC, Refrigeration, Custom Measures, Lighting Controls, HVAC Controls, Whole Building, Water Heaters
Agricultural (MCE11a-d)	Agricultural	\$796,273	Lighting, HVAC, Refrigeration, Custom Measures, Lighting Controls, HVAC Controls, Whole Building, Water Heaters
Workforce, Education, and Training (MCE16)	Cross-Cutting	\$695,580	n/a

Attachment B: MCE & PG&E Joint Cooperation Memorandum for Program Year 2023

INTRODUCTION

Per Decision (D.)18-05-041, energy efficiency (“EE”) Program Administrators (“PAs”) with overlapping service areas are required to develop an annual joint cooperation memorandum (“JCM”). Per D.21-05-031, the JCM is to be included as an attachment to PAs annual report. The MCE and PG&E JCM for the Program Year 2023 (2023 JCM) demonstrates how PG&E and MCE intend to minimize duplication of efforts for programs that address common sectors.

Following successful third-party program solicitations throughout 2019 and 2020, PG&E ramped down and closed many programs, and began launching a broad range of new third-party implemented programs across the entire portfolio in 2021. Solicitations and program launches for both statewide and local programs continued throughout 2021 and 2022, with program launches throughout 2022 and into 2023. PG&E is committed to communicating with MCE to provide regular updates on program decisions whenever feasible to (1) mitigate overlap and (2) enhance the customer journey.

In preparation of the 2023 JCM, PG&E and MCE held a kick-off meeting in March 2022 to discuss coordination between overlapping programs, followed by email correspondence between program managers from both PAs regarding the information included within this memo.

Information herein describes coordination for programs currently being implemented. PG&E is also fielding bids for future programs to launch in 2022 and beyond and will continue collaboration once programs are designed. Collaboration details on these potential future programs are not included in this 2022 JCM because details are not yet determined. However, PG&E provides a summary of Statewide programs that are expected to launch in 2022, and outlines plans for continued coordination with MCE across upcoming Statewide programs where PG&E is the lead Investor-Owned Utility (IOU). MCE is currently not expecting to launch any new programs in 2023.

This document contains eight main sections:

1. General Program Coordination
2. Data Sharing and Double Dip Prevention Protocols
3. Non-Residential Sector Coordination
4. Residential Sector Coordination
5. Cross-Cutting Sector Coordination
6. Workpaper Ex-Ante Coordination
7. Statewide Program Coordination
8. Programs Expected to Launch in 2023

GENERAL PROGRAM COORDINATION

Both MCE and PG&E serve as customer-facing PAs for their respective EE programs. MCE uses a single point of contact (“SPOC”) model to support customers interested in MCE’s program offerings. Under the SPOC model, MCE provides the customer information about the full suite of program opportunities and

resources available when a customer approaches MCE about any of MCE’s program offerings. To facilitate customer participation in all eligible programs, MCE informs customers about:

- Programs offered by other PAs for which MCE does not have a comparable offering;
- Programs focusing on other clean energy and resource conservation activities such as solar and/or storage programs, water conservation, or waste reduction; and
- Programs focusing on health and safety improvements.

MCE and PG&E coordinate across four large areas to update each other on program developments, and discuss duplication and double-dipping prevention among their general market EE program offerings:

- **Customer Choice:** Customers have a choice between PG&E and MCE programs. To ensure that customers understand this, both PAs will take steps to ensure the information on all programs is known by those staffers engaging with customers. Specifically, PG&E will designate staff within PG&E that MCE can call for any questions regarding program options. Similarly, MCE program staff is available for questions from PG&E staff. Furthermore, PG&E and MCE have access to program documentation available on California Energy Data and Reporting System (“CEDARS”) and may use it as reference when communicating program options to customers. PG&E and MCE will keep program documents up-to-date in CEDARS and communicate program updates in their planned meetings as needed.
- **Policy:** MCE and PG&E are aware that program policies change over time and can affect the need for coordination. Staff will use the regular coordination calls to check in on policy changes and how to coordinate on any relevant changes.
- **Double dipping prevention:** PG&E and MCE understand the potential of customers seeking to obtain incentives for the same measures from both organizations (double-dipping) and have established protocols to prevent such behavior. These protocols are discussed in more detail in the data sharing and double dip prevention protocols section in this document.

Sector-based coordination occurs in regular check-ins through in-person or audio or video teleconferences, as well as email communications. Meetings address new and ongoing coordination issues related to all relevant programs as discussed in detail below. PG&E and MCE generally have the following standing coordination meetings:

- Residential and Multi-Family Programs and Workforce Education and Training (“WE&T”)
- Commercial Program

DATA SHARING AND DOUBLE DIP PREVENTION PROTOCOLS

Data sharing is integral for effective coordination between MCE and PG&E programs and to ensure proper reporting and claims of project savings. Due to the sensitive nature of sharing customer data, PG&E requires that MCE complete an annual renewal of its Third-Party Security Review (“TSR”) and have applicable Non-Disclosure Agreements in place. Additionally, it is MCE and PG&E’s priority that participants in ratepayer funded programs do not receive multiple incentives for the same installed measure. PG&E and MCE propose the following data sharing procedures as well as steps to prevent “double dipping” from incentive, rebates, or other program funding available from PG&E and MCE.

1. Collaborate to ensure that customers have access to all program offerings within their service areas, regardless of the entity that generated or sourced the project lead;

2. Program managers will meet on a regular basis to review general updates to programs that may impact coordination and program overlap and check on data sharing needs;
3. Implementers or contractors serving MCE and PG&E programs are not allowed to “split” applications or scopes of work between the PAs. The contractor process to avoid double dipping is as follows:
 - a. Participating contractors in MCE and PG&E programs will be notified of policies pertaining to double dipping;
 - b. Multiple violations of double-dipping policies may disqualify a contractor from program participation.
4. Project enrollment forms require a field identifying the last utility incentive received, and the scope of work covered by the project;
5. MCE and PG&E will coordinate the programs they lead to ensure that incentives in those programs are only paid once for the same intervention. MCE will disclose to PG&E all identified instances where their customers participate in an MCE program and obtain a PG&E on-bill financing (“OBF”) loan so that the project can be excluded from the PG&E claim;
 - a. When projects enrolled in an MCE program utilize PG&E OBF, MCE program managers coordinate directly with OBF program managers to ensure customer and project eligibility requirements are met and provide the project detail required by the OBF program to fund the loan.
6. PG&E began providing MCE energy efficiency claims data for customers who reside in MCE’s territory. The data provides insight into customer participation in energy efficiency programs in a five-year span period. MCE will receive this data set on a quarterly basis.
 - a. MCE and PG&E will discuss potential changes to their programs so there is no overlap of customers enrolled in each PAs program. Any discovery of potential overlap will be evaluated further at the measure level to assess if this is a trend or one-off occurrence. In the event that both PG&E and MCE have claimed the same project measures, each PAs program will determine how the project will be claimed, and review cost-recovery options with the program partner or entity that has received funding twice. In addition, MCE and PG&E will discuss potential changes to their double dip checking procedures and programs so there is no overlap of customers enrolled.
7. To coordinate on the implementation of MCE’s and PG&E’s WE&T programs, PG&E will provide its list of trainings to MCE on a quarterly basis, and MCE will provide a similar list to PG&E. The goal of coordination between MCE’s and PG&E’s WE&T programs is to ensure that ratepayer funds deliver resources efficiently and effectively across the shared territories and leverage each other’s resources and materials when appropriate to avoid duplication.
8. PG&E is currently conducting a statewide Program Overlap Study. PG&E and MCE shall consider the results of the study and possibly update our double dip prevention protocols based on the findings and recommendations of the study.

NON-RESIDENTIAL SECTOR COORDINATION

The following sections describe coordination efforts between MCE and PG&E regarding existing non-residential EE programs for program year (“PY”) 2023.

TABLES OF COMPARABLE MCE AND IOU PROGRAMS

The non-residential programs that are currently designed and offered to customers by MCE and PG&E are presented in the tables below. IOU programs include both PG&E programs, as well as statewide programs.

Program ID	Program Name	Sector	2023 Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
PGE Pub 009	Government & K-12 Program	Public	\$ 4,102,898	Resource Acquisition	X	X	X	X	X	X	X	X	X	X	X
PGE Pub 010	RAPIDS Wastewater Program	Public	\$ 2,853,415	Resource Acquisition						X					X

Table 8: Agricultural Sector Programs

Program ID	Program Name	Sector	2023 Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
MCE Programs															
MCE11a	Agricultural Deemed	Agriculture	\$107,712	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE11b	Agricultural Custom	Agriculture	\$303,998	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE11c	Agricultural Strategic Energy Management	Agriculture	\$315,337	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE11d	Agricultural Normalized Metered Energy Consumption	Agriculture	\$69,226	Resource Acquisition	X		X		X	X	X	X	X	X	X
IOU (Comparable Programs)															

Program ID	Program Name	Sector	2023 Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
PGE21031	Agricultural Calculated Incentives	Agriculture	\$972,782	Resource Acquisition	X		X		X	X	X	X		X	X
PGE21032	Agricultural Deemed Incentives	Agriculture	\$682,486	Resource Acquisition	X	X	X	X	X			X		X	X
PGE_Ag_001	Agriculture Energy Savings Action Plan (AESAP)	Agriculture	\$19,466,139	Resource Acquisition	X	X	X		X	X	X	X	X	X	X

Table 9: Industrial Sector Programs

Program ID	Program Name	Sector	2023 Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
MCE Programs															
MCE10a	Industrial Deemed	Industrial	\$267,611	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE10b	Industrial Custom	Industrial	\$221,401	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE10c	Industrial Strategic Energy Management	Industrial	\$598,145	Resource Acquisition	X		X		X	X	X	X	X	X	X
MCE10d	Industrial Normalized Metered Energy Consumption	Industrial	\$57,286	Resource Acquisition	X		X		X	X	X	X	X	X	X

Program ID	Program Name	Sector	2023 Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
IOU (Comparable Programs)															
PGE21021	Industrial Calculated Incentives	Industrial	\$3,534,321	Resource Acquisition	X		X		X	X	X	X		X	X
PGE21022	Industrial Deemed Incentives	Industrial	\$401,609	Resource Acquisition	X	X	X	X	X			X		X	X
PGE210212	Compressed Air and Vacuum Optimization Program	Industrial	\$706,505	Resource Acquisition						X					X
PGE_Ind_001a	Industrial Strategic Energy Management – Food Processing	Industrial	\$3,903,932	Resource Acquisition						X					X
PGE_Ind_001b	Industrial Strategic Energy Management – Manufacturing	Industrial	\$5,385,886	Resource Acquisition						X					X
PGE_Ind_002	Business Energy Performance	Industrial	\$10,834,070	Resource Acquisition	X		X		X	X	X	X			X
PGE_Ind_003	Industrial Systems Optimization Program	Industrial	\$6,541,649	Resource Acquisition	X		X		X	X	X	X			X

Table 4: Financing Sector Programs

Program ID	Program Name	Sector	Budget	Portfolio Segment	Measures										
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other
MCE Programs³⁵															
N/A															
IOU (Comparable Programs)															
PGE21091	On-Bill Financing (excludes Loan Pool)	Financing	\$ 535,366	Market Support	X	X	X		X	X	X	X		X	X
PGE210911	On-Bill Financing Alternative Pathway	Financing	\$ 4,119,480	Market Support	X	X	X	X	X	X	X	X		X	X

³⁵ While MCE does not provide a comparable financing program, PG&E’s on-bill financing program will be available to MCE program participants.

DESCRIPTION OF PROGRAMS

Detailed program descriptions of current MCE programs and PG&E's comparable non-residential programs are available on CEDARS at the program page links provided in the tables above, and in PG&E and MCE's 2021 Annual Reports.

RESIDENTIAL SECTOR COORDINATION

The following section describes coordination efforts between MCE and PG&E regarding planned residential EE programs for PY 2023.

TABLES OF COMPARABLE MCE AND IOU PROGRAMS

The residential programs currently designed and offered to customers by MCE and PG&E are presented in tables below. In addition to the programs included in the table, PG&E may launch new residential programs in 2022 and 2023. There is insufficient detail of possible programs resulting from those solicitations, and therefore coordination on future programs is not included at the time this memo is filed.

While MCE is not currently planning to introduce new residential programs in 2023, should MCE issue a program solicitation and/or begin a new program, staff will coordinate with PG&E on issues addressed within this JCM.

Program ID	Program Name	Sector	Budget	Portfolio Segment	Measures											
					Lighting	Appliances	HVAC	Plug Load	Refrigeration	Custom	Lighting Controls	HVAC Controls	Whole Building	Water Heaters	Other	
PGE_Res_002d	Continuous Energy Feedback Program	Residential	\$16,681,602	Resource Acquisition												X
PGE_Res_002e	Marketplace Refresh	Residential and Non-Residential	\$893,000	Non-Resource	X	X	X	X	X			X		X		X
N/A	WaterSaver	Residential	\$6.4M (2021-2025)	Non-Resource										X		

DESCRIPTION OF PROGRAMS

Detailed program descriptions of current MCE programs and PG&E's comparable residential programs are available on CEDARS at the program page links provided in the tables above, and in PG&E and MCE's 2021 Annual Reports.

PG&E also plans to launch a to-be-determined solicitation for a new residential equity program. PG&E has not defined the scope of the program but has identified market needs for building decarbonization support for low-middle income residential customers (who are not ESA-eligible) and for customers who reside in manufactured/ mobile homes. PG&E will include updates on the residential equity program RFP and program launch in scheduled coordination calls when more detail is available.

CROSS-CUTTING SECTOR COORDINATION

The following sections describe coordination efforts between MCE and PG&E regarding existing EE programs that cut across sectors and customer types for PY 2023.

TABLES OF COMPARABLE MCE AND IOU PROGRAMS

The programs that cut across sectors that are currently designed and offered to customers by MCE and PG&E are presented in the tables below.

DESCRIPTION OF PROGRAMS

Detailed program descriptions of current MCE programs and PG&E's comparable cross-cutting programs are available on CEDARS at the program page links provided in the tables above, and in PG&E and MCE's 2021 Annual Reports.

MEASURE PACKAGE EX-ANTE COORDINATION

Measure Package coordination is necessary to support the implementation of similar deemed measures offered by both PG&E and MCE. The investor-owned utilities ("IOUs") are responsible for updating and maintaining EE measure packages, as well as providing notice to the public that leverage IOU approved measure packages to substantiate their deemed measure offerings. In instances in which MCE develops measure packages that no other IOU has used in the past, PG&E will rely on MCE to maintain and update those measure packages as needed.

The CPUC approved measure packages and associated measures can be found on the CEDARS and the California Technical Forum ("CalTF") Electronic Technical Reference Manual ("eTRM"). The eTRM is the official ex ante database of record as of 2022. The IOUs provide a Statewide Deemed Measure Package Revision List to the CalTF website at the end of each month. The list includes measure packages the IOUs are actively working on that had recent changes or anticipated changes, revisions to existing measure packages, and measure packages under development for new measures.

To further support this existing process, MCE and PG&E meet on a monthly basis to discuss the reasoning and timing of measure package updates that impact the implementation of similar deemed measures being offered by both PAs. Discussion of measure package updates may include, but are not limited to the following:

- Measure package revisions in accordance with the DEER resolution;
- Measure package revisions related to DEER methods, assumptions, and values;
- Measure package revisions that are outside the scope of DEER such as code changes or dispositions;
- Measures planned for sunset from the IOU portfolios;
- Timing of existing measure package revisions and new measure packages as they relate to planning for Annual Budget Advice Letters ("ABALs").

STATEWIDE PROGRAM COORDINATION

Starting in 2016, the Commission directed³⁶ the California IOUs to begin transitioning California towards greater statewide program administration and third-party involvement in the proposal, design, implementation, and delivery of energy efficiency programs. IOUs are required to allocate at least 25% of their proposed Business Plan budgets to Statewide Programs³⁷ and at least 60% to third-party

³⁶ D.16-08-019, Decision providing guidance for Initial Energy Efficiency Rolling Portfolio Business Plan Filings.

³⁷ D.16-08-019, OP 6.

programs by the end of 2022.³⁸ The Commission established Statewide Programs and the associated Lead IOU³⁹ in 2018, as described here:

Table 8: Lead Program Administrator for Statewide Programs by Area

Program Category	Lead IOU
Plug Load and Appliance	SDG&E
HVAC (Upstream Residential, Upstream Commercial)	SDG&E
New Construction (Residential)	PG&E
New Construction (Non-Residential)	PG&E
Codes & Standards (Building Codes Advocacy)	PG&E
Codes & Standards (Appliance Standards Advocacy)	PG&E
Codes & Standards (National Advocacy)	PG&E
Lighting	SCE
Emerging Technologies (Gas)	SoCalGas
Emerging Technologies (Electric)	SCE
Workforce Education & Training (Career Connections)	PG&E
Institutional Partnerships (University of California, California State University), called "Higher Education"	SCE
Institutional Partnerships (State of California, California Department of Corrections)	PG&E
Foodservice Point of Sale	SoCalGas
Midstream Commercial Water Heating	SoCalGas
Plug Load and Appliance	SDG&E
HVAC (Upstream Residential, Upstream Commercial)	SDG&E
New Construction (Residential)	PG&E

Table 9: Lead Program Administrator for Statewide Downstream Pilot Programs

Program Name	Lead IOU
HVAC Quality Installation/Quality Maintenance (QI/QM)	SDG&E
Water/Wastewater Pumping Program	SCE
Workforce Education & Training (Career and Workforce Readiness)	PG&E

PG&E currently leads the following Statewide programs:

Table 10: PG&E-lead Statewide Programs

Program Name	Program ID	Sector	Portfolio Segment
State Appliance Standards Advocacy	PGE_SW_CSA_Appl	Cross-Cutting	Codes and Standards
State Building Codes Advocacy	PGE_SW_CSA_Bldg	Cross-Cutting	Codes and Standards
National Codes and Standards Advocacy	PGE_SW_CSA_Natl	Cross-Cutting	Codes and Standards
California Energy Design Assistance All-Electric (CEDAE) Program	PGE_SW_NC_NonRes_Com_electric	Agricultural, Industrial, Commercial, Residential, Public	Market Support

³⁸ D.18-01-004, OP 1.

³⁹ D.18-10-041, OP 26.

California Energy Design Assistance Mixed Fuel (CEDAM) Program	PGE SW NC NonRes Com mixed	Agricultural, Industrial, Commercial, Residential, Public	Market Support
Career Connections ("Energy is Everything")	PGE SW WET CC	Cross-Cutting	Market Support
Career & Workforce Readiness ("Energize Careers")	PGE SW WET Work	Cross-Cutting	Equity
California Energy-Smart Homes Mixed-Fuel Residential Program	PGE SW NC Res mixed	Residential	Market Support
California Energy-Smart Homes All Electric Residential Program	PGE SW NC Res electric	Residential	Market Support
Statewide State of California Energy Strategy and Support Program (SOC ES&S)	PGE SW IP Gov	Public	Resource Acquisition

Detailed narratives regarding Statewide programs can be found in the lead IOU's respective Annual Reports, and on the program pages on CEDARS, linked in the table above. PG&E will include Statewide program updates in sector coordination calls with MCE, when available and appropriate. Statewide solicitations status updates are also available on the Joint IOU Energy Efficiency Solicitation Schedule.⁴⁰

PROGRAMS EXPECTED TO LAUNCH IN 2024

PG&E and MCE filed their applications for approval for their 2024-2031 energy efficiency business plans and 2024-2027 energy efficiency portfolio plans with the CPUC on February 15, 2022, and March 04, 2022, respectively. The adopted schedule for the business plan and portfolio filings has an approval date of Mid 2023.⁴¹ Until the Commission decides on the applications, MCE and PG&E will continue implementing their approved 2022 and 2023 programs.⁴² PG&E and MCE's list of proposed programs for program year 2024 can be found at the following links:

[PG&E 2024 Filing Module](#)

[MCE's 2024 Filing Module](#)

⁴⁰ <https://www.caeec.org/third-party-solicitation-process>

⁴¹ D.21-05-031 at 61

⁴² D.21-05-031 OP 9 at 82.